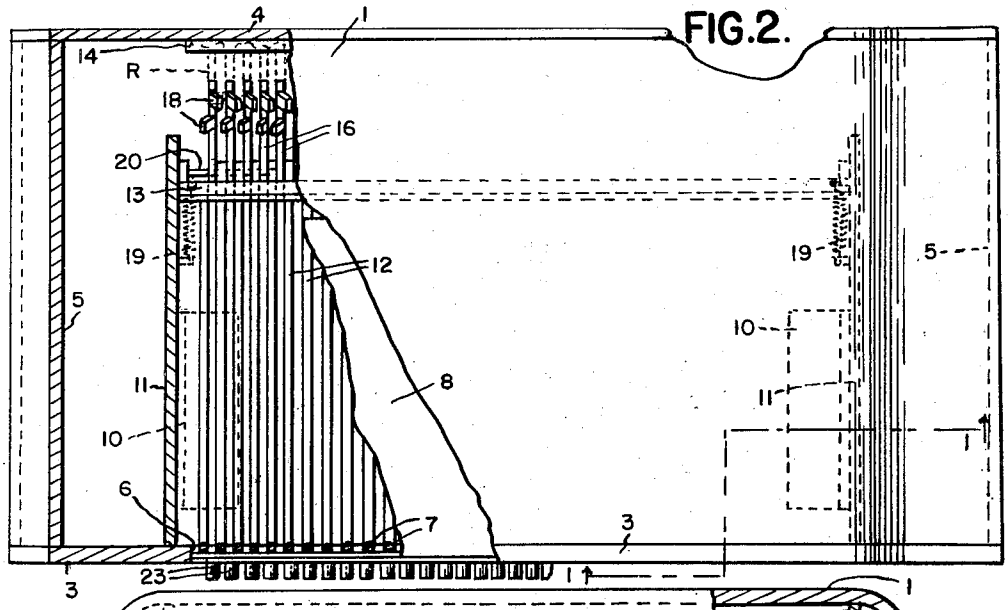
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DISK RECORD HOLDER

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FIG.2.



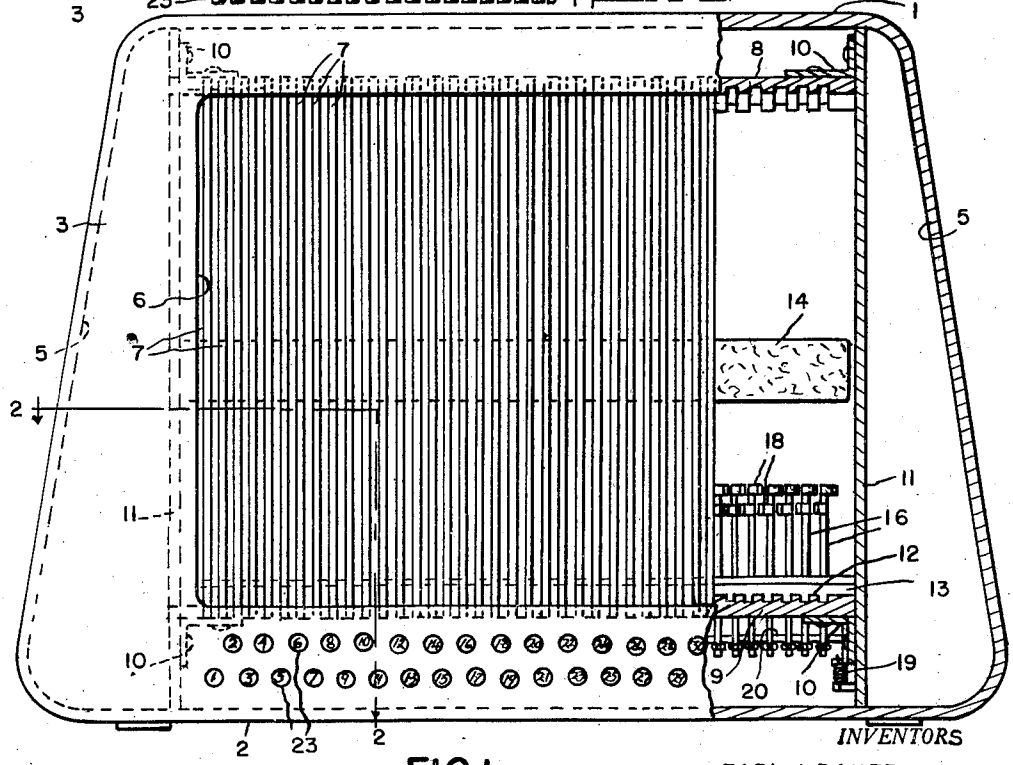


FIG.1.

