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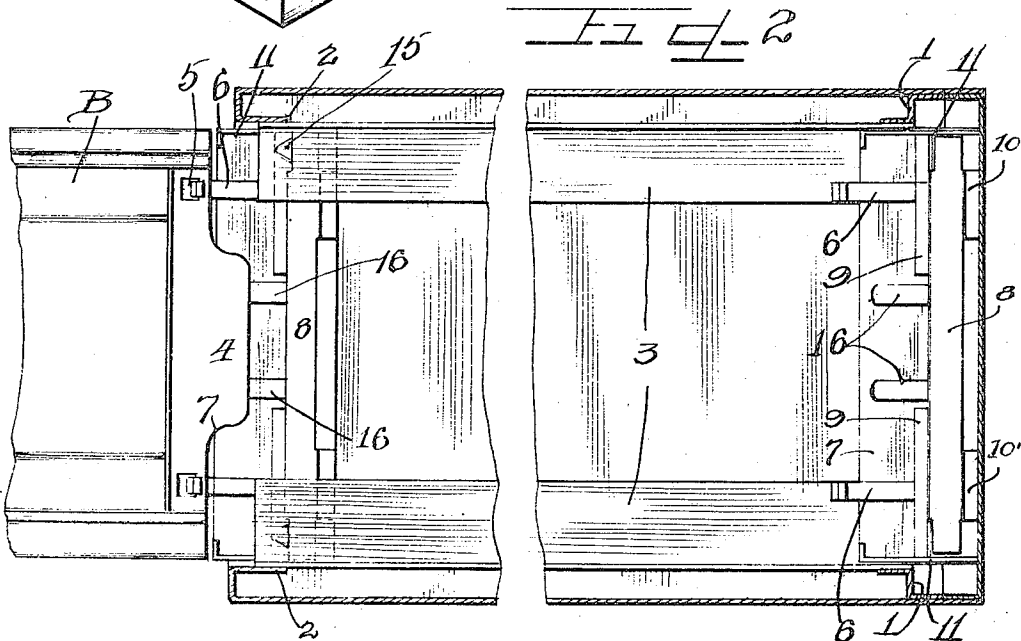
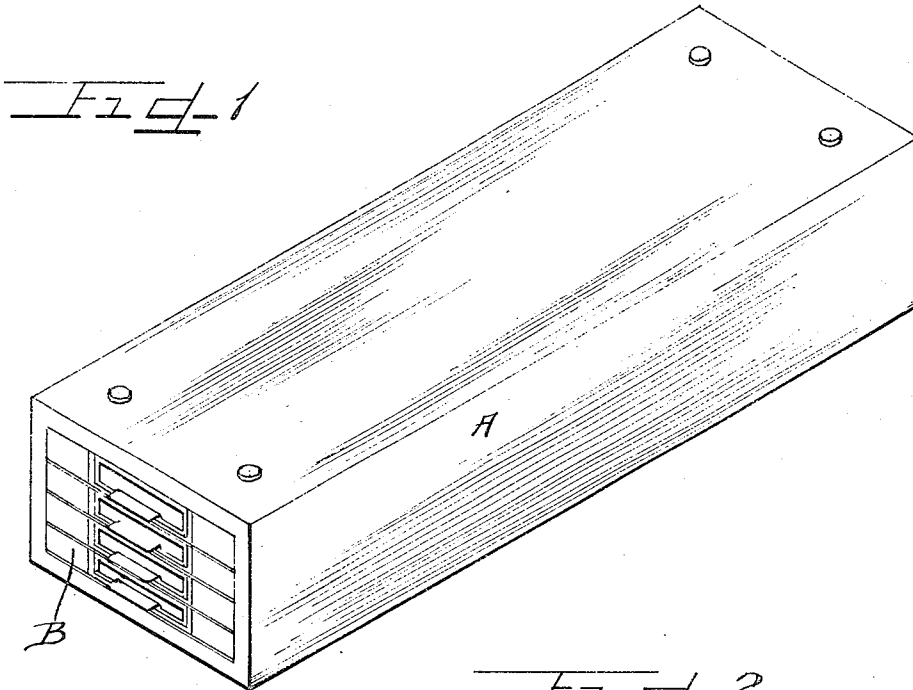
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E. OHNSTRAND

