Dec. 31, 1957 A. SAELI 2,818,271

CARRIER FOR GARBAGE CANS AND THE LIKE

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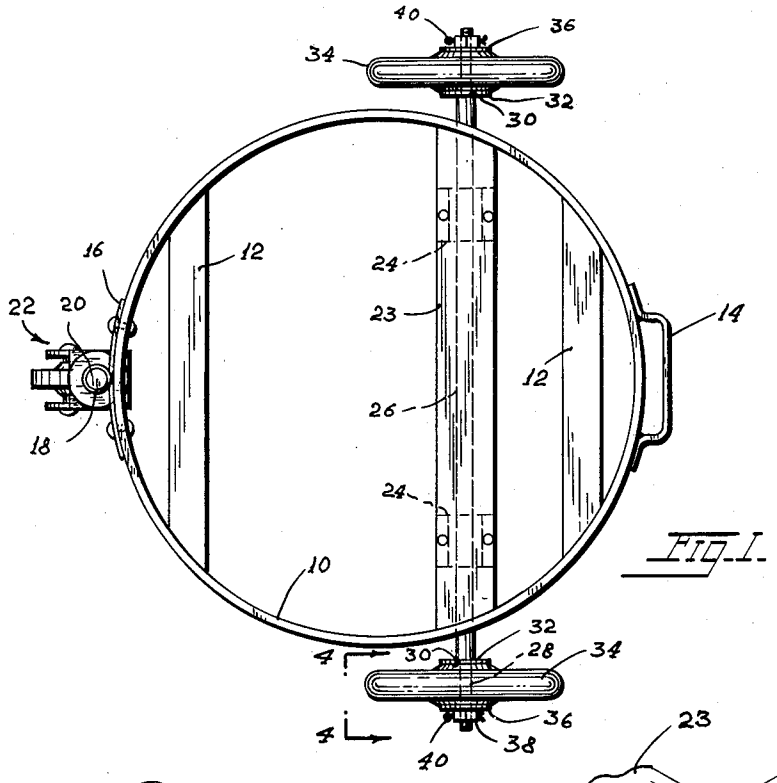


FIG. 1.

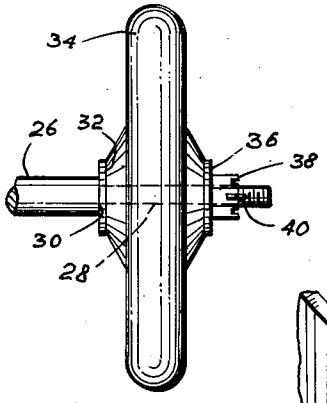


FIG. 4.

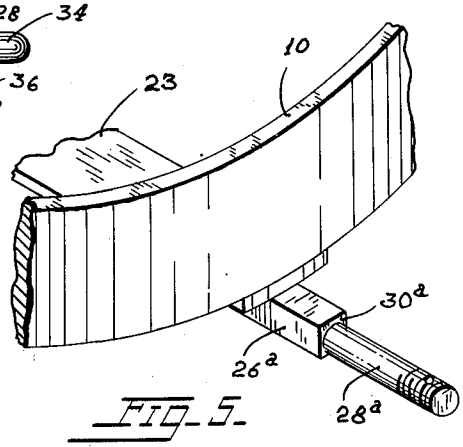


FIG. 5.

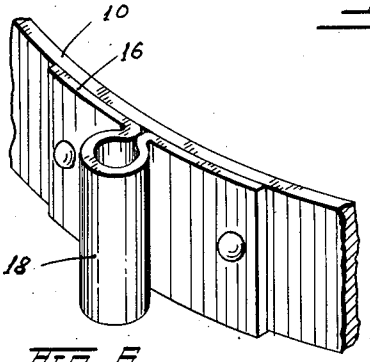


FIG. 6.

