Jan. 30, 1940. L. H. TALMADGE 2,188,488

FILTER AND THE METHOD OF MAKING THE SAME

Original Filed May 18, 1938

Fig. 1.

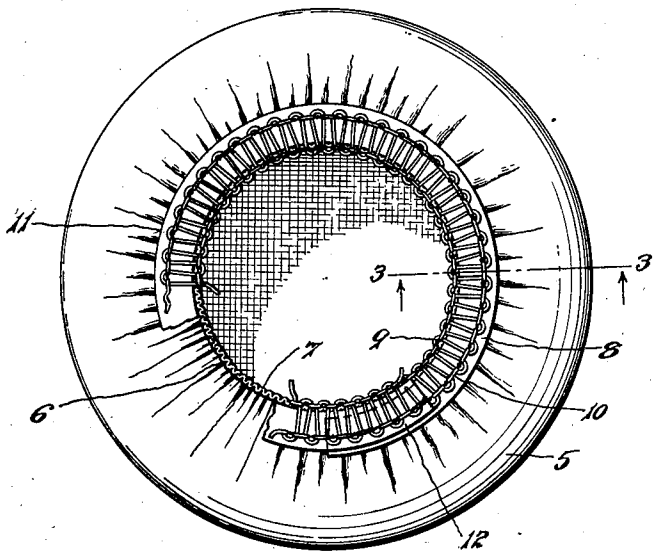


Fig. 2.

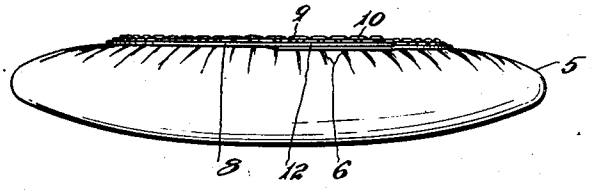
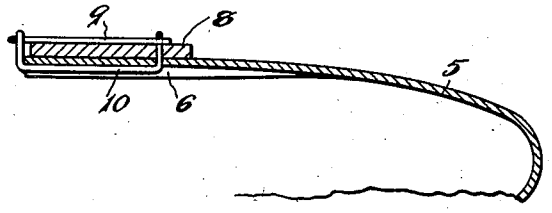


Fig. 3.



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FILTER AND THE METHOD OF MAKING THE SAME

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Continuation of application Serial No. 208,648, May 18, 1938. This application May 11, 1939, Serial No. 273,018

12 Claims. (Cl. 210—162)

This invention relates to filters and the method of making the same and is particularly intended for such filters as are used in connection with coffee makers of the vacuum type. The present invention comprises a specific embodiment of the invention set forth in U. S. patent to Biberthaler, et al., No. 3,123,327, July 12, 1938, and this application is a continuation of the application filed by me May 18, 1938, Serial No. 208,648.

A filter of this class is usually constructed from a disc of suitable material which is applied over a button shaped drainer plate and secured thereto by means of an elastic member which draws the edges of said filter beneath the plate. The said elastic member is secured along the edges of the disc to draw it into the form of a pouch which may be readily applied to and retained in its proper position over the drainer plate.

Heretofore, such elastic members have, in some cases, been secured adjacent to and along the edge of the disc by means of a row of stitches within which the said members are encased and allowed to slip. In other cases, the said members have consisted of a number of elastic strands contained within a woven flexible covering and have been secured to the disc by a row of stitches extending through the cover and parallel to the strands. In each of said cases, it has been found that, upon breaking, the said elastic members will slip, by contraction, away from their position relative to the filter disc and thereby become ineffective for drawing the surrounding edges of the disc inwardly thereon.

An object of this invention therefore is to provide a filter for coffee makers having an elastic member which is secured adjacent to and along the edge thereof in such a manner that, even if it should become broken at one or more points, it will still remain effective to function as intended; the said object being attained by providing the said elastic member in the form of a single elastic band and sewing the same directly to the drainer by means of a row of stitches so that each of said stitches will secure the corresponding portion of the elastic member in fixed position with relation to the corresponding portion along the periphery of the disc.

