March 19, 1968 A. P. PETROZZO 3,373,677

FILTER BAGS FOR GROUND COFFEE

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FIG. 6.

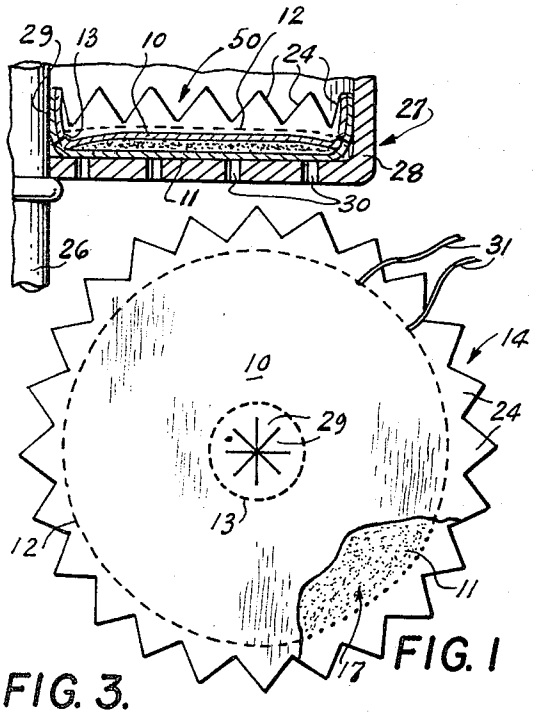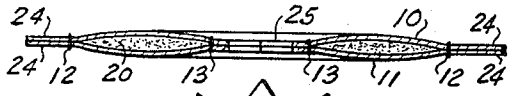


FIG. 1

FIG. 3.



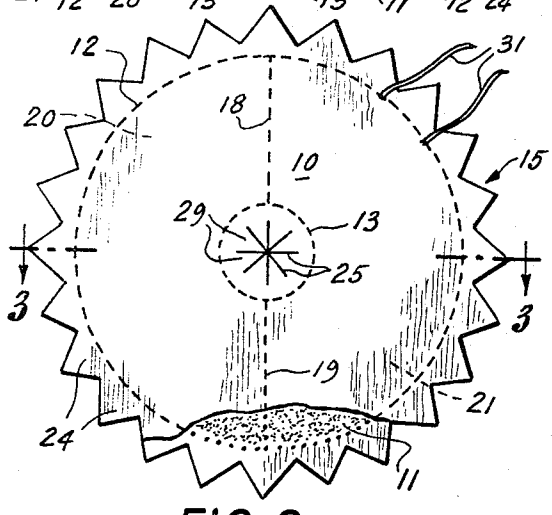
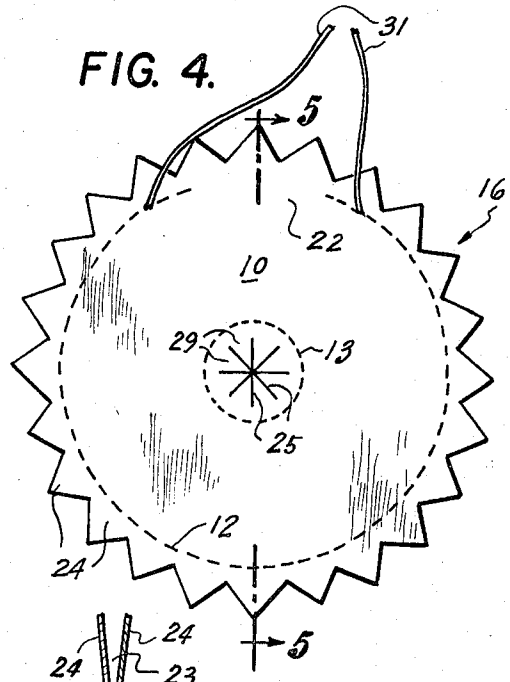


FIG. 2.

FIG. 4.



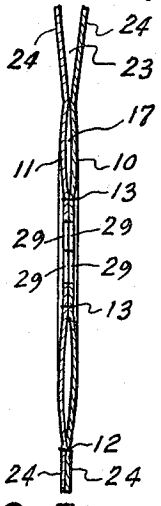


FIG. 5.

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FIG. 7.