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CARRIER FOR GARBAGE CANS AND THE LIKE

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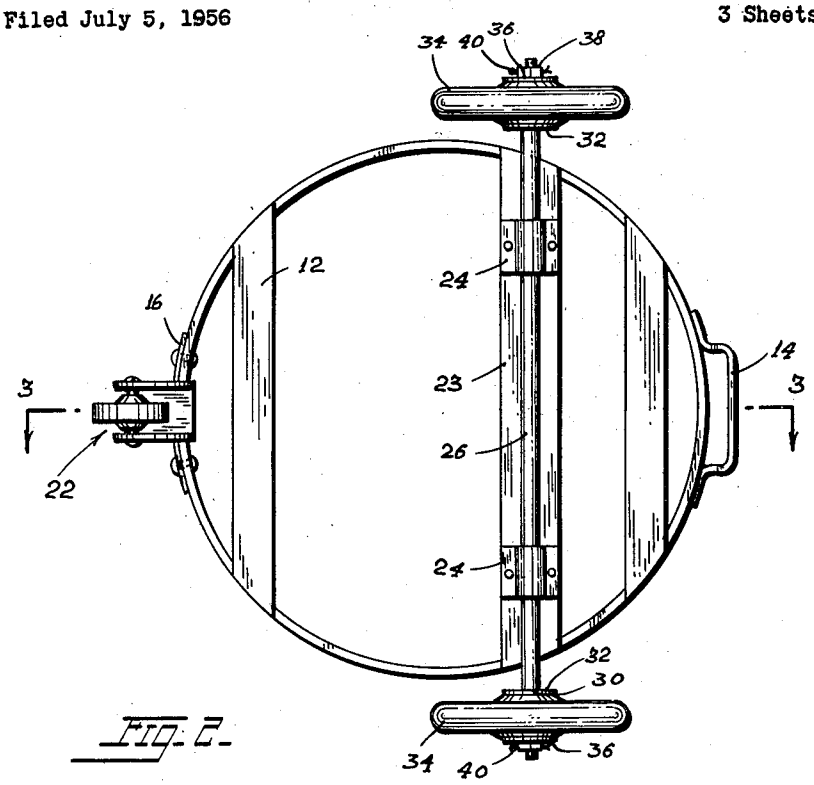


FIG. 2.

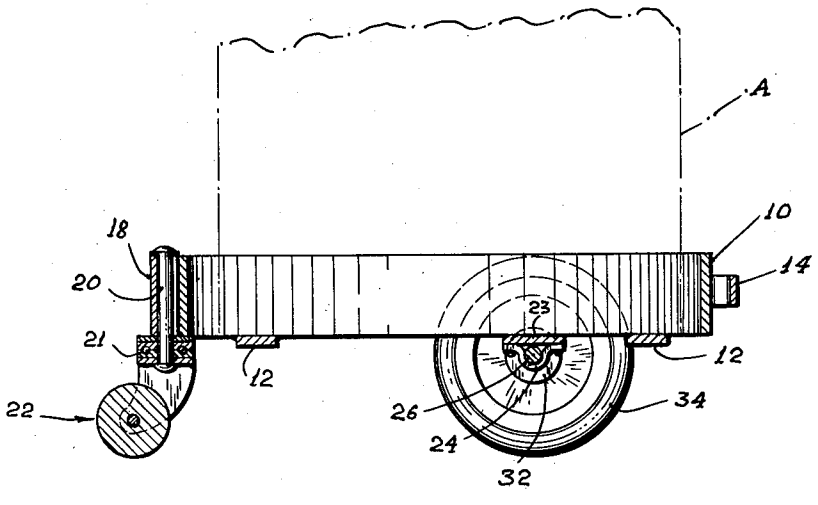


FIG. 3.

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CARRIER FOR GARBAGE CANS AND THE LIKE

