No. 814,817. PATENTED MAR. 13, 1906.

G. A. WHEELER.

CARD INDEX.

APPLICATION FILED APR. 15, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

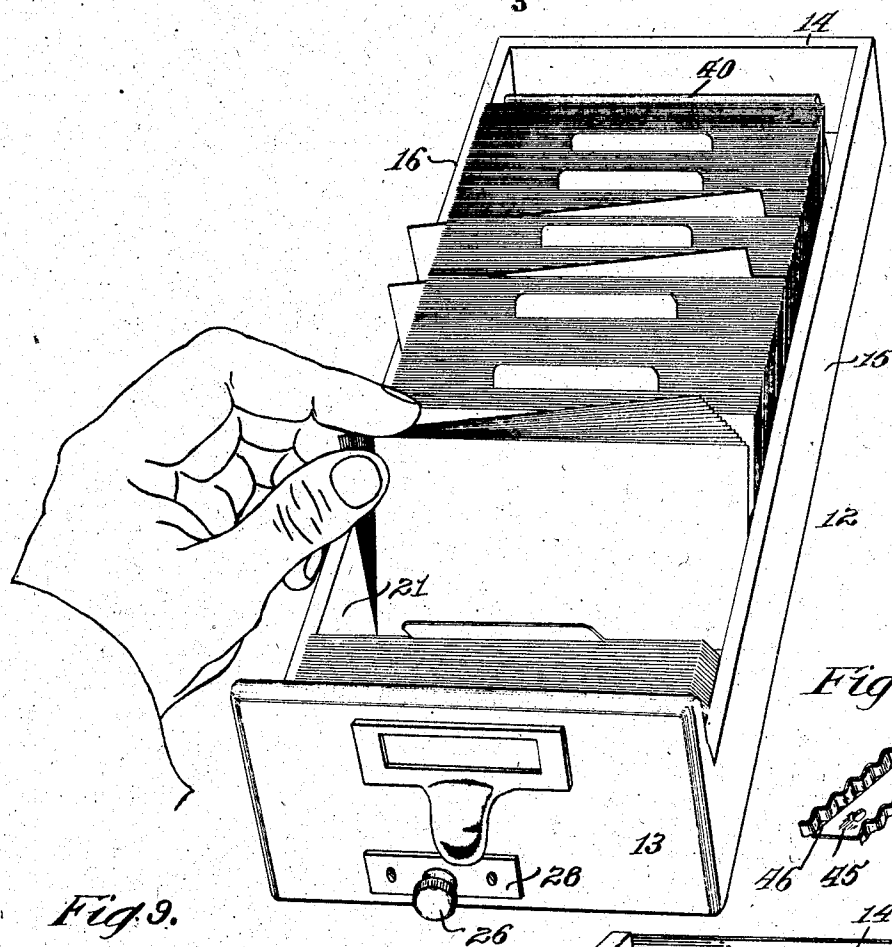
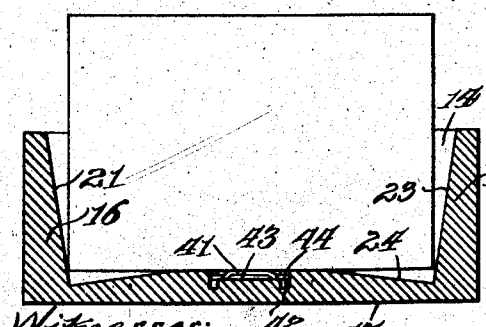


Fig. 11.

Fig. 9.



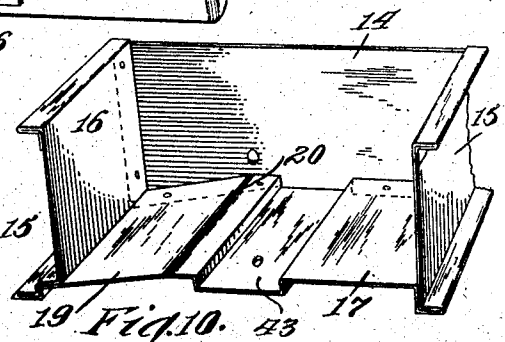


Fig. 10.

