

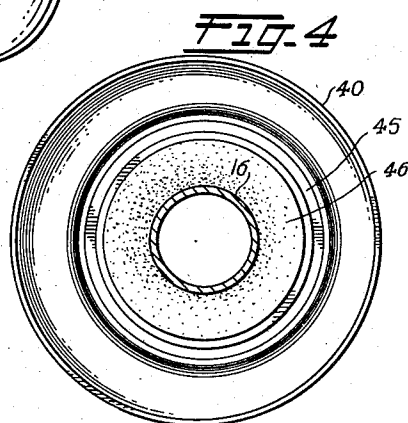
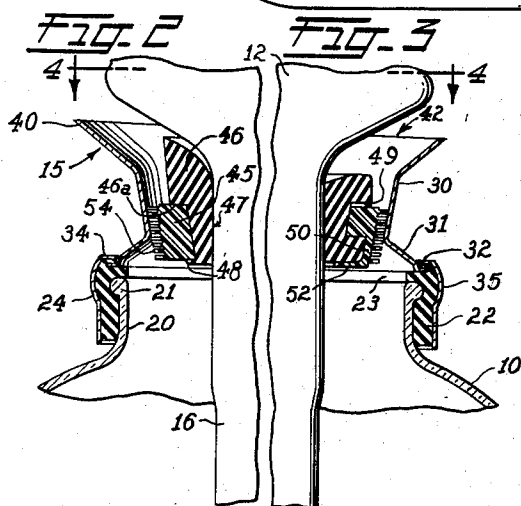
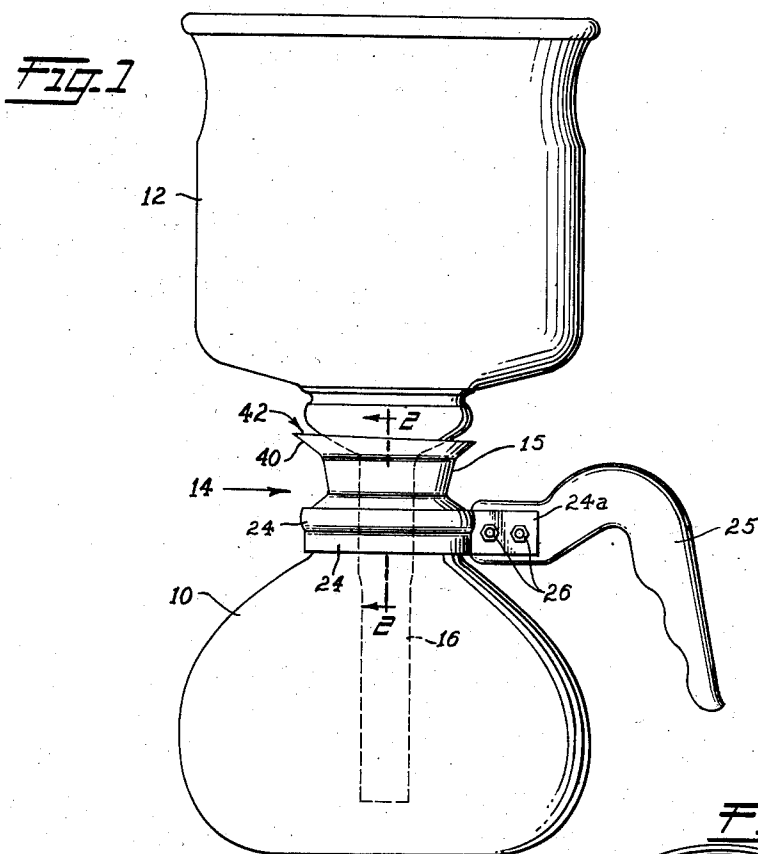
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2,885,949

CONNECTING AND SEALING MEANS FOR COFFEE-BREWING APPARATUS

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2,885,949

CONNECTING AND SEALING MEANS FOR COFFEE-BREWING APPARATUS

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7 Claims. (Cl. 99—292)

This invention relates to coffee-making devices, and particularly to sealing and pouring structures used with that type of coffee-making combination which employs a lower vessel in which water is to be boiled and forced up into an upper vessel containing the ground coffee, by effects of the generated steam pressure, brewing taking place in the upper vessel until condensation of the steam in the lower vessel creates a partial vacuum resulting in return of the brew to the lower vessel from which it may then be dispensed.