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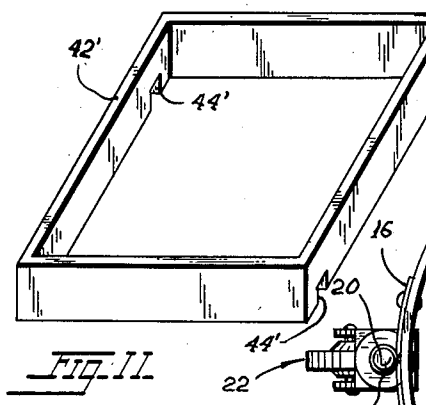
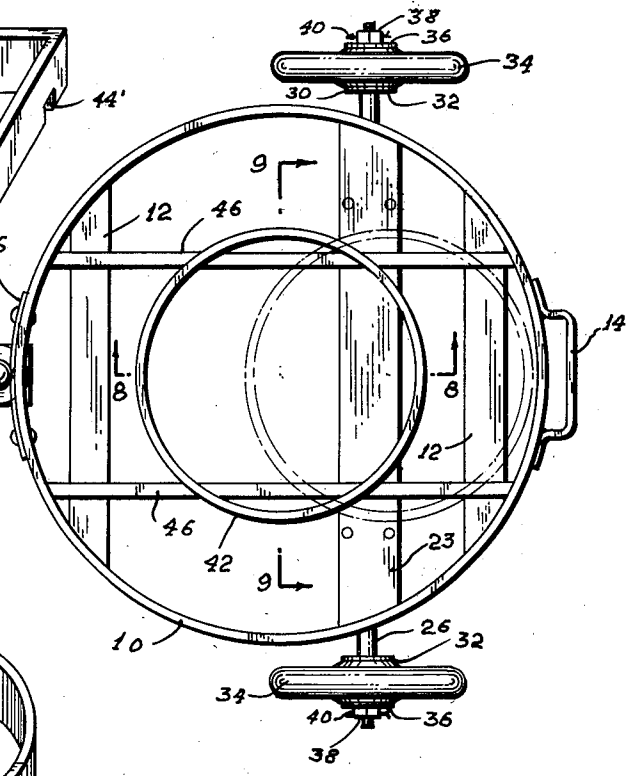


Fig. 11

Fig. 7



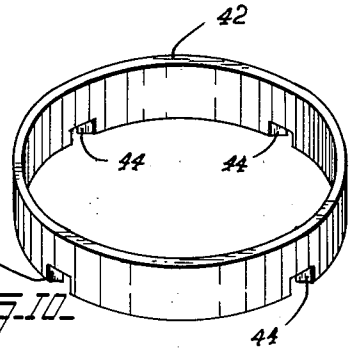


Fig. 10

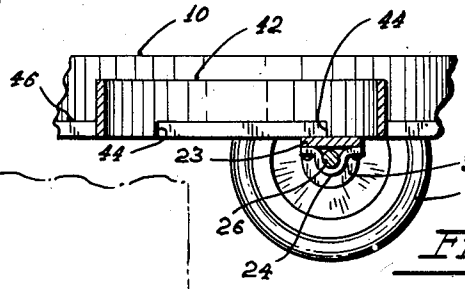


Fig. 8

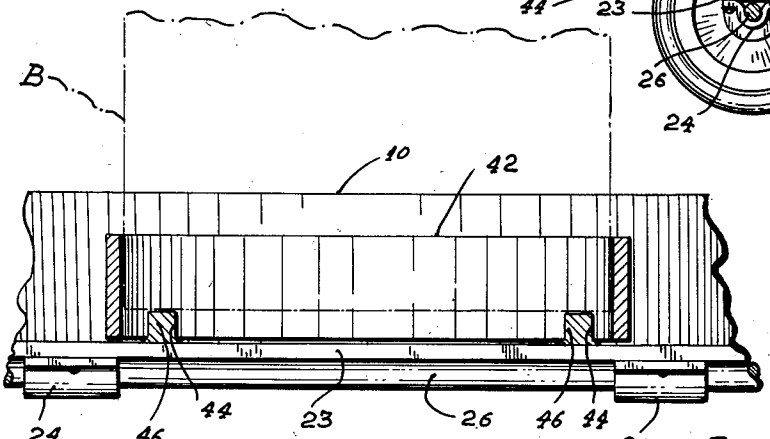


Fig. 9

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CARRIER FOR GARBAGE CANS AND THE LIKE

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Application July 5, 1956, Serial No. 595,937

4 Claims. (Cl. 280—79.2)

This invention relates to a carrier for a trash can or other utility can. More particularly, the invention has reference to a three-wheeled, generally circular carrier adapted to properly support a conventionally designed garbage can, in such a manner as to facilitate movement of the garbage can from one to another location with maximum ease and speed on the part of a user, the device further being adapted to facilitate lifting of the can onto or off the carrier.

One object of importance is to provide a device as stated which will be designed to fit conventional garbage cans, so as not to require modification or redesign of said cans when the same are to be used in association with the carrier.