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2 SHEETS—SHEET 2.

Fig. 2.

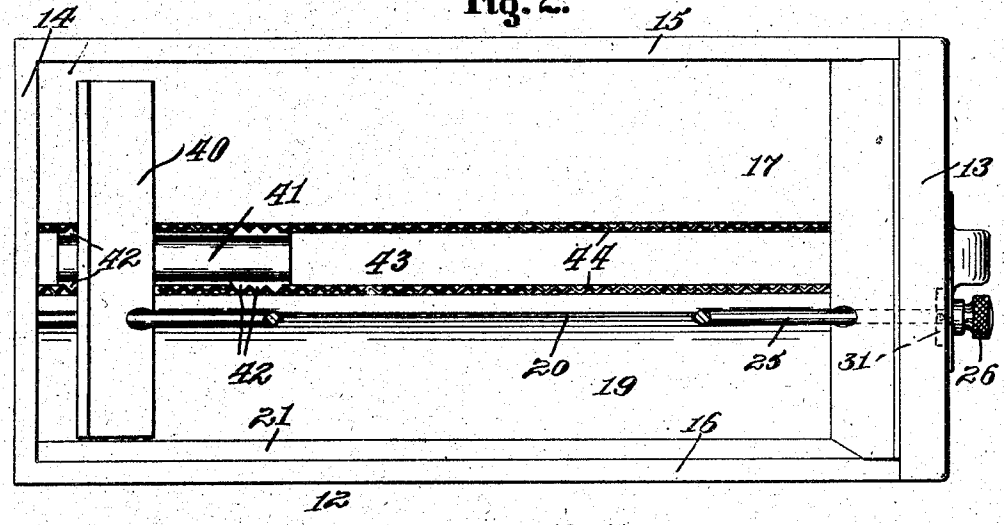


Fig. 4.

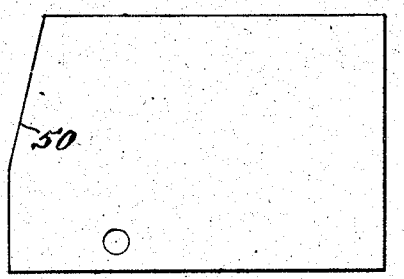


Fig. 3.

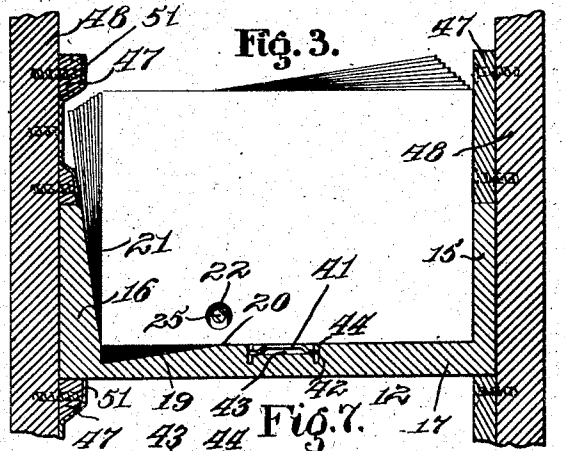


Fig. 5.

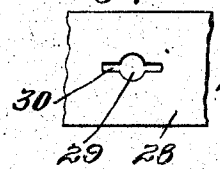


Fig. 6.

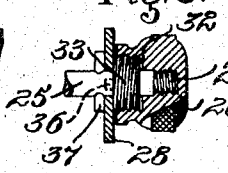


Fig. 7.

