Sept. 2, 1930. J. COENEN 1,775,018

CONTAINER FOR GRAMOPHONE DISK RECORDS

Filed April 23, 1929

Fig. 1.

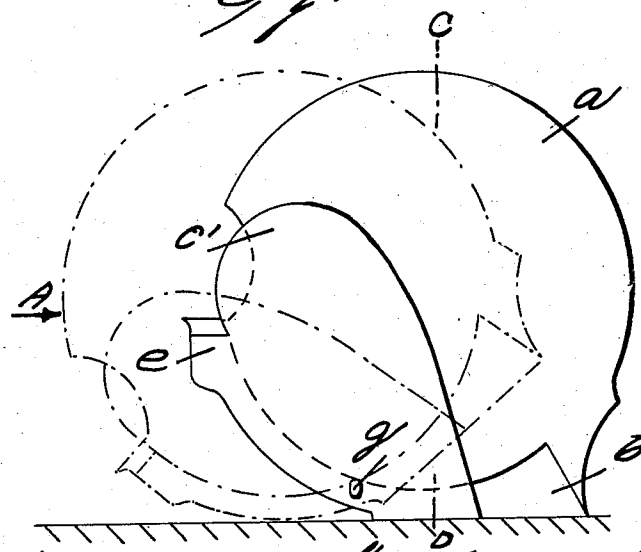



Fig. 2.

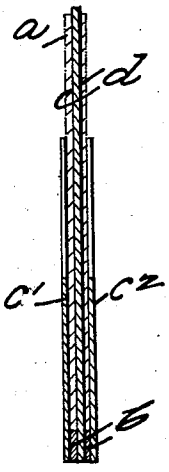



Fig. 4.

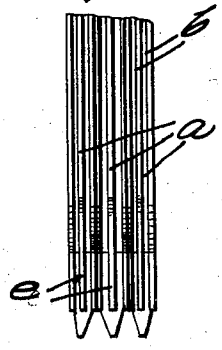
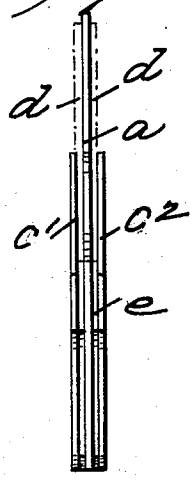



Fig. 3.




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# UNITED STATES PATENT OFFICE

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## CONTAINER FOR GRAMOPHONE DISK RECORDS

Application filed April 23, 1929, Serial No. 357,559, and in Germany August 6, 1928.

This invention is directed to an improvement for holders for phonographic records involving a plurality of carriers, the carriers being designed to each carry two phonographic records and to be so mounted that on movement of the carrier to permit withdrawal of the records, such records are substantially exposed and readily and conveniently accessible.

The primary object of the present invention is the provision of a carrier designed to constitute one of the units of a holder for a plurality of phonographic records, the carrier involving means for carrying or supporting a phonographic disk record on each side of the carrier and in close contact therewith, the disk being held against casual separation from the carrier and so supported that the outer surface of each disk is largely exposed when the carrier has been moved to an operative position.

The principle characteristic of my invention emanates from the quite new idea, to place one pair of disks to one tipping carrier by fixing the two record disks to the two sides of a distance disk, or separating disk. Both the record disks adjust themselves with one side quite closely, almost hermetically and without any loss of space, to the sides of the separating disk, whereas the other side of the record disks remains free on the larger part of surface. This arrangement reduces the required lateral space to the technically possible minimum. When the carrier is tipped. the two record disks clinging to the sides of the separating disk are fully visible in the large part of their surface remaining free, and are accessible by a broad grip of the hand, with the full palm, in so easy a manner as does not exist with any of the other known devices.

The invention is illustrated in the accompanying drawings, in which:—

Figure 1 is a view in side elevation of a carrier, the carrier being shown in inoperative position in full lines and in operative position in dotted lines.

Figure 2 is a vertical section of the carrier, the phonographic disk record being shown in place therein.

Figure 3 is an edge view of the carrier, the phonographic disk record being shown in dotted outline.

Figure 4 is a broken front elevation showing a plurality of carriers in their relation occupied when in a holder.

The vertical separating disk is made of rigid or semi-rigid material, gauge about 1/25 of an inch, in the same size as the record disks. At the lower edge there is a rest *b* supporting the record disks, this rest having the shape of a circle-section. The sliding-off to the sides is prevented by a thin folding-flange $c_1$, $c_2$ the purpose of which is attained by giving it a surface of even less than a quarter of the surface of the disks. The flange, however, may be larger, if desired, say to one third of the surface, or even slightly more.

The rest —*b*— has exactly the same gauge as the record disks. Both the record disks, consequently, cling quite closely, without any free play to the separating disk, obviously without any loss of space. The separating disk together with the two record disks form a compact unit.

The flanges $c_1$, $c_2$ are not subject to any strain and, consequently, they may be kept very thin, 1/50 of an inch being quite sufficient. The result of this construction is that as much as 100 record disks can be stored on 15 inches space with the assurance that the appliance works smoothly. No other known record disks container or cabinet can be compared in this respect to my invention.