Another object is to design the carrier in such a manner that it will occupy a minimum amount of space when not in use, and may, in fact, by reason of its basically flat construction, be readily supported vertically upon a wall surface or the like.

Another object is to provide a carrier for garbage cans, particularly shaped to facilitate its ready maneuverability, due to the provision of a circular, low frame at opposite sides of which there are provided main wheels, the frame having at its front a swiveled wheel or caster, cooperating with the particular shape of the frame and the particular locations of the rear wheels in facilitating rotation of the device in a minimum amount of space. This is particularly desirable in view of the cramped quarters in which carriers of the type stated must be maneuvered.

Another object is to design the carrier in such a manner that it will support a conventional garbage can, even when said can is heavily loaded, despite the relatively light, skeleton structure of the carrier of the invention.

Another object is to provide a garbage can carrier as stated that will be designed to receive an adapter, shiftable along a line extending diametrically of the circular outer frame, to permit a supported can of smaller size to be supported upon the carrier.

Another object is to so locate the adapter that it can not only support smaller size cans, but also larger cans without requiring removal of the adapter.

A further object of importance is to mount the carrier for slidable adjustment upon the support frame to a position in which it will locate the supported can directly above the rear axle of the carrier, thus to permit the full weight of the can to be borne upon the strongest part of the device.

For further comprehension of the invention, and of the objects and advantages thereof, reference will be had to the following description and accompanying drawings, and to the appended claims in which the various novel features of the invention are more particularly set forth.

In the accompanying drawings forming a material part of this disclosure:

Fig. 1 is a to plan view of a garbage can carrier formed according to the present invention.

Fig. 2 is a bottom plan view thereof.

Fig. 3 is a sectional view taken diametrically through

the carrier on line 3—3 of Fig. 2, a supported can being shown fragmentarily and in dotted lines.

Fig. 4 is an enlarged view of one of the wheels, as seen from the line 4—4 of Fig. 1.

Fig. 5 is an enlarged, fragmentary perspective view showing a modified type of axle.

Fig. 6 is a fragmentary, perspective view showing the means for connecting the swiveled caster to the annular frame.

Fig. 7 is a top plan view of the carrier modified to support an adapter, the adapter being shown in full and dotted lines in different positions of adjustment.

Fig. 8 is a fragmentary, sectional view on line 8—8 of Fig. 7.

Fig. 9 is a sectional view taken at right angles to the cutting plane of Fig. 8 through the adapter, on an enlarged scale, on line 9—9 of Fig. 7.

Fig. 10 is a reduced perspective view of the adapter per se.

Fig. 11 is a similar view to Fig. 10, but illustrating a modification of the invention.

Referring to the drawings in detail, designated at **10** is a continuous, annular frame relatively low in height, and formed from wide bar stock bent to an annular shape with its ends welded together.

Welded at their opposite ends to the frame **10**, at the bottom edge of the frame, are can support bars **12** extending chordally of the annular frame, and fixedly secured to and projecting rearwardly from the frame is a carrying handle **14** which will facilitate picking up of the carrier, or hanging of the same upon a nail upon a vertical wall surface when the carrier is not in use.

Diametrically opposite handle **14**, that is, at the front of the frame, there is riveted or otherwise fixedly secured to the frame a caster support bracket **16** formed from a length of flat, wide bar stock the ends of which follow the circular contour of the frame **10**. Intermediate its ends, the length of bar stock is shaped to include a vertically extending, forwardly disposed, elongated bearing sleeve **18** in which is journalled the vertical post **20** (Fig. 3) of a caster, said caster including in addition to the vertical post a ball bearing **21** surrounding the lower end portion of the post, the ball bearing **21** bearing against the upper end of a U-shaped frame carrying the roller of the caster **22**.

It will be seen that the caster is disposed at the front end of the frame, with its axis of swiveling movement disposed just forwardly of the periphery of the annular frame **10**.

Welded at its opposite ends to the frame **10**, and extending chordally of the frame in parallelism with the bars **12** at a location just aft of the center part of the frame, is a wide axle support bar **23**, to the underside of which are secured brackets **24** clamping to the underside of the axle support bar **23** an elongated axle **26** of circular cross section (Figs. 2 and 3). Axle **26** projects beyond the periphery of the frame **10**, and as shown in Fig. 4 has at its opposite ends a reduced axial extension **28** defining shoulders **30** at the inner ends of the reduced extensions.