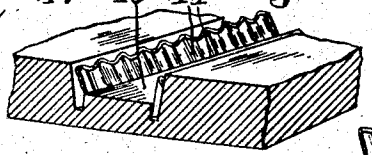


Fig. 8.



Fig. 12.

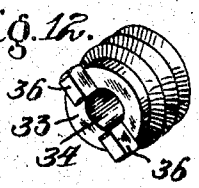
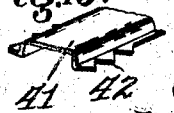


Fig. 13.



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UNITED STATES PATENT OFFICE.

GEORGE A. WHEELER, OF NEW YORK, N. Y.

CARD-INDEX.

No. 814,817. Specification of Letters Patent. Patented March 13, 1906.

Application filed April 15, 1905. Serial No. 255,700.

To all whom it may concern:

Be it known that I, GEORGE A. WHEELER, a citizen of the United States, residing in the borough of Brooklyn, city of New York, in the county of Kings and State of New York, have invented certain new and useful Improvements in Card-Indexes, of which the following is a specification.

This invention relates to card-indexes, and has for one object to provide an improved means whereby the cards can be tilted in the planes of their faces to cause succeeding edges to project slightly, thereby facilitating the turning over of the cards one by one, the frictional engagement of adjoining cards retaining them in such tilted position for future reference until returned to normal position.

A further object of the invention is to provide an improved means for securing the locking-rod that prevents removal of the cards from the casing.

Another object of the invention is to provide an improved form of means for securing the follower in a number of adjusted positions.

In an application of mine, filed September 23, 1902, Serial No. 124,573, is set forth means whereby the cards can be tilted on a fulcrum located in proximity to the bottom thereof, which means are comprehended in the specific construction or configuration of the cards. In the present invention the means whereby the cards can be tilted in the planes of their faces is constituted by the construction of the bottom of the casing upon which the cards are supported, the cards being shown as having the usual rectangular form with a straight bottom edge.

In the drawings accompanying and forming a part of this specification, illustrating one embodiment of my invention, Figure 1 is a perspective view of the device, showing one method of use of the cards. Fig. 2 is a plan view of the same with the cards removed. Fig. 3 is a vertical sectional view of the cards and casing, the latter being shown as supported in a cabinet arranged to contain a number of such casings or drawers. Fig. 4 shows a modified form of card. Fig. 5 is a front elevation of a portion of the locking-plate. Fig. 6 is a vertical section through the locking means. Fig. 7 is a perspective view of one form of the follower-locking device. Fig. 8 is a detail of the parts shown in Fig. 7. Fig. 9 is a vertical section through a modification. Fig. 10 is another modification, in which the casing is constructed of sheet material. Fig. 11 shows another form of the follower-locking means. Fig. 12 shows the locking-collar, and Fig. 13 shows one end of one of the follower-locking members.

The casing or drawer 12, except in Fig. 10, is shown as made of suitable material, such as wood or fiber. The casing is shown as comprising a front member 13, a rear member 14, side members 15 and 16, and a bottom member 17, all of which may be secured together in any suitable manner.

The cards for the casing may be of the usual rectangular form, as shown in the figures, excepting in Fig. 4; but the registering apertures, which it is to be remembered are not necessary or essential to the satisfactory and efficient operation of the device, are shown as located to one side of the middle of the card, for reasons which will hereinafter appear.

To provide for the tilting of such rectangular cards, or cards having a rectilinear bottom edge, a suitable fulcrum, or a series of such, constituting a ridge, is arranged at the bottom of the box, on which the cards can be rocked in the planes of their faces. In Fig. 3 such fulcrum or ridge is shown as formed by having the bottom 17 substantially flat from one edge to a portion beyond the middle and the bottom inclined downwardly in a plane 19 from the ridge to the side edge. Thus are formed two planes whose intersection constitutes a ridge 20 running longitudinally of the box and parallel with the side walls. To tilt the cards in such a casing or box, it is only necessary to apply pressure at the top of the card, as shown in Fig. 1, when the card will be tilted in proportion to the manner of such operation. By so inclining the tilting surface or the finger the cards can be unequally tilted, as indicated in Figs. 1 and 3, whereby at the right-hand edge, it will be observed, each card has the adjacent card in front of it projected a short distance beyond it. By this means such edges of the cards can be separately engaged by merely applying a slight pressure of the finger, and thus the cards are readily drawn forward one at a time to expose the reading matter on the face of the succeeding card.