In spite of the almost incredibly small space of 15 inches for 100 records, the apparatus functions with absolute safety because the single carriers containing two records each must automatically adjust themselves precisely. The two records clinging to the two sides of the separating disk —*a*— act as stabilizing elements since they fit flush in their full surface leaving no free space. This prevents the warping of the carriers. When a carrier is tipped down, and one record is removed, the other record disk remains on the other side of the separating disk and keeps it firmly and rigidly in shape. The tipped-down carrier remains in this position while

the one record is played, and thus serves as an indicator for the record to be replaced.

From the preceding it may be inferred that catching of the records is not possible; the record is under all circumstances entered, or withdrawn, smoothly and with ease. No damage is caused to the records because they have no room to play free. In their total surface they are exposed to no pressure or friction. In the smaller part covered by the holding flange $c_1$, $c_2$ the records fit in firmly protected, and in the remaining free part of the surface there is normally no "touch" between the records because they cling snugly to the separating disks. Due to the exact grouping of the single carriers, the thin gauge of the holding flange is sufficient to prevent friction in the upper free part of the surface. It is safe to say, and a trial proves, that the disks are in my holder less subject to mechanical damage or strain than in other cabinets, pockets, cells or books.

The carrier presents a perfectly horizontal bottom margin, whereby to have all the carriers perfectly aligned when at rest, in the horizontal line. In advance of the horizontal bearing edge, the lower edge of the carrier curves forwardly and upwardly, thus providing an edge to serve as a support when the carrier is tipped down, and the angle is so chosen that the records leave the carrier with a raise of not more than 1¼ inch. In the other known tipping devices which usually are open at the top-line the records must be taken up vertically or in a very steep angle. This demands greater height inside of the cabinet than is required with my invention where the record is drawn out horizontally.

On the lower part of the front part of the carrier is a key —*e*— serving to tip the carrier. The key is parallel to the horizontal bottom bearing edge of the carrier and each key, of course, is arranged in the same position on each carrier. This arrangement assures that the keys are perfectly in line when the carriers are at rest. This perfect alignment is of importance with regard to the function and also the appearance of the apparatus. In the known containers with a circular bottom line a perfect alignment of the keys is practically impossible: slight deviations at the point of support, or about the bore of the axle, destroy the correct alignment.

In my invention the bore for the axle —*g*— may have, instead of the usual round bore, an elliptical shape, with its major axis vertically of the carrier when the latter is in inoperative position, the axle to be placed in the middle of the elliptical slot. The result is that the carrier when replaced after tipping, is forced to adjust itself into line vertically. The horizontal bottom line together with the vertical shape of the axle-bore effect thus always a perfect alignment of the carriers.

When a key is pressed down in order to remove a disk, the carriers come forth about 5 inches beyond the common row. After the withdrawal of the desired record the carrier remains outside weighted and stabilized by the second record remaining on it. The replacing of the record, even in a poorly illuminated place, is easily and safely effected, almost merely by touch, because the record is brought with a large part of its surface into side-contact with the far-protruding separating disk, so that the record is easily guided into proper position in the carrier.

To avoid unintentional operation of two keys when desiring to operate one key, the shape of the key is tapered off upward and forward as shown in the drawing. Quite obviously, and as is conventional in this class of devices, the keys of the respective carriers may be individually marked or grouped for identification in order that when particular records are arranged in selected carriers, such record may be readily found by the carrier identification. This carrier identification is conventional and requires neither illustration nor any further detailed description.

What I claim to be new is:

1. A holder for phonographic records consisting in a series of individual carriers each comprising a central disk member, a supporting ledge secured on each side of the disk having its face curved to conform to the edge of a record, a holding flange on each side of the disks and spaced therefrom a distance equal to the thickness of a record, and means pivotally supporting the entire series.

2. A carrier for phonograph records comprising a central disk member, a supporting ledge secured on each side of the disk having its face curved to conform to the curve of the record, a holding flange on each side of the disk and spaced therefrom a distance equal to the thickness of a record, and a pivot pin passing through the lower part of the carrier.

3. A carrier for phonographic records comprising a central disk member, a supporting ledge secured on each side of the disk at the lower portion thereof and having its face curved to conform to the curve of the record, and a holding flange on each side of the disk, said flange being arranged below and forward of the center of the disk and spaced therefrom a distance equal to the thickness of a record.

4. A carrier for phonographic records comprising a central disk member, a supporting ledge secured on each side of the disk at the lower portion thereof and having its face curved to conform to the curve of the record, a holding flange on each side of the disk, said flange being arranged below and forward of the center of the disk and spaced therefrom a distance equal to the thickness of a record, means pivotally supporting said carrier, and a finger piece

formed on said disk to tilt the carrier forward.

5. A carrier for phonographic records comprising a central disk member, a supporting ledge secured on each side of the disk at the lower portion thereof and having its face curved to conform to the curve of the record, a holding flange on each side of the disk, said flange being arranged below and forward of the center of the disk and spaced therefrom a distance equal to the thickness of a record, a pivot pin passed through and allowing said carrier to tilt forward, the said flanges being so arranged that the record may be removed substantially horizontal when said carrier is tilted forward.

In testimony whereof I affix my signature.

JACOB COENEN.