Nov. 26, 1935. J. E. RENHOLDT 2,022,216

PHONOGRAPH RECORD RETAINING DEVICE FOR RECORD CONTAINERS

Original Filed Feb. 19, 1934

Fig. 1.

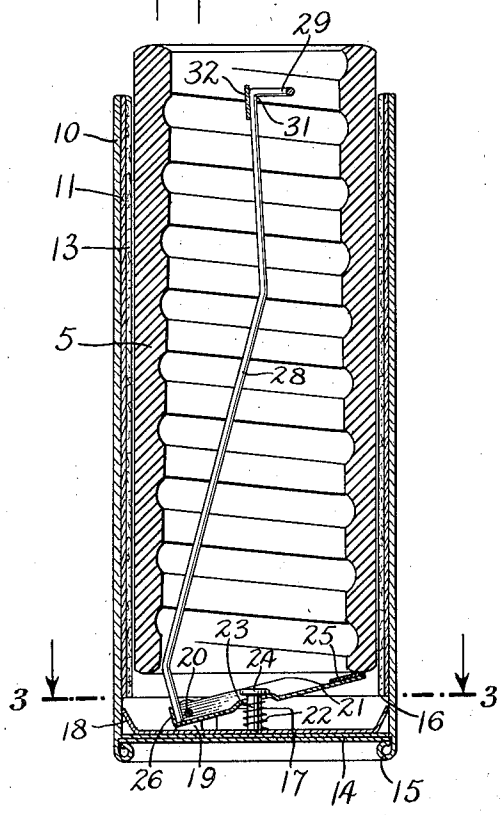



Fig. 2.

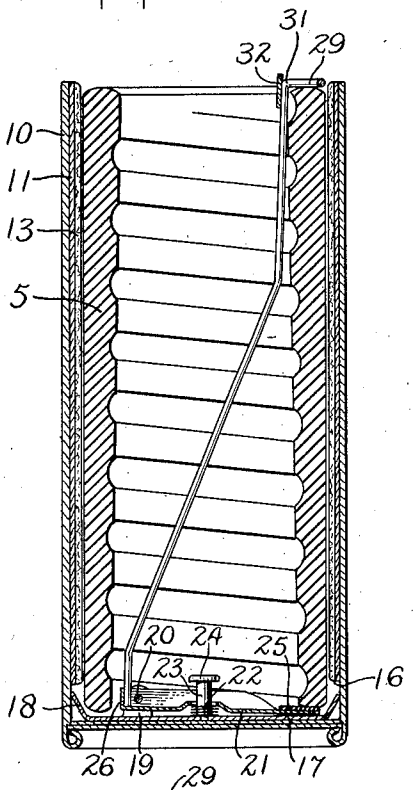



Fig. 3.

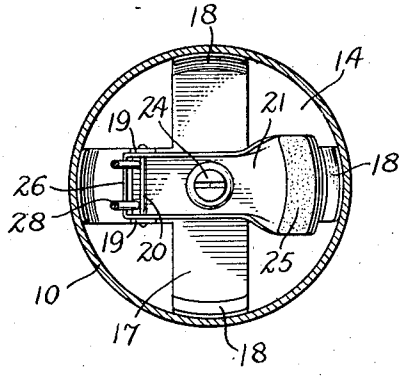
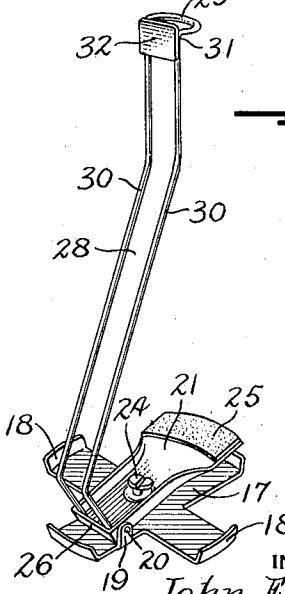



Fig. 4.

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# UNITED STATES PATENT OFFICE

2,022,216

## PHONOGRAPH RECORD RETAINING DEVICE FOR RECORD CONTAINERS

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12 Claims. (Cl. 206—15.1)

This invention relates to containers and particularly to containers for fragile articles such as phonograph record-cylinders and the like.

An object of the invention is to provide such a container adapted to retain the cylinders safely within the same even should the container accidentally be held in an inverted position and to permit and indeed facilitate the ready removal of the cylinder from the container.

Another object is to provide such a container with means for preventing damage to the record-cylinder when the latter is allowed to fall by gravity into the container or when it is pushed thereinto by hand.

In carrying out the objects above set forth, a holding means may be incorporated in the container as originally constructed but it is a further object of the present invention to provide such means as a separate article of manufacture adapted readily to be applied to the container in frictional engagement therewith. Thus the retaining means may be made as a separate article of manufacture to be installed in a suitable container when desired or transferred from one container to another whenever the original container becomes worn or otherwise unsuitable for further use.