It will be further observed from Fig. 1 that individual cards or a set of cards intermediate of a series of them can be tilted and will remain in such tilted position by reason of

the friction between their faces and that of the adjoining cards; but upon disengagement of such inclined card or cards from the adjoining cards they will return to their normal upright position by gravity, because of the tilting ridge or apex being located to one side of the middle of their bottom edge, and therefore outside of their line of gravity.

In order to permit such tilting of the card, the wall 21 of the side 16 adjacent such inclined portion may be offset or removed to permit the advancement of the card in such direction. In the drawings such wall is shown as inclined to the edge of the card when in normal position and may be made substantially perpendicular with the inclined portion 19 of the bottom. Therefore upon the card being tilted through its range of movement when the bottom of the card engages the inclined face 19 the adjacent side edge of the card will engage the inclined side wall 21. This inclined wall is so located that when the card is in the normal position shown in Fig. 3 its corner will be in very close proximity to such wall and with the vertical edge of the card engaging the vertical side wall of the casing. Hence when the cards are placed in the receptacle they will engage this inclined wall and be guided into position engaging the vertical wall, and they will be retained in such position except when tilted.

With the construction set forth in Fig. 3 the use of registering apertures in the middle of the card near the bottom and a locking-rod 25, located therein, would be somewhat objectionable in that sufficient tilting of the card would be interfered with. Consequently the cards can have registering perforations 22 arranged, preferably, in proximity to the bottom edge of the card where engaging the ridge 20. By this arrangement a very small clearance between the rod and the apertures will permit the free tilting of the card, yet the card will be locked in the casing.

While in the above-described construction the inclined portion of the bottom is located at the left side of the box, which will produce the desired projecting edges of the cards on the right-hand side, a mere reversal of such arrangement with the inclined portion located on the right-hand side would give identically the same results, except that the projecting side edges of the cards which recede rearwardly would be now disposed to the left-hand side and the cards would be manipulated by the left hand instead of the right, as in the former case. In Fig. 9 both of such constructions are embodied in one device, whereby the cards can be tilted to either side. To produce the left-hand form of device just described, the box would be arranged as shown in Fig. 9, but with the inclined portion at the left hand omitted. In the double form shown in Fig. 9 the side 15 has its inner wall 23 inclined and extending at right angles to the inclined bottom portion 24. It is desirable to omit the locking-rod in such construction.

The means for locking the rod 25 herein set forth comprise a head or turning member 26, permanently secured to the extremity of the rod by any suitable means, such as having the threaded end of the rod secured in a threaded bore 27 in the head. The latter is preferably milled to facilitate its rotation by the fingers. The rod and head carry two locking and gripping members that upon the rotation of the head are brought into engagement with opposite sides or faces of the front member of the casing, but preferably engage a locking-plate 28, secured by screws or other means to the front member. The locking-plate has an aperture 29 to permit the insertion of the rod 25, and at each side of the aperture is an opening or slotted portion 30. The front member 13 has a bore 31 registering with the openings in the front plate and of a diameter greater than the widest portion of the opening in the plate. The head 26 has a bore 32 in its inner face threaded to engage the external threads of a collar 33. This collar has its bore 34 of a size to pass freely over the rod 25 when rotated with relation to the head, which motion will move its outer face in and out with relation to the adjacent annular face of the head. This face of the collar that is arranged to engage the outer face of the locking-plate 28 is provided with two detents or projections 36, that can be brought to register with and moved into the opposite openings or slots 30 in the plate on each side of the aperture 29. A suitable abutment member is secured to the locking-rod and is shown as a locking-pin 37, passed through the rod and secured in such position. This pin 37 is of a size to pass readily through the said openings 30 in the locking-plate 28 when the pin is inserted. In its idle position the collar seats on the end of the bore 32 in the head with its clamping-face flush with the annular face of the head with the detents in alinement with the locking-pin.

