May 18, 1954 T. O. PERKINS 2,678,865

VISIBLE RECORD CARD CABINET

Filed Dec. 29, 1950

2 Sheets-Sheet 1

Fig. 1.

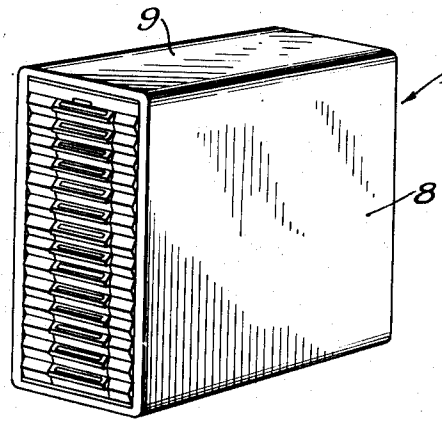


Fig. 5.

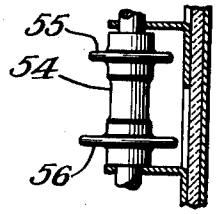


Fig. 3.

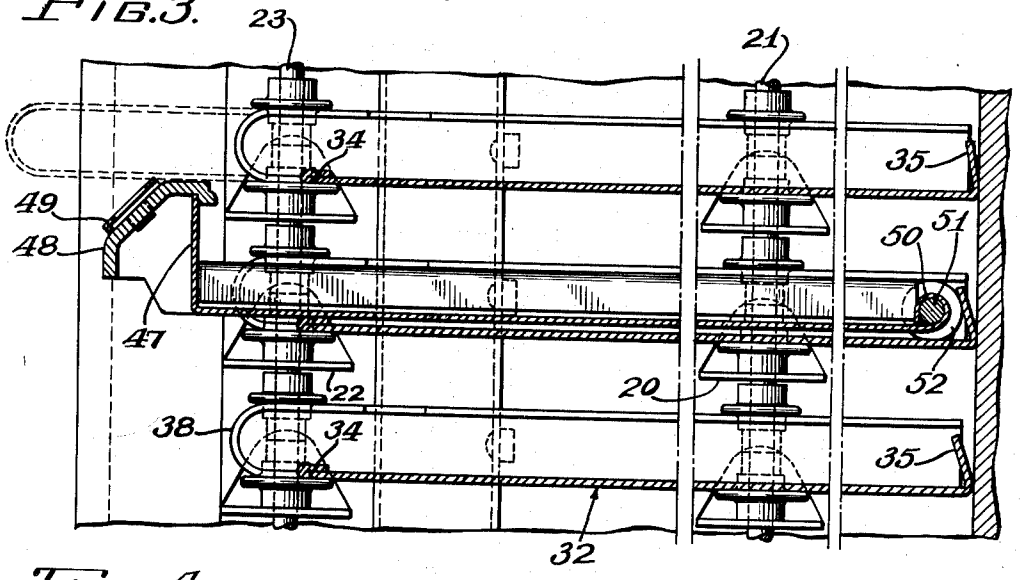
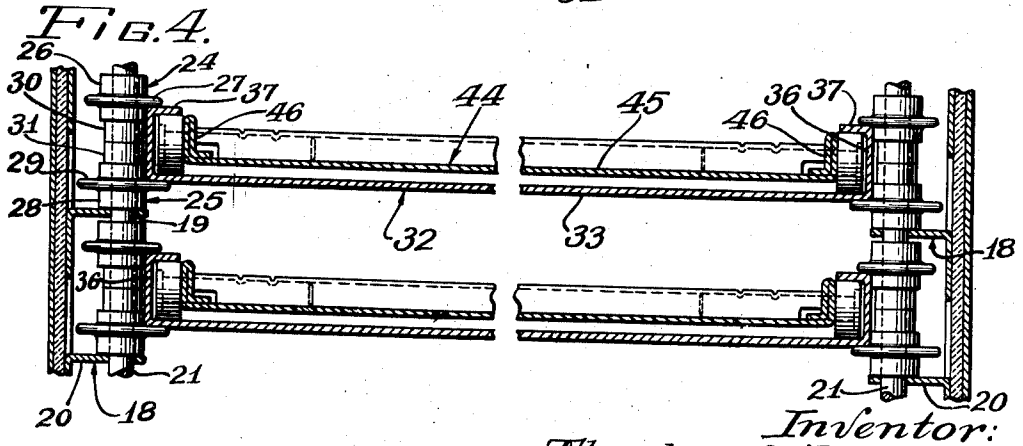


Fig. 4.