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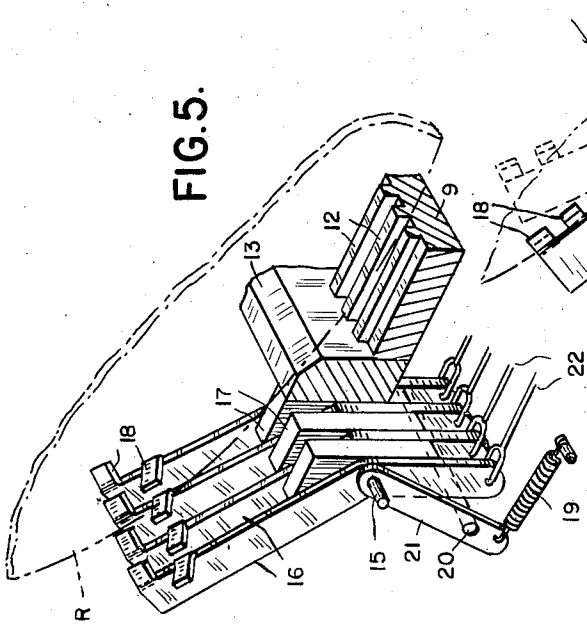


FIG.5.

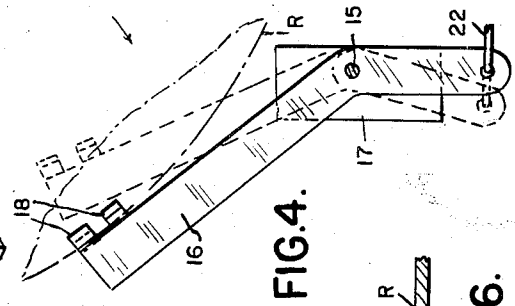


FIG.4.



FIG.6.

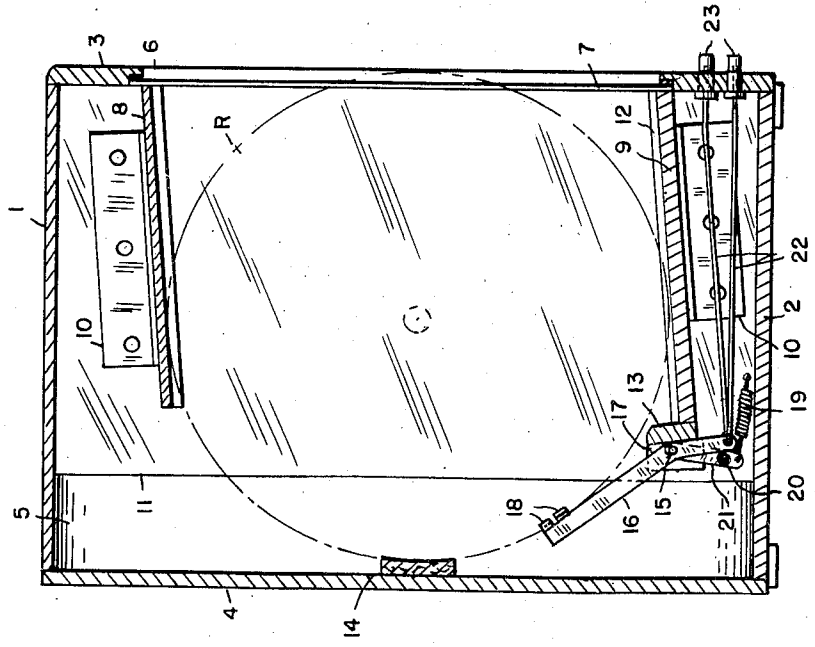


FIG.3.