The operation of these locking parts is as follows: When the rod is inserted in the aperture, it is turned so that the pin 37 and the alining detents 36 enter the side openings 30. Then the head is pushed inwardly until the inner face of the collar is approximately in engagement with the outer face of the locking-plate. At this position it will be observed from Fig. 6 the locking-pin has passed through the plate, and upon being turned from its registering position it will engage the inner face of the plate between said openings and prevent its removal until again brought to such registering position. To move the locking-pin from such registering position to a position to best engage the plate will require a rotation of the rod and head through approximately ninety degrees; but during

such rotation, since the lugs on the collar prevent rotation of the latter, the turning of the head will cause the collar to advance or screw in one direction, which by the proper rotation of the head with relation to the direction of the thread will cause the collar to advance toward and engage the outer face of the locking-plate. Since the natural movement of the head will be right-handed or clockwise, to lock it the collar has a left-handed thread in order that a right-handed movement of the head will advance the collar toward the plate. The position of the locking-pin and the position of the outer face of the collar are so arranged relative to the thickness of the engaging plate that during such rotation the collar will be screwed out of the head and against the plate and by its reaction will force the head away from the plate. Hence the rod carrying the pin must travel outward, and these two clamping members—the pin and collar—will be given a movement toward each other that at the end of such movement will tightly clamp the locking-plate between them and lock the rod against longitudinal movement.

To release the rod, it is merely nesessary to turn the head backward or anticlockwise through the distance it moved forward, which will not only bring the stop-pin to its former registering position with the slotted portion of the opening in the locking-plate, but will cause the collar to screw into the head, thus separating the pin and locking-face of the collar from each other and from the locking-plate.

The follower 40 in the present invention is shown as having a locking part 41 provided with suitable projections 42, extending in opposite directions. The part 41 is conveniently secured to the lower edge of the follower by screws or other means. To coöperate with such projections, the bottom of the casing has a suitable channel 43, preferably arranged along the middle. The side walls of the channel are preferably flared slightly and are provided with suitable ridges or corrugations arranged to be engaged by the projections 42 on the follower. One method of forming such corrugations is to provide corrugated strips 44 and secure them to such opposite walls of the channel, preferably by making a saw-kerf at each side of the channel in alinement with the opposite walls. The strips 44 have their lower edges inserted in such kerfs and may be retained therein by a driving fit or other suitable means. The member 41 is preferably channel-shaped, but inverted, having the side portions projecting downward from the follower, and the projections 42 extend outward from the said members of the channel-shaped part. The projections may extend throughout the length of the member 41 or may be located only at its end portions, as shown. To prevent dislodging of the follower from its position in which it is retained by the projections engaging the corrugations, the latter are preferably slightly inclined to the perpendicular from the base and incline forward, whereby lateral pressure upon the follower would tend to move the projections downward rather than upward and securely hold them in adjusted positions.

In Fig. 10 is shown a box or casing constructed from sheet material or sheet metal, the inner walls of which are substantially similar to those shown in Fig. 3. In such construction the channel for the follower adjustment is formed by properly bending the bottom of the box downward. With this form of box the corrugated portion of the channel may be formed out of a channel-shaped strip 45, whose opposite sides are ridged or corrugated to engage with the projections 42, carried by the follower. In forming such corrugations on the strip 45 it will be observed that a segment-opening 46 is formed in the stock adjacent each corrugation by the shearing and bending out of the stock. This strip is secured in the channel in the sheet-metal bottom by rivets or other suitable means.

