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R. R. DANESCU

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CLOSET RING

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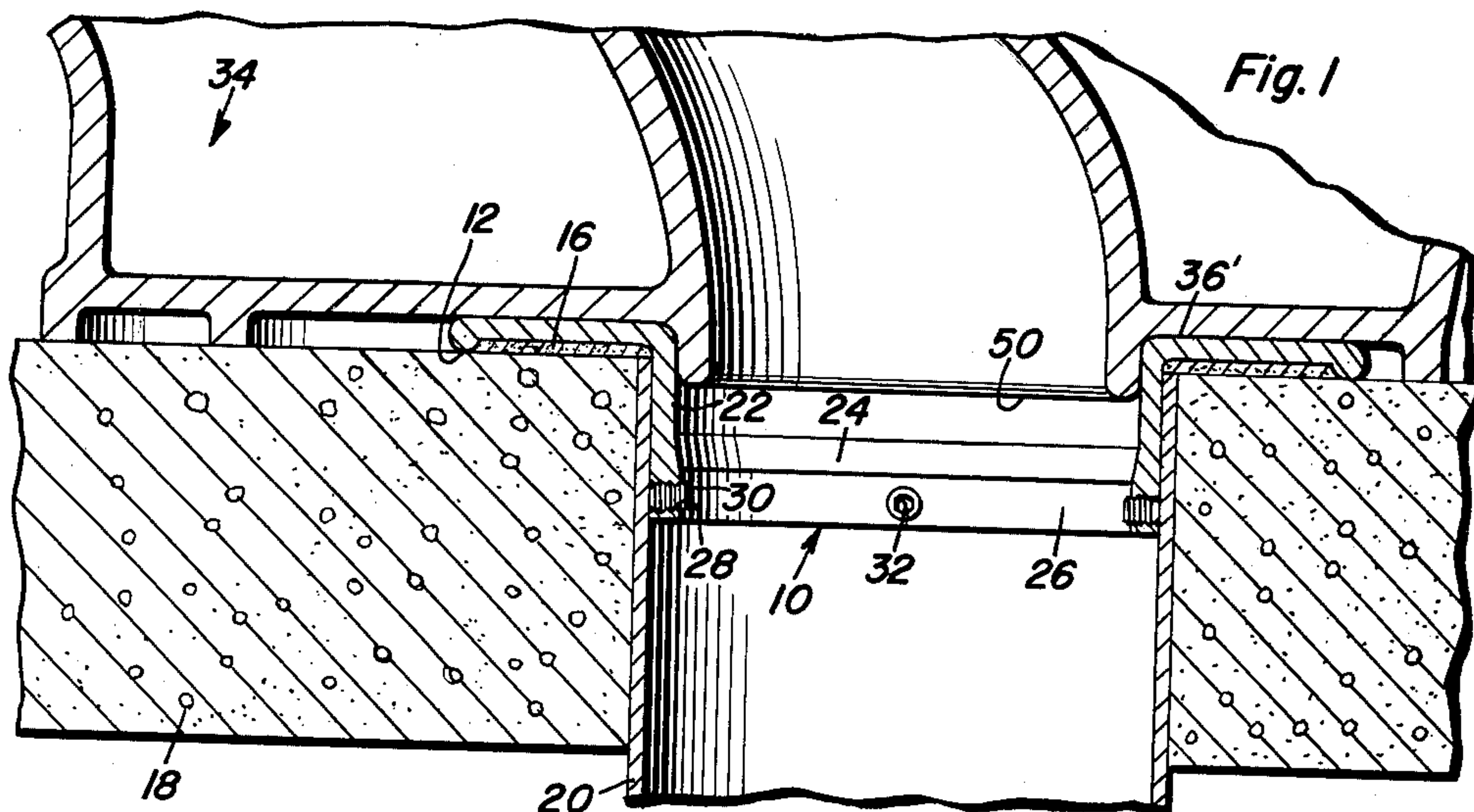