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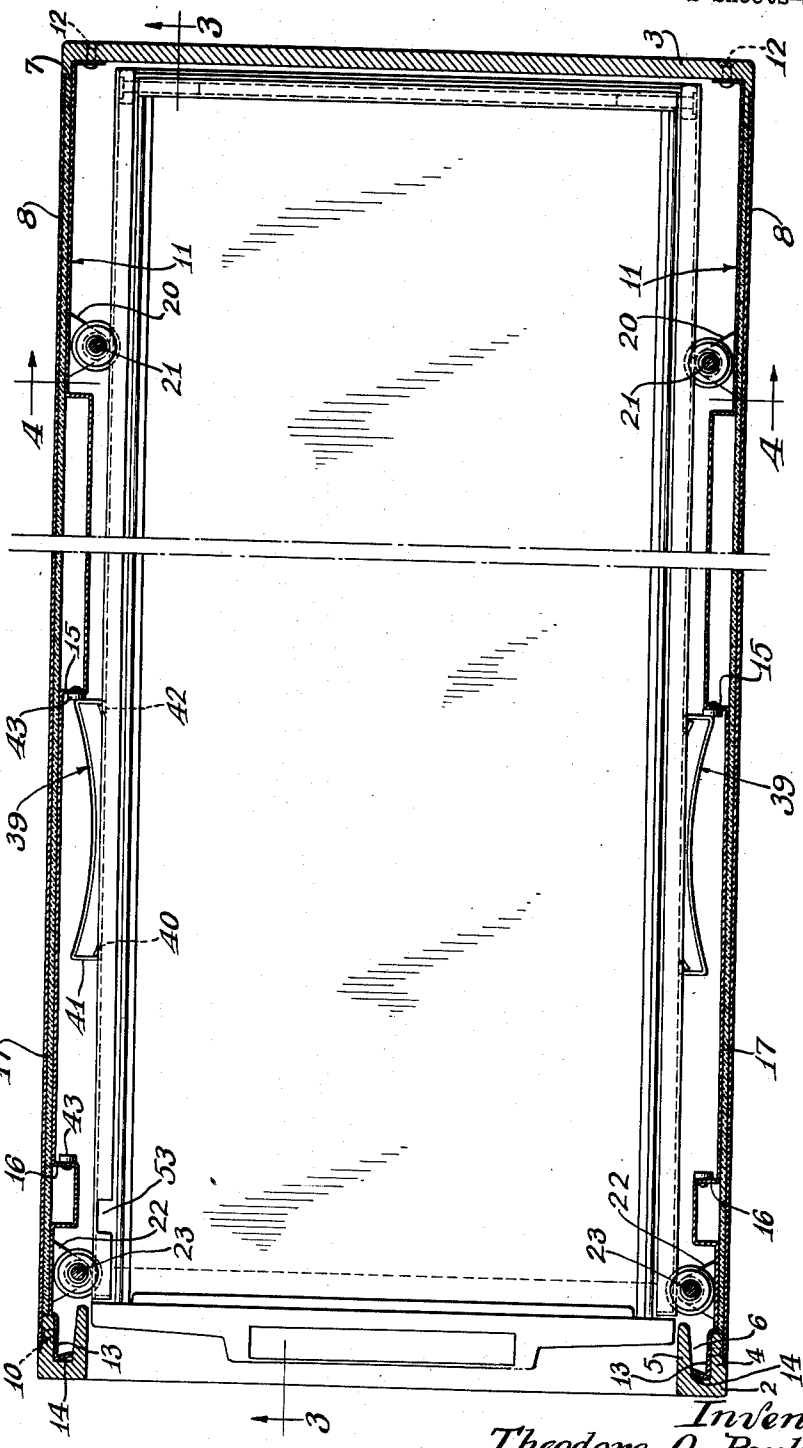


FIG. 2.

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UNITED STATES PATENT OFFICE

2,678,865

VISIBLE RECORD CARD CABINET

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Application December 29, 1950, Serial No. 203,492

1 Claim. (Cl. 312—337)

1

This invention relates to improvements in a cabinet, particularly a cabinet preferably constructed of metal adaptable for housing a plurality of slidable trays carrying visible record cards, and refers specifically to an efficient and rugged tray-supporting means for such cabinet.

One of the important features of the present invention resides in a cabinet of the class described having simply constructed means for supporting a plurality of superimposed record card-carrying trays, said means permitting easy and convenient removal or partial removal of the trays from the cabinet to gain access to the record cards carried upon the trays.