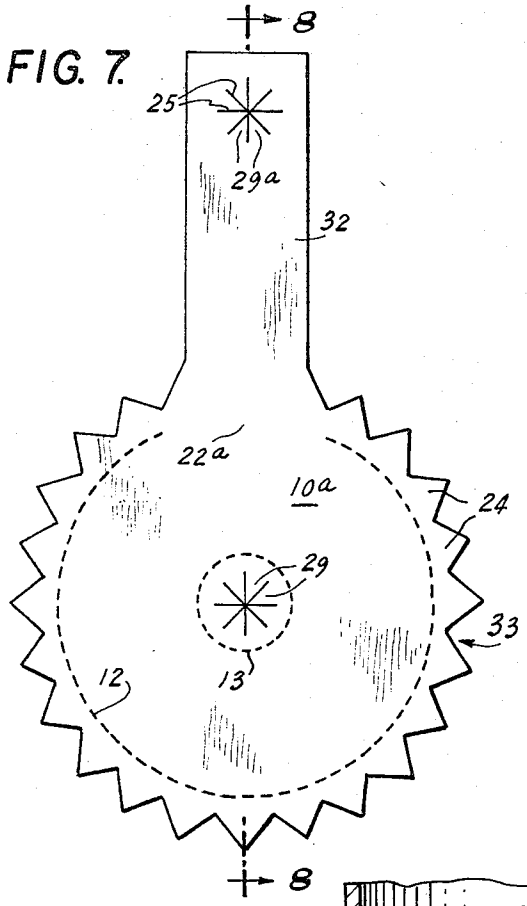


FIG. 8.

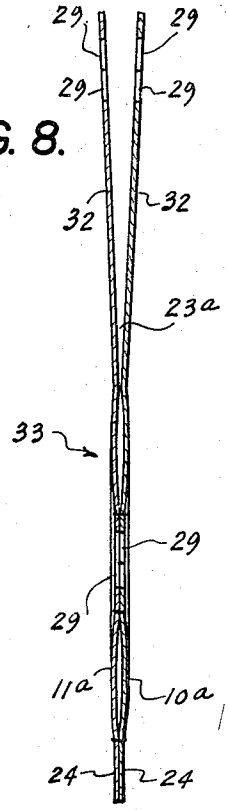
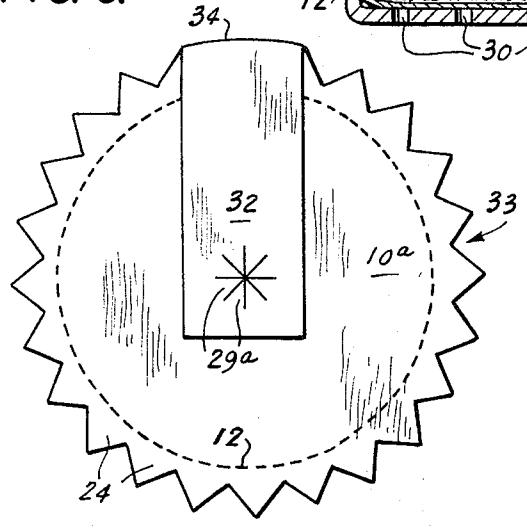


FIG. 9.



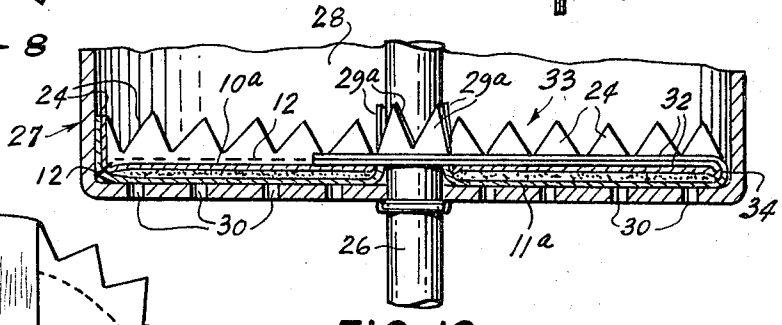


FIG. 10.

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FILTER BAGS FOR GROUND COFFEE

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3 Claims. (Cl. 99—295)

ABSTRACT OF THE DISCLOSURE

A relatively thin circular two-walled filter bag, prefilled or having an inlet for filling, having a central pierceable opening and preferably a pinked circumference. As a modification, a fillable bag having a radial tab extending from one or both walls of the inlet, of a length somewhat greater than the radius of the bag and having a second piercable opening near its end.

Brief summary of the invention

The bags when sold prefilled have circumferential stitching all around near the outer edge, and when sold empty have such stitching only part way to leave an inlet for filling. In all cases they also have circumferential stitching around the central opening. The bags are supplied in various diameters appropriate to the diameter of the percolator cup or the like in which they are to be used. With a pinked circumferential edge, when the bag is placed in the cup the outer circumferential seam is very close to the cup wall and the radial elements consequent to the pinking are bent upward against the wall of the cup, thus tending to direct the water issuing from the riser on the bag surface below which are the ground coffee granules. The central opening registers about the riser and the radial elements of the pierced opening likewise are bent upward against the riser, thus also directing the water over the bag. In the modification mentioned, the tab is doubled back over the bag with the riser passing through the pierced opening therein, and the bent tab thus closes the inlet and also tends to lock the bag in place.

