J. B. BLEICHRODE.

COFFEE PERCOLATOR WITH FLEXIBLE COUPLING.

APPLICATION FILED JUNE 18, 1918.

1,288,376. Patented Dec. 17, 1918.
To all whom it may concern:

Be it known that I, JACOB B. BLEICHRODE, a citizen of the United States, residing at Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Coffee-Percolators with Flexible Couplings, of which the following is a specification.

My invention relates to an improvement in the gasket or flexible coupling used in coffee percolators which consists of a lower glass bulb and an upper glass bulb having a funnel-shaped mouth projecting into the lower glass bulb, and having a filter thereupon, which the coffee rests, during the percolation.

Percolators of this kind are old and well-known and the connection between them has customarily been made heretofore by a washer or gasket, whereby a tight fit between the parts was attempted to be secured.

As these bulbs are hand-blown, it is impossible to secure identical dimensions in all the bulbs made, and as a result, experience has shown that the users of these percolators in attempting to fit the funnel-shaped mouth into the lower bulb, crack or break the neck of the lower bulb which requires the replacing thereof.

Devices of this kind, which are made of relatively fragile glass are usually handled by persons who are inexperienced in manipulating such articles and it is therefore highly desirable to have an efficient and tight coupling between the bulbs that shall allow for variations in the sizes of individual bulbs, so as to insure a reliable and tight fit between the bulbs, without the danger of cracking or breaking in the hands of an inexperienced person.

The object of my invention is to provide a flexible gasket or coupling between the bulbs of these glass coffee percolators that shall be reliable, give a tight fit, be automatically tightened during the operation of the device, allow for the variations in the sizes of the various bulbs and have other advantages which shall be pointed out in the description and drawings.

A preferred embodiment of my invention is shown in the accompanying description and drawings, in which:

Figure 1 shows a perspective view of my improved device, Fig. 2 shows a vertical central section thereof, and Fig. 3 shows a plan view of the lower bulb and gasket.

The percolator consists essentially of a glass bulb 5, having a substantially spherical main portion, provided with a neck into which a funnel-shaped mouth 4 of an upper glass bulb 1 projects. The connection between the funnel-shaped mouth 4 and the neck of the bulb 5 is made by means of a gasket 6 preferably of fairly soft, flexible rubber. In the upper bulb 1 a filter cloth 2 is mounted on a rigid base which is caused to fit tightly against the inner wall of the bulb.

The exact means for causing the filter cloth 2 to fit tightly in the bulb 1 are not shown as these are well-known and in themselves form no part of my invention. The flexible gasket 6 has a substantially round head 8 which has a substantially spherical contour up to the highest point thereof, and then turns inwardly at a sharp angle of about 45 degrees until it contacts with the intermediate portion 3 of the bulb 1, which is between the main portion of the bulb and the funnel-shaped mouth 4. This intermediate portion 3 is tapered so that it contacts with the head 8 at a small part thereof. The curvature of the intermediate portion 3 is such that the inwardly inclined portion 7 of the head 8 is at a sharp angle to the tangent at the point of contact, preferably about 30 degrees. This head 8 is stiffer than the walls 9 of the coupling 6, which form the body portion thereof, because of its greater thickness and it is made so stiff relatively, that while it can be stretched to a certain extent in forcing it upon the bulb 1, it only contacts with the intermediate portion 3 substantially around the point of the inclined portion 7, so that while the contact is tight and prevents leakage, it only exists for a relatively small area.
At the bottom portion thereof the coupling 6 has the walls 9 thereof provided with an inner thickened ridge 10 which is likewise made so rigid that it forms a very tight fit with the funnel 4.

This construction causes the walls 9 of the coupling 6 to be spaced from the adjacent portion of the bulb 1, so that an intermediate inclosed cell containing air is formed between the bulb 1 and the coupling 6.

Hence, when the coupling 6 is mounted upon the bulb 1, it cannot be forced up beyond a certain distance on the intermediate portion 3 because of the thickness and stiffness of the head 8.

When the funnel portion 4 is pushed into the neck of the bulb 5, the coupling 6 yields readily because of its flexibility and because it is not in contact with the bulb 1 save at the top and bottom thereof.