Other objects will be in part obvious and in part pointed out hereinafter.

This invention accordingly consists in the features of construction, combinations of elements, and arrangements of parts as will be exemplified in the structure to be hereinafter described and the scope of the application of which will be indicated in the following claims.

In the accompanying drawing in which is shown one of the various possible embodiments of my invention:

Fig. 1 is a vertical section taken through the axis of a carton to which the retaining means has been applied, showing a record-cylinder partially disposed within the carton;

Fig. 2 is a similar section showing the record-cylinder wholly disposed within the carton and locked therein by the retaining means;

Fig. 3 is a horizontal section taken on line 3—3 of Fig. 1; and

Fig. 4 is a perspective view of the retaining means before it has been installed in a carton.

Similar reference characters refer to similar parts throughout the various views of the drawing.

Referring to the drawing the container will be seen to be in the form of a carton, cylindrical in form, comprising an outer wall 10 and an inner wall 11 both made of stiff cardboard and a lining 13 of flannel covering the inner surface of the wall 11. The bottom of the carton is closed by means of a disk or disks 14 held in place by means of the beaded edge 15 of the outer wall. For a more detailed description of such a carton reference is made to United States Patent 1,608,543. The inner cylinder wall with its flannel covering terminates short of the bottom of the carton, as shown at 16, leaving a space for the reception of the support or base of a retaining member to be hereinafter described.

In prior constructions where it has been attempted to prevent record-cylinders from falling out of their cartons, resilient means have been employed which, extending up from the bottom of the carton, frictionally engaged the interior of the record-cylinder. Such devices are not positive in operation and frictional engagement with the record-cylinder is apt to be variable so that such devices have failed satisfactorily to attain the objects for which they were designed.

The present invention provides a record-retaining means or latch adapted resiliently to snap over the upper edge of the record-cylinder when the latter is fully seated within the carton, positively to prevent the accidental removal or discharge of the record-cylinder from the carton. The operation of this device is automatic since it is set in record-retaining position by the passage of the record to its fully seated position in the carton. Furthermore, this device provides a shock absorber for preventing damage to the record-cylinder should the latter be dropped into the carton.

In construction the retaining device comprises a base member or support 17 made of metal in the form of a Greek cross, the extremities of the arms of the cross being slightly upturned as shown at 18. Upstanding lugs 19 formed upon the base members 17 serve as supports for a pivot pin 20 pivotally supporting a lever 21. Lever 21 is normally held in the raised position shown in Fig. 1 by means of a spring 22 surrounding and held in position by a stud 23 which is threaded into or riveted to the base member 17 at its central point. The spring is interposed between the lever 21 and the base member 17 and the lever is limited in its upward movement by means of a head 24 formed upon the stud 23. Cushioning means 25 which may be a piece of rubber or other suitable material is secured upon the upper surface of the longer arm of the lever near the end thereof, as by the use of an adhe-

sive, for a purpose that will appear hereinafter.

The short end of the lever extends but slightly beyond the pivot as shown at 26. A spring wire member 28 constitutes the means for holding the record-cylinder in the carton. The wire is bent back upon itself as at 29 after the fashion of a hairpin to form a bight, thus providing two parallelly disposed wire legs 30 which at their lower ends are rigidly secured to the lever 21 adjacent its end 26. Adjacent the bight the wires are bent substantially at right angles as at 31 to provide a latch or stop adapted to hold the record-cylinder in place. The legs 30 are further bent in any suitable manner, as indicated in the drawing, in order that the latch portion of the wire may occupy a position clear of the end of the record-cylinder when the lever 21 stands in its raised position. A plate 32 is secured to the two wires adjacent the bend 31 in order to serve as a brace and to provide a finger-piece for conveniently releasing the latch from engagement with the record-cylinder. As will be noted, the upper edge of this plate stands slightly above the latch portion 29 of the wire member.

The retaining device as a unit is installed or introduced within a carton by forcing the base member into the open end of the carton and forcing the same down until the said base member rests against the bottom of the carton. The arms of the base member are sufficiently elastic or resilient so that the upturned portions 18 thereof will be forced inwardly by the walls of the carton to permit passage of the device to its ultimate position. These upturned ends then spring outwardly with sufficient force to engage the inner surface of the container wall with considerable friction and thus prevent the retaining device from being withdrawn from the carton. However, should the carton become worn out or dirty or useless for any other reason, it may be split open and the retaining device removed bodily therefrom, after which the latter may be introduced into a new carton.

As soon as this device has been applied to the carton as above described it is functionally operative in the following manner: Suppose a record-cylinder, as 5, be inserted into the carton until its lower end just engages the cushioned surface of the lever as illustrated in Fig. 1. Further inward movement of the record-cylinder will carry the lever down to the position shown in Fig. 2, when the record will be fully seated in the carton and the latch portion 29 of the spring wire member will engage the outer end of the record-cylinder to hold it securely in place. The cushion 25 prevents injury to the end of the record by impact thereof upon the metal lever and the spring 22 serves to prevent injury to the record by reason of its being permitted to enter the carton with unnecessary force.