Bearing against the shoulders **30** are washers **32**, and a wheel **34** is positioned upon and rotates freely upon the extensions **28**, in engagement at one side with the washers **32**. Bearing against the outer sides of the wheels **34** are washers **36**, and bearing against the washers **36** are castle nuts **38** threaded upon the outer ends of the extensions **28** and held in place by cotter pins **40** passing through the nuts and axle extensions.

In Fig. 5 there is shown a slight modification in which all components of the invention are identical to those previously described, with the exception of the axle. In this case, the axle **26a** is of square cross section, and has

a reduced extension 28a of circular cross section, thus defining at the inner end of the extension 28a a shoulder 30a against which the washer 32 would bear with wheel 34 rotating freely on the extension 28a. The use of an axle of square cross section provides a bracing means for the bar 23, this being desirable in view of the fact that the bar 23 takes a substantial or perhaps the greatest portion of the weight of the garbage can A shown in Fig. 3.

In either event, the device is so designed as to receive a large size, conventional garbage can A, and due to the annular shape of the frame, the frame and garbage can may be concentrically related as shown in Fig. 3, with the garbage can substantially filling the frame and being supported upon the bars 12, 23. The garbage can may then be pushed, causing the frame to roll upon the ground, and by exertion of proper control, the frame can be maneuvered or rotated in place, as necessary. The construction is particularly adapted to provide a minimum projection beyond the wall of the supported garbage can, thus permitting the device to be maneuvered in relatively close quarters.

The particular annular shape of the frame 10, and the disposition of the caster 22 and wheels 34 at locations spaced approximately 120° apart about the circumference of the frame, permits the frame to be turned sharply, almost in place, or even fully rotated substantially about its center point, thus promoting maneuverability thereof. Further, the frame is relatively low, and extends upwardly along the wall of the garbage can to only a slight extent. Therefore, the garbage can may be lifted out of or placed in the frame with a minimum amount of difficulty, since it need be elevated only a slight distance above the ground surface for this purpose.

In Figs. 7–10 there is illustrated a modification wherein the carrier is equipped with an annular adapter 42 of a diameter substantially smaller than that of the frame 10. All components of the invention are identical to those of Figs. 1–4 (or, if a square axle is desired, to the form of Fig. 5) with the exception of the use of an adapter and associated guide bars therefor. The adapter 42 is an endless ring, of a diameter such as to permit it to receive a smaller garbage can B. The adapter, as shown in Fig. 9 and also in Fig. 8, is substantially lower in height than the frame 10. Therefore, the adapter need not be removed if it is desired to transport a large can A. The adapter need merely be centered in the full line position shown in Fig. 7, and the large can A can be positioned directly upon the adapter. Since the frame 10 rises to a height higher than the adapter, the wall of the frame A will still be disposed in position to prevent the garbage can from sliding off the frame.

In any event, the endless adapter 42 is formed, at opposite sides thereof, with pairs of downwardly opening notches 44. The notches of each pair are aligned along a straight line extending chordally of the adapter, normally to the lengths of the bars 12, 23.

Fixedly secured to and overlying the bars 12, 23 are parallel, straight guide bars 46 extending in a fore-and-aft direction perpendicularly to the lengths of the bars 12, 23. The guide bars 46, as shown in Fig. 9, are of rectangular cross section, and are adapted to be received in the notches 44 as shown in Figs. 8 and 9. The adapter is freely slidable upon the guide bars 46, with the bottom edge of the adapter spaced a slight distance above the top surfaces of the bars 12, 23.

Due to this arrangement, the adapter may be slid forwardly and rearwardly upon the guide bars, and can, for example, be shifted to the dotted line position of Fig. 7.