The object of the present invention is primarily to provide for a metallic pouring lip or spout to be attached to a lower glass bowl in sealed relationship and to be connected with an upper bowl in temporarily sealed relationship.

It is another object of the invention to provide an efficient and durable seal between a metallic pouring neck of the indicated character and a depending conduit at the lower end of an upper bowl, such sealing device being applicable to upper bowls of either glass or metal.

Another object of the invention is to employ a sealing device of the indicated character which is not subject to heat changes under the conditions employed in coffee-making, has exceptionally long life, is not brittle, does not break in use, will not leak, and is relatively easily produced from a tough durable non-brittle relatively rigid type of plastic material as distinguished from either natural or synthetic rubber, and which may also be employed in combination with rubber sealing elements associated therewith when required.

Other objects of the invention and various features of construction employed in a preferred form will be apparent from a consideration of the following specification together with the accompanying drawing.

In the drawing:

Fig. 1 is a side elevation of an assembled coffee-making apparatus embodying one form of the present improvement;

Fig. 2 is a vertical section taken on the line 2—2 of Fig. 1 and showing the sealing connection of this improvement when in operative relation with respect to a lower receiving vessel and an upper brewing vessel;

Fig. 3 is a view like that of Fig. 2 showing a variation; and

Fig. 4 is a cross section taken on the line 4—4 of Figs. 2 and 3.

As illustrated, a coffee-making combination of this invention includes a lower vessel or bowl, commonly of glass, and as generally indicated at 10, an upper vessel 12 which may be of glass but commonly is made of metal to avoid breakage, and a sealing mechanism between such two vessels as generally indicated at 14 and including a separable, wide, metallic supporting connector and pouring neck 15 normally carried by the lower vessel 10. As illustrated, the brewing vessel 12 is conventionally provided with a depending tubular conduit 16 connected with the upper vessel 15 by a flaring section 16a and received

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in the lower vessel 10 during coffee-making operations and of a length to have its lower extremity spaced only a short distance from the bottom of the vessel 10, approximately as indicated in Fig. 1.

The vessel 10, which characteristically is provided with a short upstanding neck 20 of reduced diameter is provided with an outer annular bead 21 which is received in a corresponding groove in an annular rubber gasket 22 positioned about the exterior of the neck 20 and provided with an integral overhanging flange 23 which rests upon the top of the neck 20 of the vessel 10 and in contact with the upper edge of the bead 21 which extends around the top of such neck to insure good retention and adequate sealing. The gasket 22, which is of comparatively soft rubber, is in the form of a relatively thin sleeve that is clamped upon the neck 20 in sealing relationship by means of an annular clamp band 24, preferably of spring metal and shaped in cross section to correspond with the outer contour of the gasket 22. The band 24 is split and preferably carries between its offset ends 24a an appropriate handle member 25, the ends 24a of the clamp band 24 being suitably bound upon flat side portions of the inner end portion of the handle 25, a pair of bolts 26 or other suitable means being employed to bind the ends of the band 24 upon the handle. Such binding effects adequate compression of the gasket 22 to make a tight seal about the neck 20 of the vessel 10 and about the annular bead 21 at the top thereof.

The gasket 22 and the clamp band 24 also assist in mounting upon the vessel 10 the detachable metal connector 15 which comprises a supporting or seating neck member and pour spout 30 and which in practice is produced from stainless steel and is tubular to receive the depending conduit or down spout 16 of the brewing vessel 12 and also to receive sealing means presently to be described and carried by the upper end of such depending conduit or down spout 16. The lower portion of the metallic neck member 30 is flared outward and downward as indicated at 31, its lowermost portion being in the form of an annular outwardly extending flange 32 which is received in an inwardly directed annular groove in the upper extremity of the gasket 22 and is retained therein by means of the clamp band 24 and an overhanging inwardly directed annular flange 34 thereof which prevents the flange 32 from being withdrawn when the clamp band 24 is in operative position. With this structure there is provided an integral upper annular portion of the gasket 22 which acts as a cushioning means between the flanges 32 and 34 and also serves as a seal to prevent loss of the subsequent partial vacuum acting to draw down into the glass vessel 10 the brew which has been produced in the upper vessel 12. By reason of a slight bulge 35 in the upper portion of the gasket 22 opposite its integral inwardly directed flange 23 and the bead 21 of the vessel neck 20, proper retention and sealing of the parts are assured. At the upper end of the metallic spout or neck 30 there is provided an upwardly extending and outwardly flared pouring lip 40 from which the brewed coffee is readily dispensed when the vessel 12 and the sealing means carried by the down spout 16 thereof are removed. This lip may if desired be slightly enlarged at one side to be arranged opposite the handle 25 to facilitate pouring procedure, and such enlargement may be effected, if desired, by sloping the upper edge of the lip 40 upward as indicated at 42 toward the pouring side.