Fig. 1

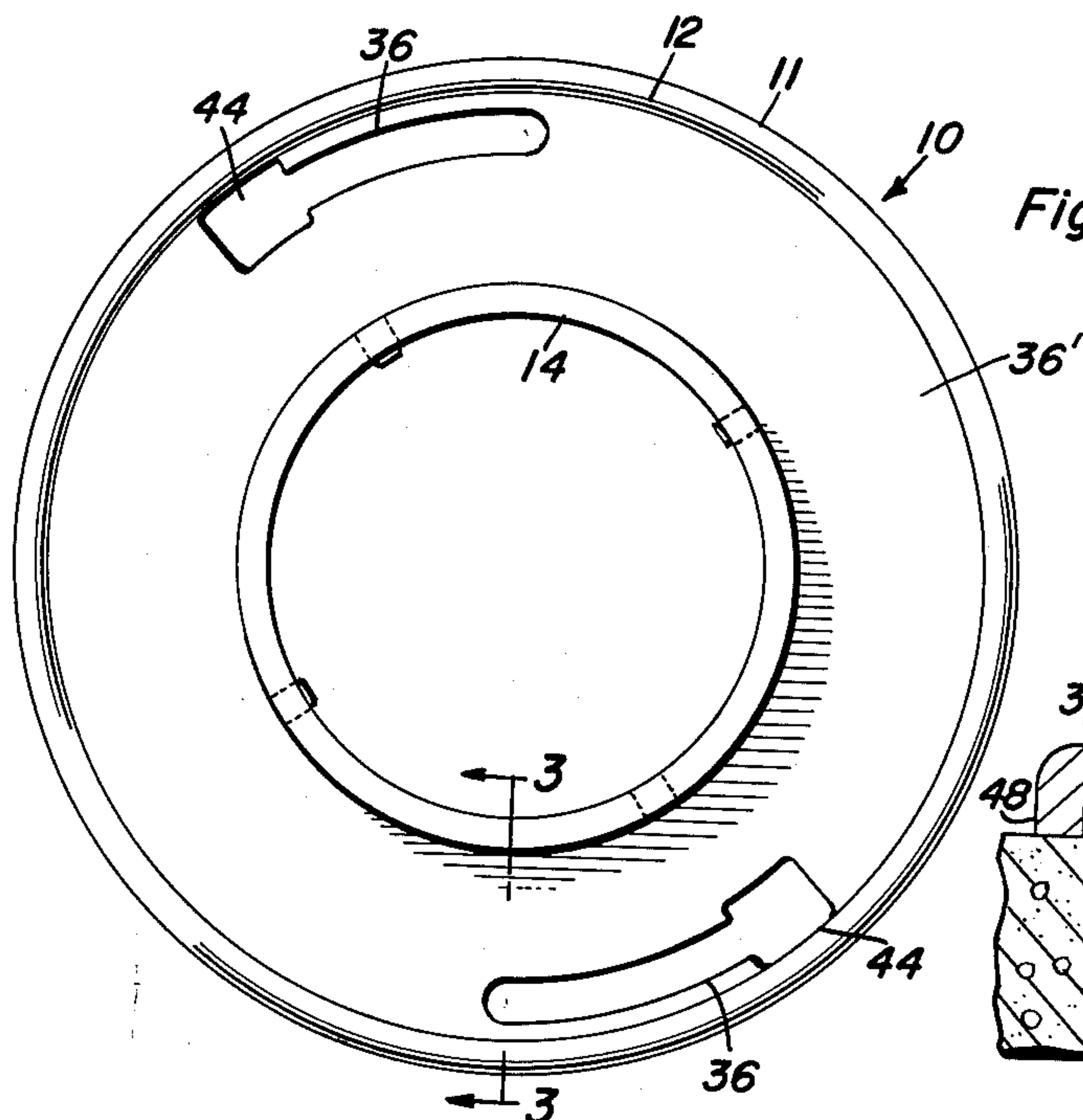


Fig. 2

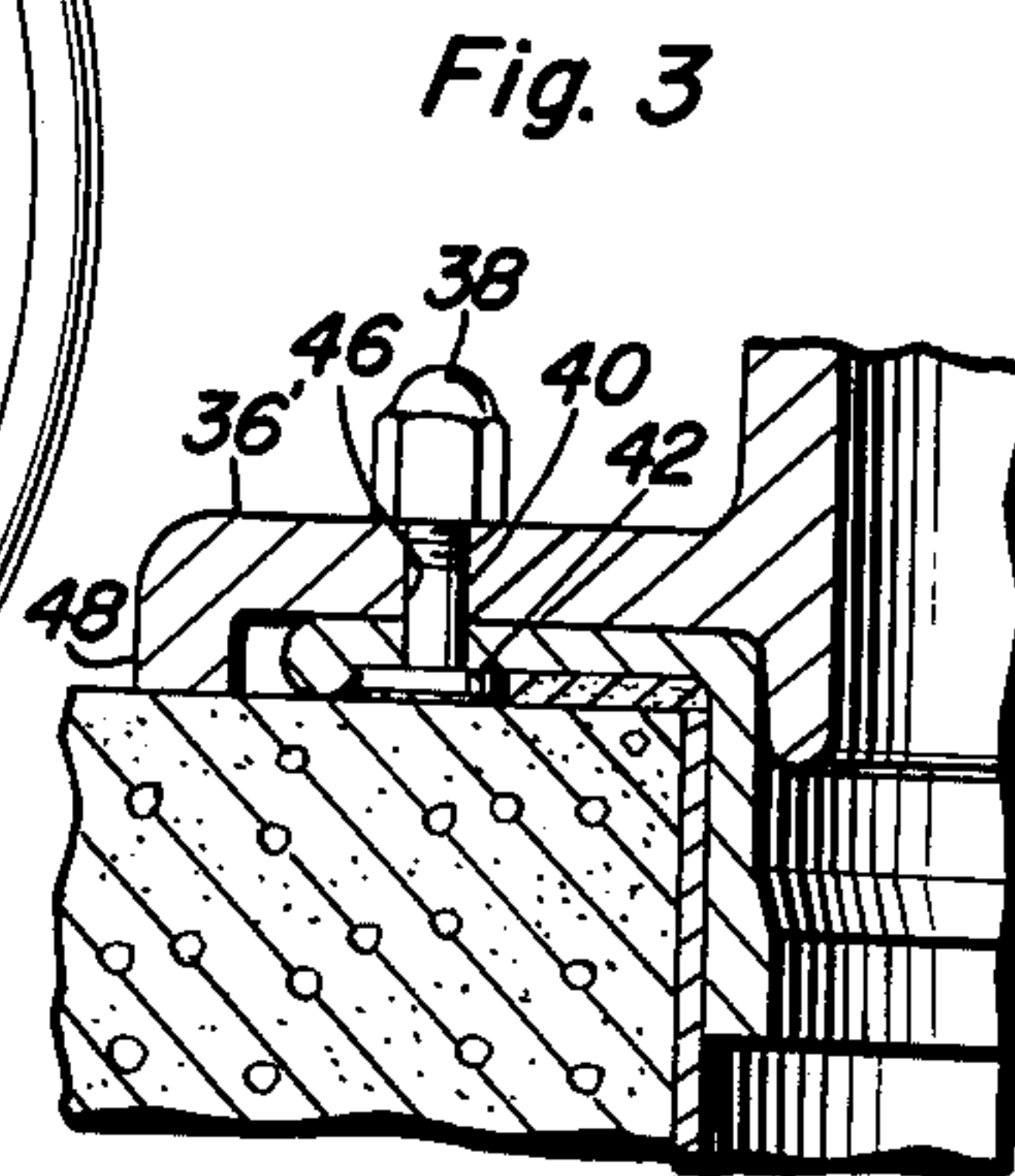


Fig. 3

Ryan R. Danescu
INVENTOR.

BY *Clarence W. Brion*
and *Harvey B. Jacobson*
Attorneys

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CLOSET RING

Ryan R. Danescu, 9645 Brammell, Detroit, Mich.

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1 Claim. (Cl. 285—58)

This invention relates to plumbing fixtures, and more specifically to a ring for coupling the outlet of a water closet bowl to the upper end of an upstanding soil pipe.

The primary object of this invention is to provide a closet ring for coupling soil pipe drains to commode outlets which requires only a mechanical connection thereby eliminating the conventional poured lead and oakum seals.

Another object of the invention is to provide an inside type closet ring which fits inside of the soil drain pipe for connecting the pipe to the toilet bowl outlet and thereby eliminating chipping of the cement around the outside of the pipe.

It is another object of this invention to provide a closet ring which can be installed very rapidly and requiring no special tools or skill thereby resulting in a substantial saving in labor and time.

Another object of the invention is to provide a closet ring connector having peripheral slots therein for connecting the ring with the base of the water closet and permitting the water closet to be rotated to the exact desired position thereby eliminating the necessity for installing the ring in the drain pipe at an exact angular position.

It is another object of the invention to provide a closet ring which is simple in design, economical to produce and long lasting in use.

Yet another object of the invention is to provide a closet ring which may be installed in varied positions within the drain pipe thereby eliminating the necessity for exact alignment between the drain pipe and the water closet outlet.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout, and in which:

FIGURE 1 is an elevational cross sectional view taken through the longitudinal center of a water closet installed on the closet ring;

FIGURE 2 is a bottom view of the closet ring; and

FIGURE 3 is a cross sectional view taken substantially on the plane of line 3—3 in FIGURE 2 and which is substantially perpendicular to the plane of FIGURE 1 and showing the manner of bolting the water closet side flanges to the closet ring.