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2,453,399

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2,453,399

DISK RECORD HOLDER

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Application August 30, 1946, Serial No. 693,840

6 Claims. (Cl. 312—15)

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This invention relates to phonograph record cabinets, and particularly to the selective ejection of disk records from such cabinets. The present improvements may be considered a further development of the mechanism disclosed by United States Patent Number 2,268,008 granted December 30, 1941, to Baker.

An object of the invention is to simplify the ejector mechanism disclosed in the identified patent and materially reduce the cost of such mechanism.

In attaining such object, we provide an improved ejecting lever in association with each stored record, maintain the normal positions of all the ejecting levers by a simplified spring means, and provide an improved means for guiding the records as they are inserted in or ejected from the cabinet.

These and various other objects are attained by the construction hereinafter described and illustrated in the accompanying drawings, wherein:

Fig. 1 is a front view of the cabinet partially in section on the line 1—1 of Fig. 2.

Fig. 2 is a top plan view of the cabinet, partially in section on the line 2—2 of Fig. 1.

Fig. 3 illustrates the cabinet in vertical cross section.

Fig. 4 is an enlargement of a portion of Fig. 3, particularly showing the mounting of one of the record ejecting levers.

Fig. 5 is a fragmentary perspective view of a group of said levers and adjoined parts.

Fig. 6 is an end view of one of the levers, showing its engagement with a disk record.

In these views, the reference character 1 designates the top, 2 the bottom, 3 the front wall, 4 the back wall, and 5 the ends of a cabinet formed of wood or suitable sheet material. The front wall has a large substantially rectangular opening 6 for insertion and removal of disk records and such wall rigidly carries a series of cylindrical rods 7, preferably metallic, vertically extended across said opening and spaced to form narrow individual guide slots for disk records. Said rods are coated with felt or like soft fibrous material which will not scratch or mar the records. Upper and lower boards 8 and 9 for positioning records in the cabinet extend rearwardly respectively from the upper and lower margins of the opening 6, being mounted at their ends by angle bars 10 on a pair of vertical plates 11 spaced inwardly from the cabinet ends 5. Record receiving grooves 12 are machined in the bottom face of the board 8 and top face of the

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board 9, such grooves respectively registering with the respective slots formed between the rods 7. The boards 8 and 9 have a slight downward inclination as they extend inwardly, thus inducing a gravity travel of records into the cabinet and resisting their accidental escape. A stop establishing the fully inserted positions of records is formed by a strip 13 of wood or other suitable material secured to and coextensive with the rear edge of the board 9, above which said strip projects a suitable distance. To cushion records as they engage the strip 13, a pad 14 of felt or the like is mounted on the rear wall of the cabinet at a level substantially midway between the boards 8 and 9, being adapted to engage records slightly before the latter encounter the strip 13. The front and rear walls are so spaced in relation to the diameter of the records to be stored, that the front margins of fully inserted records are retained in the slots between the rods 7.

A rod 15, preferably metallic, is horizontally mounted in the plates 11 a slight distance rearward of the strip 13, and on such rod is fulcrumed a plurality of identical ejector levers 16 of bell-crank form. Said levers are equal in number to the guide slots formed by the rods 7 and are maintained by spacers 17 in the planes established by said slots. Said spacers are rectangular and centrally apertured to receive the rod 15, which freely mounts said spacers, and are held from rotation on the rod by engagement with the strip 13. In the normal positions of the levers, their work arms extend upwardly from the fulcrum rod at a rearward inclination, so as to underlie and tangentially engage the fully inserted records, as clearly seen in Fig. 3. The upper end portion of each work arm carries two record-engaging lugs 18, spaced longitudinally of such arm and bent to opposite sides of the arm and jointly having a shallow V form, so that pressure of said lugs against the edge of a record R tends to center the latter in the plane in which the lever swings. It is a feature of levers thus formed that the lugs projecting in one lateral direction therefrom may lap the oppositely projecting lugs on adjacent levers, thus reducing the necessary spacing of the levers. The described levers are adapted to be inexpensively formed as sheet metal stampings. The power arms of the levers extend downwardly in normal close proximity to the strip 13, which serves as a stop limiting response of the levers to a pair of coiled springs 19 acting forwardly on a rod 20 bearing forwardly against the lower ends of the

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levers. Said rod is swung on the fulcrum rod 15 by a pair of arms 21 respectively adjacent to the respective plates 11 and the forward ends of the springs 19 are anchored to said plates.