LOCKING ANCHOR FOR CARD TRAYS

Filed Dec. 5, 1921

2 Sheets-Sheet 1



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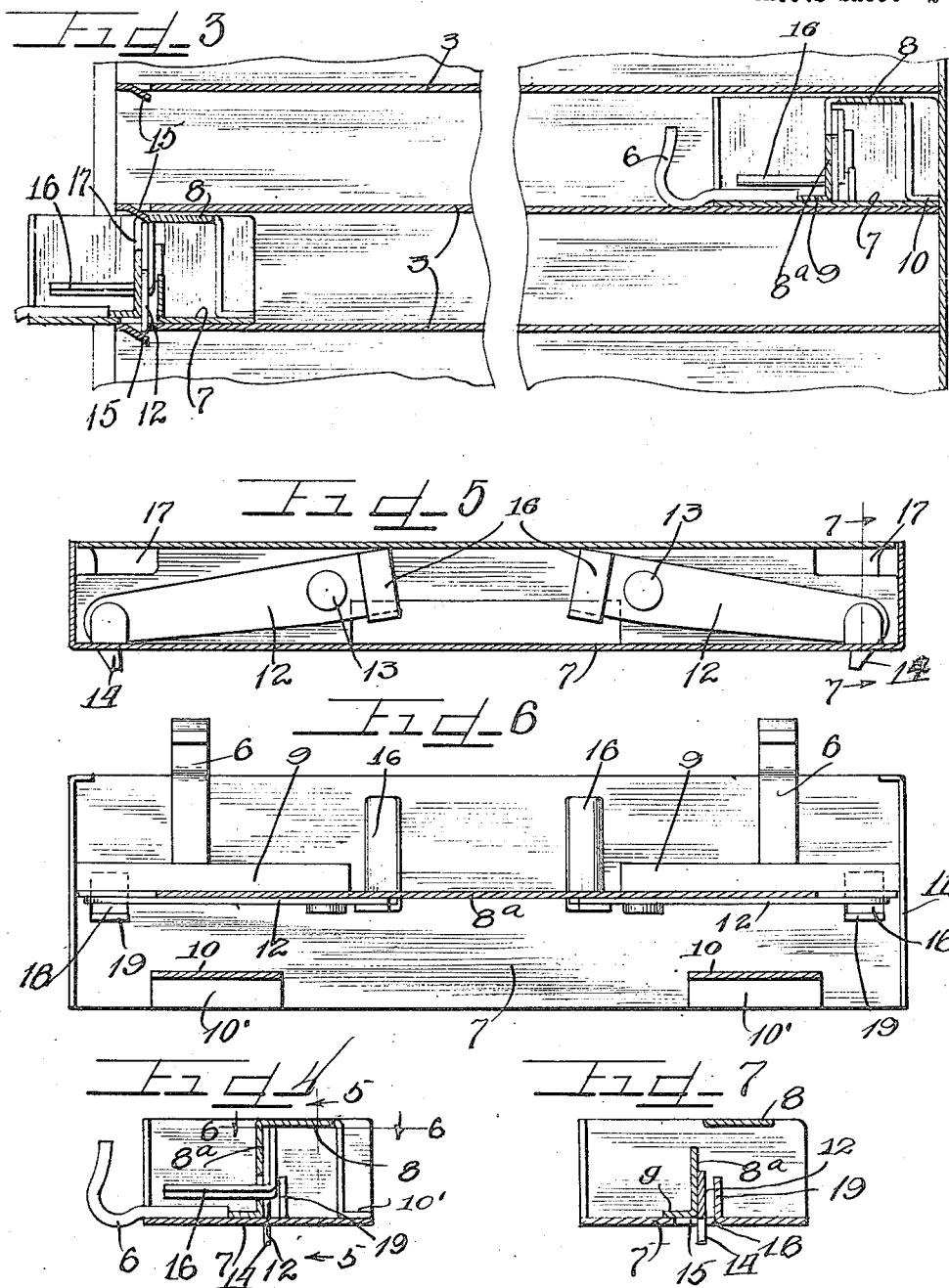
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UNITED STATES PATENT OFFICE.

ENOCH OHNSTRAND, OF MOHAWK, NEW YORK, ASSIGNOR, BY MESNE ASSIGNMENTS,
TO REMINGTON RAND INC., OF NEW YORK, N. Y., A CORPORATION OF DELAWARE.