Referring particularly to FIGURES 1 and 2, it can be seen that the water closet ring 10 comprises a tubular portion 14 having an annular flange at its upper end. The flange 11 has an annular bead 12 projecting from its underside.

A tubular portion 14 of the closet ring 10 has a relatively thin upper portion 22 and a relatively thick lower portion 26 connected by a conical portion 24. The lower portion 26 has four threaded bores 28 therein which receive threaded studs 30. The bores 28 are spaced substantially 90° apart and the studs 30 have hexagonal aperture 32 for receiving a tool for rotating the screws.

The vertically extending soil or sewer pipe 20 may be cast into the concrete floor 18 and its upper portion cut off flush with the upper surface of the floor.

The outer diameter of the tubular portion 14 is normally slightly smaller in diameter than the inner diameter of the soil pipe 20, so that the portion 14 may telescope loosely within the upper end of the solid pipe as shown in FIGURE 1.

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When the commode 34 is to be installed, first the annular space between bead 12 and tubular portion 14 of the closet ring is filled with a plastic sealing substance such as plumbers putty and the tubular portion 14 is inserted into the upper end of the soil pipe 20. The closet ring is rotated to a position whereby the arcuate slots 36 in flange 11 lie substantially under the areas where the sides of the water closet will normally be after the commode is permanently installed. Then the flange 11 is pushed downwardly until the bead 12 contacts floor 18 and the excess putty 16 is squeezed from beneath the flange. Threaded studs 30 are then tightened so as to bite into the inner side wall of soil pipe 20 thereby locking the closet ring securely in place.

To install the water closet 34 on the closet ring 10, the heads 42 of studs 40 are inserted into enlarged apertures 44 in the flange 11. The studs 40 are then moved in a circular direction until they lie substantially in the center of slot 36. If necessary, the putty within apertures 40 and slot 36 may be removed before insertion of the studs. A thin coating of putty or wax is applied on the upper surface of flange 36' so as to form a seal between the flange and bottom of the commode. The commode 34 is then elevated so as to align each aperture 46 in each side flange 36' with each stud 40 and each slot 36. The commode is then lowered so as to permit the stud 40 to extend through apertures 46 and flange 48 to rest upon floor 18. The commode may be then rotated slightly so as to properly align it for permanent securement to the floor. The arcuate slots 36 permit the commode and studs 40 to rotate slightly. After the commode is finally located in its permanent position then nuts 38 are screwed onto studs 40 and finally tightened upon side flanges 36' thereby locking the commode into its final and permanent position.

Due to the overlapping and telescoping arrangement of the soil pipe 20, closet ring tube 14 and commode exhaust flange 50, it is virtually impossible to have any leakage of liquids into the space between the bottom of the commode and the upper surface of the floor 18.

The installation of the commode 34 in the manner described above, obviously is much simpler and requires much less time than the conventional manner or method of installing commodes. It can be seen that no chipping of the cement floor 18 is required, and no special tools or skill are needed, and it is not necessary to seal the joint with lead. It is estimated that the novel closet ring 20 permits a commode to be installed in substantially one-half of the normal time required.

The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will be readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and accordingly all suitable modifications and equivalents may be resorted to, falling within the scope of the invention as claimed.

What is claimed as new is as follows:

A seal for securing a commode to a vertical soil pipe having its upper end substantially flush with a floor and having a substantially smooth inner wall, comprising a one-piece closet ring telescoped within the upper end of the soil pipe, the outer surface of said ring being smooth and axially slidable in said pipe with close tolerance, socket head screw members threaded through the lower wall of the closet ring and frictionally gripping the inner wall of the soil pipe, the over-all length of said screw members being no greater than the thickness of that portion of the wall through which they are threaded, said closet ring having an integral radially outwardly extending upper flange peripherally thereabout

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and a bead on the outer periphery thereof supported on the floor, an annular groove in the lower surface of said flange extending radially inwardly from the bead to said outer surface, a flexible sealing material filling said groove and sealingly engaging said floor, and apertures at periph-
erally spaced points about the flange for the reception of fastening members utilized to secure the commode to the seal with the commode engaged directly against the flange and the exhaust flange of the commode received within the upper end of the closet ring.

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