Because of this, it is possible to push the bulb 1 into the bulb 5 sufficiently far to give a tight fit, without the slightest danger of breaking or cracking the delicate glass parts. Even after the tight fit is secured it is possible to move the bulb 1 with respect to the bulb 5, because as shown in Fig. 2, which illustrates the structure when fitted together, the bulb 1 always has a certain free relative movement with respect to the bulb 5, because it is spaced from the coupling 6 except at two small areas of contact. The air between the gasket and bulb 1 always tends to keep the gasket inflated.

The walls of the gasket are sufficiently stiff to maintain the shape shown at all times.

Further advantages arise during the operation of the device. In operating this device it is customary to fill the bulb 5 with water, the level of the water not being allowed to rise too near the neck.

Then the bulb 1 with the coupling 6 connected thereto is inserted until a tight fit is secured.

The filter cloth 2 having been put into position and sufficient powdered or ground coffee having been placed thereon, the water in the lower bulb 5 is heated by means of an alcohol lamp or any other suitable means.

The pressure of the steam generated in the unfilled space of the bulb 5 causes the water therein to rise up through the funnel 4 and up through the filter cloth 2 until the level of the water in the bulb 3 is below the mouth of the funnel 4.

The pressure of the water which has now risen to the upper bulb 1 further forces it into the bulb 5 so as to cause a tight fit.

As soon as the level of the water in the bulb 5 is below the mouth of the funnel 4, the source of heat is removed and the cooling of the bulb 5 with the consequent condensation of the steam causes the water which has now extracted the soluble substances from the coffee to pass downwardly through the filter cloth 2 into the bulb 5.

The device may be provided with a cover 35 and a stand 36.

I have described a preferred embodiment of my invention but it is clear that numerous changes and omissions can be made without departing from its spirit as defined in the following claims:

1. In combination, a lower bulb, an upper bulb having an opening at its bottom adapted to fit into said lower bulb and a gasket connecting said bulbs, said gasket being made of flexible material comprising a body portion and projecting parts vertically spaced from each other and projecting inwardly from said body portion toward the central axis of the gasket.

2. In combination, a lower bulb having a neck, an upper bulb having an opening at its bottom adapted to fit in said neck, and a gasket made of flexible material comprising a body portion and projecting parts vertically spaced from each other and projecting inwardly from said body portion toward the central axis of the gasket, said projecting parts being stiffer than said walls.

3. In combination, a lower bulb having a neck, an upper bulb having a downwardly projecting mouth at its bottom, and adapted to project into said neck, and a gasket fitted upon said upper bulb at its junction with the said neck, said gasket having a body portion spaced from said upper bulb and adapted to fit tightly into said neck, said gasket also having vertically spaced projecting parts projecting inwardly toward the vertical axis thereof, and tightly contacting with said upper bulb.

4. In combination, a lower bulb having a neck, an upper bulb having a main portion, a tapered intermediate portion and a downwardly projecting conically shaped mouth at its lower end adapted to project into said neck, and a gasket fitted upon said upper bulb at its junction with said lower bulb, said gasket having a body portion comprising relatively inclined walls, and inwardly projecting parts above and below said inclined walls, which contact with said intermediate portion and said mouth respectively, said body portion being spaced from said upper bulb.

5. In combination, a lower bulb having a neck, an upper bulb having a main portion, an intermediate portion and a downwardly projecting conically shaped mouth at its lower end, adapted to project into said neck, and a gasket fitted upon said upper bulb at its junction with said lower bulb, said gasket having a body portion comprising relatively inclined walls, and inwardly projecting parts thicker than said inclined walls.
and above and below them, which tightly contact with said intermediate portion and said mouth respectively, said body portion being spaced from said upper bulb.

6. In combination, a lower bulb, an upper bulb having a mouth at its bottom adapted to fit into said lower bulb, and a gasket connecting said bulbs, said gasket having an upper and a lower portion contacting with said upper bulb, and a body portion spaced from said upper bulb and contacting with said lower bulb.

In testimony whereof I hereunto affix my signature.

JACOB B. BLEICHRODE.