It will be appreciated that, by producing the separate pouring neck 30, which in effect is a pouring spout, from metal and by employing a metallic clamp band represented by the band 24, such metallic fitting at the top of the glass vessel 10 greatly reduces breakage of the vessel 10, and certainly improves over the breakage possi-

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From the foregoing it is apparent that we have produced a highly efficient, exceptionally durable seal for quick removal from a pouring spout such as that indicated at **30**, especially when of metal, and that we have also produced a very desirable, efficient, durable connection between a lower glass vessel and an upper vessel, such as a metallic vessel, employed in the brewing of coffee. With these means the upper vessel **12**, which may be of metal, with the packer **46** and nylon friction-seal **45** mounted thereon as described, may be inserted into the stainless steel pouring spout **30**, and sealed following the filling of the lower vessel **10** with water as required. Coffee as required is introduced into the vessel **12**, and the water boiled to produce steam which raises the water into the vessel **12** for steeping of ground coffee contained therein. Steam pressure is readily developed inasmuch as the lower end of the pouring spout **30** is sealed at the neck of the vessel **10** through the gasket **22** and the band clamp **24**. Similarly, steeping having been

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completed and condensation being permitted in the vessel 10, the coffee brew is drawn down into the vessel 10 through a conventional filter at the top of the down spout 16.

We claim as our invention:

1. In a coffee maker: a lower, receiving bowl having a neck; an annular metal pouring spout having its lower end received on said neck and secured thereto with cushioning and insulating material therebetween; an upper brewing bowl having a down spout to be received in said neck; a tough yieldable rubber-like cushion sleeve upon an upper portion of said down spout and having an outer annular groove; and a rigid friction member having a flange seating in said groove and provided with a plurality of spaced radial fins frictionally engaging the inner wall of said pouring spout and supporting said down spout and upper bowl therein.

2. A coffee maker as in claim 1 wherein said rigid friction member is non-metallic and its fins are slightly flexible and non-brittle and have a softening point above the boiling point of water.

3. A coffee maker as in claim 1 wherein said friction member is a nylon block and said fins are integral therewith.

4. In a coffee-brewing apparatus: an annular metal pouring spout having an upper pouring edge and having means at its lower end for connection with a receiving bowl, the inner surface of such spout providing a downwardly tapering seat; an annular rigid friction member provided with a plurality of spaced radial fins frictionally engaging said seat, said friction member being non-metallic, and said fins being slightly flexible and non-brittle and having a softening point above the boiling point of water; and a cushion sleeve externally grooved and receiving said friction member in said groove, said cushion sleeve being of yieldable rubber-like material to receive a down spout of an upper brewing bowl in airtight frictional relationship.

5. A coffee-brewing apparatus as in claim 4 wherein said friction member is a nylon block and said fins are integral with such block.

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6. A sealing device for a coffee maker including: a tough yieldable rubber-like cushion sleeve having a bore therethrough to seal upon the down spout of an upper brewing bowl, said sleeve having an outer annular groove; and an annular rigid friction member having a portion received in and positioned by said groove in sealing relation, said friction member having a plurality of integral axially spaced radial friction fins for individually engaging the inner wall of a pouring spout in sealing relationship, said rigid friction member being non-metallic, its fins being slightly flexible and non-brittle and having a softening point above the boiling point of water.

7. A sealing device as in claim 6 wherein said rigid friction member is a nylon block carrying said integral fins.

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UNITED STATES PATENT OFFICE
CERTIFICATE OF CORRECTION

Patent No. 2,885,949

May 12, 1959

Wilbur D. Curtis et al.

It is hereby certified that error appears in the printed specification of the above numbered patent requiring correction and that the said Letters Patent should read as corrected below.

Column 2, line 51, after "prevent" insert -- the loss of pressure under boiling conditions and to prevent --.

Signed and sealed this 22nd day of September 1959.

(SEAL)

Attest:

KARL H. AXLINE
Attesting Officer

ROBERT C. WATSON
Commissioner of Patents