In the drawing, FIG. 1 is a view showing a filter bag prefilled with coffee granules.

FIG. 2 is a view similar to FIG. 1 but showing the annular space within the bag divided into two equal parts by a diametrical seam.

FIG. 3 is a sectional view taken on the line 3—3 of FIG. 2.

FIG. 4 is a view of a filter bag which is empty and is provided with an inlet for filling it.

FIG. 5 is a sectional view taken on the line 5—5 of FIG. 4.

FIG. 6 is a fragmentary enlarged sectional view of the cup of a coffee percolator showing how any of the bags of FIGS. 1, 2 and 4 are mounted therein.

FIG. 7 is a view showing a modified empty bag provided with an inlet and radial extension tabs extending from both walls which define the inlet.

FIG. 8 is a sectional view taken on the line 8—8 of FIG. 7.

FIG. 9 is a view of the bag of FIG. 7 showing the radial extension tab folded down upon the bag.

FIG. 10 is an enlarged sectional view showing a fragment of a percolator cup with the bag of FIGS. 7 and 9 mounted therein.

Although the bags disclosed herein are particularly adapted for use in percolators, they may also be used in other coffee makers, such as, for example, drip types, as will become apparent.

Referring in detail to the drawings, the numerals **10** and **11**, FIGS. 1-6, indicate two mutually identical discs of thin tissue having a high degree of wet strength and capable of fast filter action. Such filter tissue or material is readily available on the market.

The two discs **10** and **11** are mutually superimposed and united by a circumferential seam or the like **12** near their edges as well as by a second concentric seam **13** of greatly reduced diameter. Thus, in the case of the bag **14**, FIG. 1, an annular chamber **17** is provided between the two discs, in which ground coffee, shown in the drawing as a multiplicity of dots, is contained.

In the case of the bag **15**, FIG. 2, the two discs **10** and **11** are additionally united by two aligned radial seams **18** and **19** extending between the seams **10** and **13**, thus dividing the space between the discs into two separate semi-annular chambers **20** and **21**. This division of the space into two chambers or compartments assures equal distribution of the coffee granules on both sides of the dividing seams **18**, **19**.

The bags **14** and **15** are both marketed pre-filled with ground coffee and the seam **12** is applied either in whole after the granules have been positioned between the discs or, the seam may first have been extended part way around the discs to leave an entrance for admitting the granules whence the seam is continued the remainder of its length to seal the bag.

In the case of the bag **16**, FIG. 4, the seam **12** extends only part way around the discs to leave an unsealed or open portion **22** which provides an entrance mouth **23**, FIG. 5, for entry of the coffee granules. This bag is sold empty so that the buyer may enter into it the desired measure of granules dictated by his taste.

All of the bags disclosed herein are intended primarily to contain a one-cup quantity of brewed coffee, so that when more than one cup is desired an additional number of bags is used in the manner described below.

The bags **14**, **15** and **16** are all shown having pinked circumferential edges, with a consequent plurality of circumferentially equidistantly spaced pointed radial tabs whose bases are close to but slightly spaced from the seam **10**. The bags also have, within the circular seam **13**, a plurality of cuts, slits or tear lines **25** radiating from the center of the discs **10** and **11** to points near but spaced slightly from the seam **13**.

FIG. 6 illustrates how any of the bags **14**, **15**, **16** are positioned in the well or bowl of a coffee percolator of a common type provided with the usual water pipe, or riser **26**. Since the illustration in FIG. 6 is representative of all of the bags **14**, **15**, **16**, the bag shown therein has been designated by the numeral **50** which therefore represents any one of these bags.

The diameter of the seam **12** is approximately that of the bowl **27** of the percolator, so that upon laying a filled bag in the bottom of the bowl the tabs **24** are bent upward. While the filter material is dry it is relatively stiff but flexible, so that these tabs are urged outward against the wall **28** of the bowl **27**. While thus inserting the bag into the bowl, the upper end of the riser **26** parts the tabs **29** defined by the slots **25** and thus provides a central opening through the bag. Thus the tabs **29** are urged outward against the riser.

As the heated water in the percolator rises in the pipe **26** and percolates out of its upper end and falls upon the bag **50**, the falling water is guided away from the wall **28** on to the surface of the bag below which the coffee granules are contained. The same is true of the water which descends down along the riser, as the tabs **29** likewise guide the water on to the bag surface. As soon as the filter tabs **24** and **29** become wetted they in fact cling to the surfaces of, respectively, the wall **28** and the pipe **26**. As a consequence, little if any of the

percolated water may escape through the perforations or passages **30** in the floor of the bowl **27** without encountering coffee granules. Hence a more efficient utilization of the ground coffee is assured.