From the lower end of each lever, a thrust rod 22, formed of stiff wire, extends forwardly within a space provided for that purpose between the cabinet bottom 2 and board 9. The forward ends of said rods are individually secured to push buttons 23 slidable in the front wall of the cabinet below the opening 6. It is preferred to arrange these buttons in two rows as best appears in Fig. 1, the buttons of each row registering with the spaces between those of the other. The buttons will preferably be suitably numbered and an index sheet (not shown) may correlate the titles of the records to the button numbers.

The described cabinet affords an exceedingly compact record storage, while permitting any desired record to be selected in a moment's time. Also the improved cabinet safeguards the records from dust and dirt and avoids their breakage, assuming an exercise of reasonable care. As compared to the earlier patented construction hereinbefore mentioned, there is a very material reduction of complexity and cost. Disposal of the ejecting mechanism below rather than above the records permits the ejecting levers to be considerably shorter and stronger than in the earlier patented construction. Particular attention is directed to the several functions exercised by the strip 13, namely, determining the fully inserted positions of records, restraining the spacers 17 from rotation, and limiting response of the levers 16 to the coiled springs 19. It is further to be noted that the cylindrical form of the rods 7 affords the slots between such rods a flaring form facilitating insertion of records.

What we claim is:

1. In a disk record holder, the combination with a pair of spaced substantially parallel boards, of means on the mutually confronting faces of the boards for individually guiding records into and from the holder, a stop strip extended transversely of said grooves and engageable by records in the grooves to establish their stored positions, a fulcrum rod extending parallel and adjacent to said strip, a set of record-ejecting levers fulcrumed between their ends on said rod, spacers for said levers mounted freely on said rod, said strip coacting with the spacers to resist their rotation, spring means urging the levers to retracted positions established by said strip, and means for individually actuating the levers in opposition to said spring means to selectively eject records from between the boards.

2. A disk record holder as set forth in claim 1, said stop strip being adjacent to one of said boards and projecting toward the other board.

3. In a disk record holder, the combination with a pair of spaced substantially parallel boards, of means on the mutually confronting faces of said boards for individually guiding records into and from the holder, a stop strip extended transversely of said guide means and establishing the stored position of records engaging said guide means, a fulcrum rod extending parallel and adjacent to said strip, a set of record-ejecting levers fulcrumed between their ends on said rod, a pair of springs for retracting the levers, a pressure-applying rod extending transversely of the levers and effective on all thereof to subject them to said springs, and means for individually actuating the levers in opposition to said springs to selectively eject records from between the boards.

4. In a disk record holder as set forth in claim 3, a pair of arms pivoted on said fulcrum rod and mounting said pressure-applying rod.

5. A lever for ejecting disk records from a record holder, said lever having a pair of record engaging lugs spaced lengthwise of and oppositely projecting laterally from the lever and jointly having an approximate V form to center an engaged record in the plane of travel of the lever.

6. A row of coaxially fulcrumed levers for individually ejecting disk records from a holder, said levers being each formed with a pair of record-engaging lugs oppositely projecting laterally from the lever, the lugs projecting in one direction being spaced longitudinally of the levers from those projecting in the opposite direction, whereby a lapped relation is afforded between oppositely projecting lugs of adjacent levers.

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REFERENCES CITED

The following references are of record in the file of this patent:

UNITED STATES PATENTS

Number	Name	Date
1,014,929	Wood	Jan. 16, 1912
1,018,689	Wood	Feb. 27, 1912
1,145,712	Stevens	July 6, 1915
1,167,063	Haag	Jan. 4, 1916
1,500,539	Adams	July 8, 1924
1,599,039	Carter	Sept. 7, 1926
2,263,008	Baker	Dec. 30, 1941