LOCKING ANCHOR FOR CARD TRAYS.

Application filed December 5, 1921. Serial No. 520,193.

This invention relates to card index cabinets in which trays of cards mounted in overlapping relation are housed.

It is an object of this invention to provide a positive lock for the tray anchor which is used in suspending the trays from the cabinet.

It is a further object of this invention to provide a locking means that is automatic in its operation for locking said anchor.

With these and other objects in view, which will become more apparent in the following description and disclosures, this invention comprises the novel structures, combinations of parts and arrangement herein after described and more particularly pointed out and defined in the appended claims.

In the drawings, which illustrate a preferred embodiment of my invention and in which similar reference numerals refer to similar features:

Figure 1 is a perspective view of a cabinet involving my invention.

Figure 2 is a horizontal section thereof showing certain interior features in plan view upon an enlarged scale.

Figure 3 is a fragmentary vertical section through a pair of tray compartments upon an enlarged scale.

Figure 4 is a transverse vertical section through the tray anchor.

Figure 5 is a vertical section through the tray anchor taken on the line 5—5 of Figure 4.

Figure 6 is a horizontal section through the tray anchor taken approximately on the line 6—6 of Figure 4.

Figure 7 is a transverse section through the tray anchor taken on the line 7—7 of Figure 5.

As shown on the drawings:

In the accompanying drawings, I have illustrated a cabinet A and tray B. The cabinet may be of any form and design; it should, however, be longer than the tray in order to accommodate the tray anchor which is hinged to the rear of the tray. The illustrated cabinet comprises a box-like structure made of sheet metal in any appropriate way, to the inner side walls of which are secured the vertical Z-bars 1. These Z-bars are secured near the rear of the cabinet with one flange thereof secured to the wall and the other outstanding to form a rear support for the ledges that guide and support the trays. The front support for the tray ledges is

formed by inwardly directed flanges 2 on the side walls. The tray ledges comprise suitable metal angles 3, the vertical flanges of which are secured to the Z-bars 1 and flanges 2 in any well-known manner.

The trays which may be of any suitable construction and designed to fit the tray compartment in the cabinet, are preferably provided with novel tail pieces 4 for controlling the automatic locks as will presently appear. These tail pieces 4 are provided with apertures 5 for receiving the hinge hooks 6 which are attached to the anchors.

An anchor is contemplated to be located in each tray compartment being designed for sliding movement on the ledges 3. Each anchor comprises a base member 7 having a raised abutment 8 thereon. This abutment comprises a stamped metal plate having a top horizontal portion 8^a provided with spaced horizontal flanges 9 attached to the base 7, and a pair of spaced rear vertical flanges 10 provided with horizontal attaching lugs or flanges 10' which are secured to the base 7, the height of the abutment 8 being determined by the vertical flanges. The abutment is secured to the base by spot welding preferably.

The hinge hooks or members 6 previously mentioned are attached to the base plate 7 of the anchors, and the ends of the base plate 7 are formed up to provide the side guide flanges 11 which are parallel with and slide against the vertical walls of the ledges 3.

When a tray is withdrawn from its compartment, it will draw its attached anchor to the front part of the compartment as shown in Figure 2, at which point the tray may be suspended from the anchor or entirely removed therefrom.

My invention concerns itself primarily with the provision of means for positively arresting and automatically locking the anchor in position when the tray is removed from its horizontal position when it has been withdrawn from the cabinet.

The means I have illustrated for accomplishing the above-mentioned function comprises a plurality of transverse locking members 12 pivoted intermediate their ends upon the pivots 13 which are secured to the rear side of the vertical flange 8^a of each abutment. These members extend at their outer ends to points over the ledges 3 where they

are provided with locking tongues or projections 14 adapted to drop into slots formed by the cut out and downwardly projecting ears or tongues 15 in the front part of the ledges

3. The opposite ends of said locking members 12 are provided with forwardly extending arms 16 adapted to be retained under the tail piece 4 of a tray when the tray is in its compartment or in the position shown in Figure 2. The upper edge portions of the flange 8^a of each abutment is cut away as shown at 17 so that the downwardly projecting tongues 15, from the upper ledges, which lie in the path of the abutment, arrest the same in such a position that the locking tongues 14 are directly over the lower slots in the ledges as shown in Figure 3. In order that the tongues 14 may pass through the plate member 7 so as to enter the slots in the ledges, apertures 18 have been provided in the plate member 7 just below said tongues 14 as shown in Figure 6. These apertures are preferably formed by cutting out suitable pieces and bending the same upwardly as shown at 19 (Figure 6) to provide guides for the locking projections 14.