Where there are a number of casings or drawers arranged in a suitable cabinet, the cabinet 48 is preferably provided with cleats 47, upon which the drawers slide, and in order to permit of the drawers being inserted in the cabinet while the cards are in a tilted position those cleats adjacent to the inclined edges of the cards are preferably made partly of metal plates 51 in order to provide the necessary clearance. The intermediate recessed portion will prevent the edges or corners of such cards as may be tilted from striking the adjacent side wall of the cabinet, and thereby injuring the cards or dislodging them from their adjusted positions.

Instead of having the side of the cleat recessed the cards can have a portion of the side removed, as shown in Fig. 4, forming an inclined portion 50, that is substantially vertical when the card is tilted.

Having thus described my invention, I claim—

1. A casing for a card-index device having a portion of the casing that normally supports the cards in upright position, provided with means whereby the cards can be tilted in the planes of their faces from such position.

2. A casing for a card-index device having a portion of the bottom that normally supports the card in upright position, formed with a fulcrum on which the cards can be tilted in the planes of their faces from such position.

3. A casing for a card-index device having a portion of the bottom that normally supports the card in upright position, formed with a fulcrum on which the cards can be

tilted in the planes of their faces from such position, one of the sides of the casing being inclined to engage the side edge of the cards when in such tilted position.

4. A casing for a card-index device having its bottom portion that supports the cards formed with two plane portions meeting at an angle constituting a ridge extending parallel with the sides of the casing.

5. A casing for a card-index device having a portion of the bottom that normally supports the cards in upright position, formed with a fulcrum located to one side of the middle of the bottom edge of the cards, on which the cards can be tilted in the planes of their faces from such upright position.

6. A casing for a card-index device having a portion of the bottom that normally supports the cards in upright position, formed with a fulcrum located to one side of the middle of the bottom edge of the cards on which the cards can be tilted in the planes of their faces from such upright position, and a locking-rod in the casing disposed in alinement with such fulcrum portion.

7. A casing for a card-index device having a portion of the base inclined downward to form a ridge upon which the cards can be tilted in the planes of their faces from their normal upright position.

8. A casing for a card-index device having a portion of the base inclined downward to form a ridge upon which the cards can be tilted in the planes of their faces from their normal upright position, the side of the casing adjacent such inclined portion of the bottom being disposed substantially at a right angle to such portion.

9. A casing for a card-index device having at the bottom an inclined portion extending along one side and forming a ridge with the base that is disposed to one side of the middle of the bottom edge of the card, whereby the cards can be tilted in the planes of their faces from their normal upright position, and when released from such positions will gravitate to their normal upright position.

10. A casing for a card-index device having a portion of the bottom that normally supports the cards in upright position, formed with a fulcrum on which the cards can be tilted to a position in which the side edge adjacent one end of each card will project a short distance beyond the succeeding card.

11. A casing for a card-index device having the bottom of the casing that normally supports the cards in upright position, inclined from its intermediate portions downwardly to each side edge, whereby the cards can be tilted to each side from their normal upright position.

12. In a card-index device, the combination of a casing having a portion of the bottom that normally supports the cards in upright position, formed with a fulcrum located to one side of the middle of the bottom edge of the card, on which the cards can be tilted from their upright position, a locking-rod located in alinement with such fulcrum, and cards having perforations disposed to engage such locking-rod.

13. The combination of a casing member having an aperture therein, a rod located in the aperture of the casing, a head secured to the end of the rod, and clamping means carried by said members arranged to be operated by the rotation of the head to grip opposite faces on the casing member.

14. The combination of a casing having an aperture therein, a rod located in said aperture, a head secured on the end of the rod, a clamping member carried by the rod, a clamping member connected with the head whereby the rotation of the head will cause the clamping members to grip opposite faces on the casing.