A further object of this invention is the provision of an improvement over the method, disclosed in the co-pending application to Wesley R. Becher, Serial No. 193,905 filed March 4, 1938, for Strainers and the method of making the same, for producing filters of the class described herein.

Other objects and advantages of this invention will be clearly understood from the following description and from the accompanying drawing in which:

Figure 1 is a view of the apertured side of the filter pouch embodied in my invention.

Figure 2 is an edge view of the same as shown in Figure 1.

Figure 3 is an enlarged sectional view on line 3—3 of Figure 1.

Referring to the drawing, the particular pouch illustrated includes a piece of material 5 which is originally cut in the shape of a flat disc and then contracted into a pouch by gathers 6 that are formed in the marginal portion of the disc; the free edge 7 of which becomes the aperture defining edge of the pouch.

The said gathers are formed in the process of securing an elastic strip 8 upon one face of the margin by means of an "over-edge" stitch 9 sometimes called "overseaming". Preferably this stitch comprises two or more interlooped threads, one of which, as indicated at 10, penetrates the material of the disc to anchor the stitching over the said free edge.

In obtaining the objects of this invention, the said stitching is extended through both, the material of the pouch and the elastic member 8, to secure and maintain the latter in superimposed relation to one face of the gathered marginal and to enclose the free edge of the material to prevent it from unraveling.

In order to substantially enclose the greater portion of the strip within the stitches and thereby cover the same and prevent undue wear thereto from manipulation, the thread penetrations in the strip are preferably located adjacent to the edge 11, which is most remote from the stitch enclosed edge of the pouch.

As shown, the elastic strip 8 preferably comprises a piece of suitable length applied upon the pouch with its ends overlapping and secured as at 8, in superimposed relation upon one face of the gathered marginal, by the over-edge stitching as above described.

While this blank piece of material, from which the pouch illustrated is formed, is preferably circular, the same may be of any shape suitable to form the desired pouch when the marginal portion of the blank is contracted.

The said elastic strip may be of a rubber material known as "lastex" or of any other suitable material.

The method of making the said filter preferably consists of forming the filter material into a blank in the shape of a disc, then placing the

marginal portion of said disc into a suitable sewing machine, with the strip of elastic material super-imposing said marginal portion, and applying the over-edge stitch to secure said strip to the disc as above described; said sewing machine being especially adapted to gather the said marginal portion of the disc under the said elastic strip, as it applies the over-edge stitch therethrough, by the provision of what is known as a "differential feed", which will feed the material of the disc through the machine faster than the elastic strip is superimposed thereon; thereby gathering the marginal portion of the disc under the said elastic strip as they pass through the machine and just before the stitching is applied through the strip and gathered margin.

The character of the over-edge stitch used is such that it permits considerable expansion in the longitudinal direction along the marginal portion and thus provides for expansion of the aperture in the pouch, for application thereof to the button shaped drainer plate.

As will be clearly understood from the illustration in Figure 1, the said elastic strip is sewn around the disc and the ends therefore may be overlapped for a distance, as at 12, by continuing the sewing operation over the leading end of the said elastic strip. The said elastic strip and the thread which forms the stitches may be then cut off and the said strip will form a continuous elastic band which extends entirely along the edge of said disc and is securely fastened thereto.

It will be also understood that, should said elastic band become broken, it will not be permitted to contract into an ineffective condition for the reason that the said stitches will retain the broken sections of the band in their respective location and will continue to function for drawing the edge portions of the disc inwardly by closing the gathers therein, in the same manner that the entire band will function when it is not broken.

While there is shown, in the illustration, an elastic member which consists solely of a rubber strip, the same may also be of any well known type of elastic bands and may be sewn to the strip by means of a common form of straight stitches, if desired, without departing from the scope of my invention as set forth in the appended claims.

I claim:

1. A filter of the character described comprising a disc of pervious material having an elastic strip member extending along the periphery of said disc, said strip member being secured to said disc by a row of stitches extending through said member and said disc, and the length of said strip member, when in contracted condition, being substantially less than the circumference of said disc, whereby, when said strip member is contracted, the said disc is drawn into the form of a pouch.