All of the bags **14**, **15** and **16** are provided with a string or strings **31** for lifting the used bags from the bowl **27**. In the case of the bag **16** in which the entrance mouth **23** is provided for home filling, it is to be noted that it is not necessary to close or seal this mouth to prevent granules from leaking out through it. For when the bag is pressed down into the bowl **27**, the tabs **24** thereon will all, including those extending from the disc portions which define the mouth, be bent upward against the wall **28** in the manner described so that their mutual overlapping will close the mouth.

The modification shown in FIGS. 7–10 is a bag suitable for marketing both as a pre-filled bag or an empty bag for home filling, but again it is intended primarily for a one-cup brewed coffee measure and therefore, when marketed filled, it is relatively thin and flat. This form of bag is a modification of that shown in FIGS. 4 and 5, and parts identical to those shown in FIGS. 4 and 5 are identically numbered while wholely modified but equivalent parts bear the same reference numeral followed by the suffix "*a*". Both discs **10***a* and **11***a* have mutually superimposed elongated radial extensions or strips **32** whose length somewhat exceeds the radius of the discs. The circumferential seam **12** extends part way around the discs to leave an unsealed portion **22***a*, and it is from the two walls of the entrance mouth **23***a* that the strips **32** extend. Near the outer ends of the strips, mutually aligned cuts, slits or tear lines **25** are provided in the same manner as those previously described, to provide pointed tabs **29***a*.

The bag illustrated in FIGS. 7–10 is designated as a whole by the numeral **33**, and FIG. 10 illustrates how it is set into the bowl **27** of a percolator. After the ground coffee has been passed into the bag through the mouth **23***a* in an obvious manner, the circular portion of the bag is mounted on the floor of the bowl in the same manner as previously described. Then the combined strips are doubled back and down against the upper disc **10***a* with the riser **26** piercing the slitted opening provided by the tabs **29***a*. As before, the tabs **24** extend upward against the wall **28** of the bowl while the tabs **29***a* extend upward against the tabs **29** (not shown in FIG. 10) which, as before, extend upward directly against the pipe. The bight **34**, FIGS. 9 and 10, securely seals the mouth **23***a*. Pull strings are not attached to the bag **33**, as the bag may be lifted out by grasping the strips **32**. It is obvious although not specifically shown, that having but a single strip **32** extending from the lower disc **11***a* will also permit of closing the mouth **23***a* upon insertion of the bag as described into the bowl **27**.

In case of coffee makers which have bowls provided with perforated floors but lack a riser projecting upward through the floor, the instant bags may be applied by laying them on the floor in the manner described above. In the absence of the riser, however, to bend upward the tabs **29** and/or **29***a* they remain flat and undisturbed whence such portions provide a closure for the pierceable openings.

In reference to the home fillable bags provided with an entrance mouth illustrated in the drawing, it is believed that the seam **12** should extend through a distance of approximately five-sixths of a complete circle, leaving one-sixth as the width of the mouth.

I claim:

1. A filter bag for coffee, for installation in a coffee maker having a bowl provided with a perforated floor and a centrally positioned water riser extending upward through said floor, the bag comprising two mutually superimposed discs of filter tissue having a first concentric seam therethrough near but spaced from the circumferential edges thereof and extending at least through approximately five-sixths of a circle and a second smaller concentric seam extending through a full circle around the center of the discs, said seams binding said discs together and forming an annular chamber therebetween adapted to contain ground coffee, the area within said second seam having a plurality of slits through said discs extending radially from the center thereof to a position close to but spaced from said second seam thereby defining a pierceable opening formed of radially inwardly extending tabs, the border portions of said discs which lie radially outward from said first seam having a pinked circumferential edge thereby providing a plurality of radially outwardly extending tabs, the diameter of said pierceable opening being substantially equal to the external diameter of said riser and the diameter of said first seam being substantially equal to the internal diameter of said bowl whereby when the bag is installed in the bowl on said floor said first-named tabs extend upward around said riser and said second-named tabs extend upward around the wall of the bowl whence all of said tabs direct water issuing from the riser toward the portions of the bag which define said annular chamber.

2. A filter bag according to claim **1**, said bag having two mutually aligned radial seams extending between said first and second seams thereby dividing said annular chamber into two equal halves.

3. A filter bag according to claim **1**, said discs having elongated radial strips of like dimensions extending from those edges thereof within the remaining approximately one-sixth of said first-named circle, said strips having a width greater than the diameter of said riser and a length greater than the radius of the discs, said strips having aligned pierceable openings therethrough positioned outward from the circumferential edges of the discs a distance substantially equal to the radius of the discs and being adapted to be doubled back upon the bag with said riser piercing said last-named pierceable openings.

References Cited

UNITED STATES PATENTS

1,454,739	5/1923	Holland	99—295 X
1,947,523	2/1934	Hirschhorn	99—295 X
2,460,735	2/1949	Carroll	99—295 X
3,083,100	3/1963	Baran	99—295 X

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