Briefly described, the structure comprising an embodiment of the present invention includes a housing provided with a plurality of superimposed tray spaces, said tray spaces being defined by partitions upon which the trays move, the partitions being supported by vertically pivoted rollers upon which the partitions have limited movement into and out of the cabinet.

The objects and advantages of the present invention will be more apparent from the accompanying drawings and following detailed description.

In the drawings,

Fig. 1 is a perspective view of a cabinet embodying features of the present invention.

Fig. 2 is an enlarged horizontal top sectional view taken through the cabinet of Fig. 1.

Fig. 3 is an enlarged detailed sectional view taken on line 3—3 of Fig. 2.

Fig. 4 is an enlarged detailed sectional view taken on line 4—4 of Fig. 2.

Fig 5 is a detailed view of a modified form of partition-supporting roller.

Referring in detail to the drawing, 1 indicates generally a cabinet for the housing of a plurality of record card-carrying trays. The cabinet 1 comprises a front frame portion 2 which is preferably constructed of metal and may be conveniently die cast. The front frame member 2 is continuous, defining the opposite sides and top and bottom of the front portion of the cabinet 1. A rear frame member 3 is also provided and is preferably constructed of metal, the rear frame member being of solid construction and forming an imperforate back for the cabinet.

The front frame member 2 is constructed in channel form having outer and inner flanges 4 and 5 respectively defining a channel space 6. The rear frame member carries a continuous peripheral flange 7 disposed angularly with respect to the plane of the frame proper.

2

To complete the housing portion of the cabinet, a metal sheet is employed, the metal sheet being of unitary construction and being wrapped around the peripheral flange 7 of the rear frame 3 and the flange 4 of the front frame 2 to form opposite side walls 8—8, a top 9 and a bottom (not shown). The metal sheet comprising the side walls and top and bottom may be secured to the respective frames 2 and 3 by screws 10 or other suitable retaining means.

Disposed in generally plane-parallel relationship to each of the side walls 8 is an inner side wall 11. The inner side wall 11 at each side of the cabinet is secured at its rear end to the frame 3 by means of screws, rivets, or the like, 12. A portion of the rear edge of each of the inner side walls 11 is disposed adjacent the inner face of the flange 7 whereby the side walls 8 and 11 are spaced from each other. At the front portion of the cabinet the inner side walls terminate in offset edges 13, said offset edges being provided with angularly disposed flanges 14 which are disposed in the channel 7 of the frame members 2, the angularly disposed members 14 being wedged between the flanges 4 and 5.

Intermediate the length of each of the inner side walls 11, a portion of said walls are offset inwardly to form shoulders 15. Spaced forwardly from the shoulders 15 the inner walls 11 are again offset inwardly to provide shoulders 16. As will be hereinafter more fully described the shoulders 15 and 16 respectively function as stops limiting the innermost and outermost extent of travel of the partitions. To deaden or suppress sound vibrations a suitable insulating material 17 may be disposed between the outer side walls 8 and the inner side walls 11.

As a feature of the present invention the inner side walls 11 are provided with a plurality of inwardly struck arms 18, said arms being formed by aperturing portions of the inner side walls 11 and bending the arms at substantially right angles to the surfaces of the inner walls. A plurality of such arms are contemplated, said arms being disposed in vertical alignment. Each of the arms 11 is provided with an aperture 19 for the reception of vertical shafts.

There are four sets of vertically superimposed arms 18, two sets of said arms designated by the reference numeral 20 being disposed immediately behind the rear offset portions of the inner walls 11, the arms 20 being positioned transversely opposite each other and functioning to support vertical shafts 21. The other two sets of arms are disposed forwardly of the front offset

portions of the walls 11 and are designated by the reference numeral 22. The arms 22 are disposed transversely opposite each other and are adapted to support vertical shafts 23.