According to my invention, it will be obvious that when a tray is drawn forwardly, it will be arrested when the abutment of the anchor strikes the upper tongues 15 which will be broadly termed abutments in this specification. The weight of the tray resting upon the arms 16 will be sufficient to keep the locking arms 12 connected thereto in raised position. But as soon as the weight of the tray is removed from the arms 12 as for instance when the tray is removed from the anchor or suspended therefrom, the outer ends of the locking arms will automatically drop by gravity into the locking slots defined by the cut out tongues 15 in the front part of the lower ledges. The anchors will hence be positively locked against removal or shifting to the rear of the tray compartment when a tray is removed or suspended therefrom. When the tray is replaced in horizontal position with the tail piece 4 over the arms 16, the levers 12 will be raised from locking position, permitting the return of the tray into the cabinet.

I am aware that 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 otherwise than necessitated by the prior art.

I claim as my invention:

1. In a card index cabinet having upper and lower ledges defining a tray compartment, said ledges having slots and downwardly extending tongues adjacent said slots in the front part thereof, a tray in said compartment, an anchor removably hinged to the rear of said tray and having a raised abutment adapted to be arrested by the tongues of

the upper ledge, a pair of locking members pivoted to said abutment and having locking projections adapted for entering the slots of the lower ledges, and arms on said locking members adapted to be retained under said tray for holding said locking projections in inoperative position.

2. In a card index cabinet having upper and lower ledges defining a tray compartment, said ledges having slots and downwardly projecting tongues at their forward ends, a tray in said compartment, an anchor removably hinged to the rear of said tray, an abutment on said anchor adapted to be arrested by the tongues of the upper ledge, and locking members on said abutment adapted for entering the slots of the lower ledge, said locking members being controlled by said tray.

3. In a cabinet having a tray compartment, a tray slidable in said compartment, an anchor connected to said tray, and locking means pivoted to said anchor and controlled by the position of the tray with respect to said anchor for positively locking said anchor in the forward part of said compartment.

4. In a card index cabinet having tray supporting ledges, a tray slidable on said ledges, an anchor hinged to the rear of said tray, and a locking member pivoted intermediate its ends upon said anchor, one end of said member having an arm normally extending under said tray, and the other end having a locking means adapted for locking engagement with a ledge.

5. In a card index cabinet having a tray compartment, a tray slidable in said compartment, an anchor movable with said tray, locking means for said anchor, said locking means being normally inoperative, and means on said tray for permitting said locking means to become operative through a predetermined movement of said tray.

6. In a card index cabinet having upper and lower ledges defining a tray compartment, said ledges having locking apertures, a tray in said compartment, an anchor to which the rear of said tray is hinged removably, co-acting abutments on said anchor and upper ledges for arresting said tray, and locking members controlled by the rear of said tray adapted for entering the locking apertures in the lower ledges when the tray is in arrested position.

7. In a card index cabinet having ledges defining a tray compartment, a tray slidable in said compartment, an anchor for supporting said tray in withdrawn position from said compartment, and swingable means on said anchor cooperating with said ledges for arresting and positively locking said anchor when said tray is in withdrawn position and tilted downwardly.

8. In a card index cabinet having a tray

compartiment, a tray slidable in said compartment, an anchor movable with said tray, locking means for said anchor, said locking means being normally inoperative, and means for rendering said locking means operative through a predetermined movement of said tray after being projected.

9. The combination with a card index cabinet, of a tray horizontally slidable in said cabinet, an anchor movable with said tray for supporting said tray when withdrawn from said cabinet, normally inoperative locking means on said anchor adapted for automatically locking engagement with a part of said cabinet and means on said tray for releasing said locking means when said tray is removed.

10. In an index cabinet having a tray supporting means, a tray slidable on said means, an anchor hinged to the rear of said tray, a locking member carried by said anchor and having a portion normally engaged by said tray for holding said locking member in inoperative position.

In testimony whereof I have hereunto subscribed my name.

ENOCH OHNSTRAND.