15. The combination of a casing member having an aperture therein, a rod extending through the aperture of the member, a head secured on the rod, a collar having a screw-threaded engagement with the head and rotatable on the rod, an abutment fast on the rod and arranged to engage an inner face on the casing, and a detent carried by the collar and arranged to engage the casing member to prevent rotation of the collar, whereby upon rotation of the head the collar will be advanced relative to the head and engage an outer face on the casing member and clamp the member between the collar and said abutment, and lock the rod.

16. The combination of a casing member having an aperture therein, a rod extending through such aperture, a head secured on the rod and provided with a threaded bore, a collar engaging the threaded bore of the head and freely rotatable on the rod, an abutment-pin secured to the rod and arranged to engage an inner face on said casing member, said aperture being oblong to permit the insertion of the rod and abutment-pin, and detents carried by said collar and arranged to engage the walls of said oblong aperture to prevent rotation of said collar, whereby upon rotation of the head the collar will be advanced to engage an outer face on the casing and clamp the member between it and said abutment-pin.

17. The combination of a casing member having an aperture therein, a rod located in said aperture, a head secured on the end of the rod, and provided with a threaded bore, a threaded collar rotatable on the rod and engaging the threaded bore of the head, an abutment-pin secured to the rod and arranged to engage an inner face on said casing member, said aperture being oblong to permit the insertion of the rod and abutment-pin, and detents projecting from the face of said collar and arranged to enter said oblong aperture

and permit that face to engage the outer face of said member and also to prevent rotation of said collar, whereby upon rotation of the head the collar will be advanced and clamp the casing member between it and said abutment-pin.

18. The combination of a casing member having an oblong aperture therein, a rod located in said aperture, a head on the end of the rod, a stop-pin secured on the rod and adapted to pass through said oblong aperture in the casing member, and clamping means carried by the rod whereby the rotation of the rod to move the stop-pin from registering with the aperture to a position engaging the inner face of the casing member will cause the casing member to be clamped between such means and the stop-pin.

19. In a card-index device, a casing provided with a follower, the bottom of the casing having one or more upright members provided with ridges extending transverse to the bottom, the follower being provided with one or more ridge portions arranged to engage said ridge portions and support the follower in adjusted positions.

20. In a card-index device, a casing provided with a follower, the bottom of the casing having a pair of parallel upright members provided with ridges extending transverse to the bottom and projecting toward each other, the follower being provided with one or more pairs of oppositely-extending ridge portions arranged to engage said ridge portions and support the follower in adjusted positions.

21. In a card-index device, a casing having a channel extending longitudinally along the bottom, a corrugated strip located in each of the opposite side walls of the channel, and a follower provided with a plurality of oppositely-extending projections arranged to fit into such corrugations and support the follower in adjusted positions.

22. In a card-index, a casing having a channel-shaped member longitudinally disposed at its bottom, the opposite side walls of the member being corrugated substantially transverse to the bottom, and a follower provided with projections extending in opposite directions and arranged to engage with the corrugated portions of the channel member and support the follower in adjusted positions.

23. In a card-index, a casing provided with a channel-shaped member longitudinally disposed at its bottom, the opposite side walls of the casing having corrugations extending substantially transverse to the bottom, the follower having an engaging member secured thereto, said member comprising an inverted-channel-shaped body having its edges bent laterally in opposite directions and provided with projections arranged to engage with the corrugated side walls of the said channel member and support the follower in adjusted positions.

24. In a card-index device, a casing provided with a follower, the casing having a pair of parallel upright members provided with ridges extending transverse to the bottom and projecting toward each other, the ridges also being inclined forward, the follower being provided with one or more pairs of oppositely-extending ridge portions arranged to engage said ridge portions and support the follower in adjusted positions.

Signed at Nos. 9 to 15 Murray street, New York, N. Y., this 13th day of April, 1905.

GEORGE A. WHEELER.

Witnesses:
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FRED. J. DOLE.