When the adapter 42 is adjusted to its dotted line position, the supported can B will be located almost directly over the rear support bar 12 and the main or intermediate support bar 23. A maximum amount of weight will thus be concentrated on the strongest part

of the carrier and further, the weight will be balanced over the axle 26. This will permit one to exert a pressure downwardly with the foot against the handle 14, to tilt the entire device rearwardly, causing caster 22 to move upwardly off the ground. This in turn facilitates removal of the garbage can, since the rear end of the frame will be moved downwardly close to the ground surface. Not only is removal of the can from the frame facilitated, but further, the arrangement facilitates dumping of the can contents.

It may be noted that when the can B is supported in the annular adapter 42, it will be held in place by the adapter due to the fact that the wall of the adapter (see Fig. 9) rises to a level well above the top surface of the guide bars. The can is supported directly upon the guide bars, and by pulling the can B rearwardly, the can is caused to slide upon the guide bars, carrying with it the annular adapter. The arrangement, it is important to note, causes the adapter to slide upon the guide bars without inhibiting in any way the freedom of its sliding movement. This is due to the fact that the weight of the can is not imposed upon the adapter, so that the can weight does not become a factor tending to frictionally bind the adapter against the responsive guide bars 46.

Of course, if one so desires he may remove the adapter completely, since it lifts freely off the guide bars. This will permit a large can A to be positioned in the frame 10, said can A now being supported directly upon the top surfaces of the guide bars 46.

In Fig. 11, the adapter 42' is shown to be rectangular and is provided with notches 44' for receiving rectangular utility containers. However, any other shape of adapter may be used in this device.

While I have illustrated and described the preferred embodiments of my invention, it is to be understood that I do not limit myself to the precise constructions herein disclosed and that various changes and modifications may be made within the scope of the invention as defined in the appended claims.

Having thus described my invention, what I claim as new, and desire to secure by United States Letters Patent is:

1. A carrier for containers comprising a frame including a container-receiving ring and a plurality of container support bars extending across and rigidly secured to said ring, rear wheel means carried by the frame, and a caster on the front of the frame, said bars extending chordally of the ring, said carrier further including an adapter disposed within said ring to accommodate containers of smaller sizes, and guide bars mounted upon the container support bars, the adapter being slidably mounted upon the guide bars, for adjustment to selected positions in respect to said ring, the adapter being of annular formation and having a diameter substantially smaller than that of the ring.

2. A carrier for containers comprising a frame including a container-receiving ring and a plurality of container support bars extending across and rigidly secured to said ring, rear wheel means carried by the frame, and a caster on the front of the frame, said bars extending chordally of the ring, said carrier further including an adapter disposed within said ring to accommodate containers of smaller sizes, and guide bars mounted upon the container support bars, the adapter being slidably mounted upon the guide bars, for adjustment to selected positions in respect to said ring, the adapter being of annular formation and having a diameter substantially smaller than that of the ring, said guide bars extending in a fore-and-aft direction upon the frame, the adapter having a bottom edge notched to receive the guide bars.

3. A carrier for containers comprising a frame including a container-receiving ring and a plurality of container support bars extending across and rigidly secured to said ring, rear wheel means carried by the frame, and a caster on the front of the frame, said bars extending chordally

of the ring, said carrier further including an adapter disposed within said ring to accommodate containers of smaller sizes, and guide bars mounted upon the container support bars, the adapter being slidably mounted upon the guide bars, for adjustment to selected positions in respect to said ring, the adapter being of annular formation and having a diameter substantially smaller than that of the ring, said guide bars extending in a fore-and-aft direction upon the frame, the adapter having a bottom edge notched to receive the guide bars, said adapter being of a height substantially smaller than that of the ring for positioning a larger container upon the adapter in position enclosed by the ring.

4. A carrier for containers comprising a frame including a container-receiving ring and a plurality of container support bars extending across and rigidly secured to said ring, rear wheel means carried by the frame, and a caster on the front of the frame, said bars extending chordally of the ring, said carrier further including an adapter disposed within said ring to accommodate containers of smaller sizes, and guide bars mounted upon the container support bars, the adapter being slidably mounted upon

the guide bars, for adjustment to selected positions in respect to said ring, the adapter being of annular formation and having a diameter substantially smaller than that of the ring, said guide bars extending in a fore-and-aft direction upon the frame, the adapter having a bottom edge notched to receive the guide bars, said guide bars extending chordally both of the adapter and ring and being symmetrically disposed at opposite sides of the center of the ring.

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