Between each adjacent pair of arms 20 and 22 two rollers 24 and 25 are rotatably positioned upon the respective shafts 21 and 23. Each roller 24 comprises a hub 26 which rotatably embraces the shaft upon which it is carried, said hub having an intermediate annular flange 27 formed integral with the hub. Each roller 25 comprises a hub 28 which rotatably embraces the shaft upon which it is carried, said hub having an annular flange 29 preferably formed integral with the hub 28. The hub 26 carries an integral extension 30 and the hub 28 carries an integral extension 31 which when the rollers are disposed in operative position abut each other and function as spacers to properly space the annular flanges 27 and 29 of the rollers 24 and 25 respectively. In assembling the rollers 24 and 25 upon the respective shafts 21 and 23, between each adjacent arm 18, the roller 25 is disposed lowermost and the roller 24 is positioned above the roller 25. The rollers 24 and 25 are of similar construction with the exception that the annular flange 29 of each roller 25 is greater in diameter than the annular flange 27 of each roller 24. As will be hereinafter more fully described each opposite pair of rollers 24 and 25 upon each pair of shafts 21 and 23 function as supports and guides for the movable partitions, the partitions resting upon the annular flanges 29 of rollers 25 and in predetermined positions of the partitions, the partitions bear against the under surface of the annular flanges 27 of the rollers 24.

The movable partitions employed in the present device are generally designated by the reference numeral 32. Each partition 32 comprises a main panel portion 33 which, at its forward edge, is folded or bent upon itself to form a reinforcing or stiffening seam or bead 34, and at its rear edge, each panel is bent angularly upwardly to form a rear abutment flange 35. At each opposite lateral edge, each panel 33 is bent upwardly to form opposite lateral flanges 36, and inwardly to form top flanges 37. At the forward lateral edges of each panel a continuation of the top flange is formed in a forwardly extending convex curve, as at 38 in Fig. 3, whereby to provide pairs of hangers for the card-carrying trays, to be hereinafter more fully described.

Each partition is supported adjacent its rear end upon flanges 29 of an opposite pair of rollers 25 carried upon opposite shafts 21, and is supported adjacent its front end upon the similar flanges of similar rollers carried upon the opposite shafts 23. In this fashion the partitions may be moved inwardly and outwardly, horizontally, the movement being facilitated by the rotary movement of the rollers 25 upon the shafts 21 and 23. To prevent canting movement of the partitions in a vertical direction and to confine the movement of the partitions to substantially horizontal movement, the upper flanges 37 at the lateral sides of the partitions are disposed in abutting relationship to the lower surfaces of the flanges 27 of the rollers 24. It can readily be seen that the guiding function performed by the flanges 27 is facilitated by the fact that the rollers 24 are free to rotate upon the respective shafts 21 and 23, and frictional resistance to the movement of the partitions is thereby reduced to a minimum.

As has been hereinbefore stated, the movement of the partitions 32 in the cabinet is limited and this end is accomplished by stop members 39 (Fig. 2). Intermediate the length of the side flanges 36 of the partitions, said flanges are provided with spaced slots 40. The stop members 39 are constructed of resilient strips and each member is angularly bent adjacent opposite ends thereof to form fingers 41, the ends of which are threaded in the spaced slots 40. The body portion of each stop member is bowed concavely whereby the fingers 41 normally tend to leave the slots 40, said fingers, however, being provided with hook portions 42 which prevent such separation. This arrangement, however, provides a convenient means for confining the partitions in the cabinet, the assembling procedure being as follows: Before the partitions 32 are positioned in the cabinet, the fingers 41 of the stop members are threaded in the slots 40. This operation can be performed even though the hooks 42 may be preformed since the flexibility of the members 39 will permit such threading operation. If desired, however, the fingers 41 may be first threaded into the slots 40 and the hooks 42 subsequently formed. With the members 39 thus mounted, the partition may be moved into the cabinet in proper position with respect to the roller pairs and to move the members 39 past the offset shoulders 16 it is merely necessary to manually move the fingers 41 into the slots until the offset shoulders are passed. Thereafter, the resiliency of the members 39 causes the fingers to move outwardly until the hooks 42 engage the defining sides of the slots 40.

In this position, the partitions 32 may be moved a limited distance outwardly and inwardly of the cabinet determined by abutment of the front or rear fingers with the shoulders 16 and 15 respectively. To cushion the impact of the fingers 41 with the respective shoulders 15 and 16, resilient buttons or pads 43 may be mounted upon the faces of the shoulders.

Upon each of the partitions 32 a card-carrying tray 44 is movably mounted. Each card carrying tray comprises a main flat panel portion 45, the opposite lateral edges of which are bent upwardly and downwardly upon themselves to provide opposite lateral flanges 46. The front edge of the main panel 45 is bent upwardly at an angle to the plane of the panel to form a front flange 47. When the trap is completely inserted in the cabinet the front flange of the tray provides a closure for the space defined by two adjacent partitions. A forwardly extending handle 48 is mounted upon the upwardly extending front flange 47, said handle being conveniently constructed of a die-cast metal similar to the metal comprising the front and rear frame members 2 and 3. An escutcheon plate 49 may be mounted upon each handle 48 for the reception of an index card or the like which identifies the subject matter of the cards carried upon the respective tray. The rear portion of the main panel 45 is rolled in the form of a bead 50 for the reception of two oppositely extending pintles 51 upon each of which a roller 52 is rotatably mounted.