It will be seen that in the latched position it is physically impossible for the record to be removed from the carton without the latch being first forced out of the path of the record. This may be readily accomplished by moving the plate 32 toward the axis of the carton by finger pressure.

As soon as the latch clears the end of the carton the spring 22 will quickly raise the lever 21 to eject the record-cylinder part way out of the carton where the cylinder may be removed by inserting the fingers within the end thereof. Thus the device serves not only as a shock-absorbing record-retaining means but also as a record-ejector for facilitating record removal. The wires 30 are sufficiently resilient to compensate for slight variations in the lengths of records and to avoid injury to the outer end of the record.

It will be seen that there is provided a construction of an essentially practical nature in which the several objects of this invention are attained.

As many possible embodiments may be made of the above invention without departing from the scope thereof, it is to be understood that all matter herein set forth or shown in the accompanying drawing is to be interpreted as illustrative and not in a limiting sense.

I claim:

1. As an article of manufacture, a retaining device comprising, in combination, a support adapted to be received within a record-cylinder carton adjacent the bottom of said carton, a member pivotally mounted on said support adapted to engage and be moved from a normal position by the advancing end of a cylinder as the latter is placed in said carton, and means secured to said member and responsive to the said movement of said member to be brought into engagement with the other end of said cylinder.

2. As an article of manufacture, a retaining device comprising, in combination, a support adapted to be received within a record-cylinder carton adjacent the bottom of said carton, a member pivotally mounted on said support adapted to engage and be moved from a normal position by the advancing end of a cylinder as the latter is placed in said carton, means secured to said member and responsive to the said movement of said member to be brought into engagement with the other end of said cylinder, and resilient means tending to hold said member in the said normal position.

3. As an article of maufacture, a retaining device comprising, in combination, a support adapted to be received within a record-cylinder carton adjacent the bottom of said carton, a member pivotally mounted on said support adapted to engage and be moved from a normal position by the advancing end of a cylinder as the latter is placed in said carton, means secured to said member and responsive to the said movement of said member to be brought into engagement with the other end of said cylinder, and means adapted to engage the inner wall of said carton to retain said support in operative position within said carton.

4. As an article of manufacture, a retaining device comprising, in combination, a support adapted to be received and held within a carton or other container adjacent the bottom thereof, a member mounted on said support and movable with respect thereto, said member being adapted to engage and be moved from a normal position by the advancing end of an article as the latter is placed in said carton, and means secured to said member and responsive to the said movement of said member to be brought into locking engagement with the other end of said article.

5. In a device of the character described, the combination with a carton for phonograph record-cylinders of retaining means adapted automatically to be brought into gripping engagement with the ends of a record-cylinder when said cylinder is placed in said carton and means for automatically moving said cylinder part way out

of said carton upon the release of said retaining means.

6. In a device of the character described, the combination with a carton or other container of retaining means adapted automatically to be brought into gripping engagement with the ends of an article when said article is placed in said carton, said means comprising inner and outer members making positive contact with said ends.

7. In a device of the character described, the combination with a carton for phonograph record-cylinders of means operable by a record-cylinder when the latter is placed in said carton to interpose an obstruction in the path of removal of said cylinder from said carton, and means for partially ejecting said cylinder from said carton when the said obstruction is removed by a manual act.

8. In a device of the character described, the combination with a carton for phonograph record-cylinders of means adapted to be thrust over the outer end of a record-cylinder operable by said record-cylinder when the latter is placed in said carton to interpose an obstruction in the path of removal of said cylinder from said carton.

9. In a device of the character described, the combination with a carton for phonograph record-cylinders of resilient means comprising inner and outer contact members adapted to be brought into engagement with the ends of a cylinder to retain said cylinder when the same is placed in said carton.

10. In a device of the character described, the combination with a carton for phonograph record-cylinders of resilient means comprising inner and outer contact members adapted to be brought into engagement with the ends of a cylinder deposited in said carton to prevent said cylinder from falling from said carton should the latter be held in an inverted position.

11. In a device of the character described, the combination with a carton for phonograph record tablets, of record-retaining means comprising a member adapted to engage and positively retain the record within the carton and a member for operating said first-named member, a portion of said operating member being so positioned as to be struck by the record as the latter is inserted in the carton, whereby the insertion of the record results in the automatic locking thereof within the carton.

12. In a device of the character described, the combination with a carton for phonograph record tablets of a member movably mounted within said carton and adapted to engage and be moved from a normal position by the advancing end of a record tablet as the latter is placed in said carton, and means adapted to be brought into locking engagement with said tablet in response to the said movement of said member.

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