To permit the insertion or the disposition of each tray 44 upon a partition 32 one top flange 37 of each partition is provided with a recess 53 whereby the end of the tray 44 carrying the rollers 52 may be positioned upon the supporting partition.

The trays 44 are adapted to carry a plurality of conventional visible record cards (not shown)

and in order to render said cards available for inspection or to make entries thereon the trays are movable outwardly from the cabinet. Initially all of the partitions **32** are in their innermost position with the rear flanges thereof in substantial contact with the inner face of the rear wall **3**. When it is desired to inspect or operate upon a card carried by a predetermined tray the tray is moved outwardly from the cabinet. Such outward movement is accommodated by the tray sliding upon the bead **34** at the forward edge of the partition **32** and rolling upon the rollers **52** at the rear portion of the partition. The tray is thus moved outwardly without initially disturbing the position of the partition. Such movement is continued until the rollers **52** carried by the tray engage the curved flanges **38** of the supporting partition. Continued outward movement of the tray then results in outward movement of the supporting partition. As has been hereinbefore described this outward movement of the partition is greatly facilitated by the provision of the supporting and guide rolls **25** and **24** upon which the partition is carried. The outward movement of the tray and partition continues until the fingers **41** of the stop members **39** abut the pads **43** carried by the shoulders **16**. When the tray has moved to this position, the forward portion of the partition extends beyond the confines of the cabinet, as indicated by the dotted lines in Fig. 3. The tray which moves outwardly with the partition and which causes the partition to move can then be canted downwardly, the rollers **52** operating in the curved flanges **38** functioning as a horizontal pivot for such movement. In this position the forward portion of the tray may rest upon the support upon which the cabinet **1** may be carried and reference to the cards upon the tray may be had, the tray being in such position that entries upon said cards will be greatly facilitated.

To return the tray to its normal position within the cabinet, the tray is moved from its canted position to a substantially horizontal position in plane parallel relationship to its supporting position. The tray may then be moved inwardly. Initially the tray moves relative to the supporting partition, the supporting partition initially remaining substantially stationary. When the tray has been so moved as to bring the rollers **52** into contact with the rear flanges **35** the tray functions to move the partition inwardly until the rear fingers **41** of the stop members **39** abut the pads **43** upon the shoulders **15**. In this position the front flange **47** of the tray provides a closure for the partitioned space in which the tray is disposed.

Referring particularly to Fig. 5 a modified form of supporting roller is shown. In this form of roller a single hub **54** carries spaced annular flanges **55** and **56**. The annular flange **55** corresponds to flange **27** of the roller **24** and the annular flange **56** corresponds to the annular flange **29** of the roller **25**, the only difference being that the roller is constructed in one piece. Otherwise, the function of the roller is identical with the pairs of rollers **24** and **25** and the manner of mounting the rollers is the same.

It is apparent that herein is provided a cabinet construction wherein a plurality of movable partitions and trays may be housed, the supporting construction for the trays and partitions being such as to provide easy and convenient manipulation of the movable members. Modifications of the present invention will be suggested to any one skilled in the art and hence it is not intended that the present invention be limited except as necessitated by the appended claim.

I claim as my invention:

In a cabinet comprising a housing, partitions disposed in said housing for limited movement into and out of said housing, trays carried by said partitions and being movable relative thereto, means carried within the housing for supporting said partitions, said means including vertically superimposed arms carried by opposite housing walls, vertically disposed shafts supported by said arms, a pair of separate rollers disposed in superimposed position between each adjacent pair of arms, an annular flange carried by each roller, the flanges of each pair of rollers being vertically spaced from each other, the flange of the lower roller of each pair of rollers being of relatively greater diameter than the flange of the upper roller of each pair, said partitions being disposed with their side edges embraced by said annular flanges of the pairs of rollers, the flanges of the lower rollers of said pairs of rollers supporting the partitions and the flanges of the upper rollers of said pairs of rollers being disposed above and adjacent the upper side edges of said partitions to guide the partitions during their movement into and out of said housing.

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