2. A filter of the character described comprising a sheet of pervious flexible material having an elastic member consisting solely of an elastic band or strip which is stitched directly to said material, along the edge thereof, by a row of stitches extending through said member and sheet; the length of said elastic band, when in contracted condition, being substantially less than the periphery of said sheet, whereby, when said elastic member is contracted, the said sheet is drawn into the form of a pouch.

3. For a coffee maker, a filter comprising a sheet of pervious fabric having an elastic member disposed adjacent to and along the edges thereof and secured to said sheet by means of a row of stitches which overlap the said edges and extend through said member and sheet; the length of said member, when in contracted condition, being substantially less than the periphery of said sheet, whereby, when said member is contracted, the said sheet is drawn into the form of a pouch.

4. For a coffee maker, a filter comprising a sheet of pervious fabric material having an elastic member consisting solely of an elastic band or strip secured adjacent to and along the edges of said sheet by means of a row of stitches extending through said member and sheet and overlapping the said edges to prevent the unraveling of the said material along said edges; the length of said elastic member, when in contracted condition, being substantially less than the periphery of said sheet, whereby, when said member is contracted said sheet is drawn in the form of a bag.

5. A filter of the character described comprising a disc of pervious material having a flexible member consisting of an elastic band or strip which is substantially rectangular in cross section and sewn to said disc, adjacent to and along the edges thereof by a row of stitches extending through said member and disc; the length of said member, when in contracted condition, being substantially less than the circumference of said disc, whereby, when the said member is contracted, the said disc is drawn into the form of a pouch.

6. A filter of the character described comprising a disc of pervious material having an elastic member consisting solely of an elastic band or strip which is substantially rectangular in cross section and sewn to said disc, adjacent to and along the edge thereof, by means of a row of stitches which extend through said band and disc, adjacent to one edge of said band, and overlap the opposite edge of said band and the edge of said disc, whereby, a major portion of said band is contained within said stitches and the said material is prevented from unraveling along the edges thereof; the length of said elastic member, when in contracted condition, being substantially less than the circumference of said disc, whereby, when the said member is contracted, the said disc is drawn into the form of a pouch or bag.

7. A filter of the character described comprising a piece of pervious material having its marginal portion contracted by gathers therein, which form the material into a pouch, an elastic strip extended substantially entirely along the gathered edge, and over-edge stitching passing through the strip by which the said gathered edge and one edge of the elastic strip are enclosed.

8. A filter comprising a piece of pervious material formed into a pouch by gathers in the marginal portion of the material, a non-endless elastic strip superimposed upon one face of and substantially entirely along the gathered marginal portion, and over-edge stitching passing through the strip and enclosing the free edge of the marginal portion and one edge of the elastic strip, a sufficient portion of the width of the strip being included in the said stitching to insure maintenance of the strip in superimposed relation to the marginal portion.

9. The method of making a filter pouch of the character described, which comprises gathering the marginal portion of a piece of pervious material to form a pouch with contracted material about its opening, superimposing an elastic strip upon one face of the gathered margin, and overseaming the free edge of the margin and one edge of the elastic strip substantially entirely along the gathered margin and in a manner to maintain the strip in superimposed relation to said margin with stitching passing through said strip and material.

10. The method of making a filter pouch of the character described, which comprises simultaneously gathering the marginal portion of a piece of pervious material, superimposing an elastic strip upon one face of the gathered margin and securing the said strip in superimposed relation to and substantially entirely along the gathered margin by over-stitching penetrating said elastic strip and material and overlying the edge of said material and one edge of said strip.

11. The method of making a filter pouch of the character described which comprises gathering the marginal portion of a piece of pervious material to form a pouch or bag with a portion of said material contracted about its opening, superimposing a non-endless elastic strip upon one face of the gathered margin, and securing the said elastic strip in superimposed relation to and substantially entirely along the gathered margin by overstitching to enclose the free edge of the margin and one edge of the elastic strip; the said overstitching penetrating the elastic strip adjacent to the edge thereof most remote from the free edge of the margin.

12. The method of making a filter of the character described from a disc pervious material, which comprises gathering the marginal portion of said material while superimposing a strip of elastic material over the said gathered margin and sewing the said elastic strip to and substantially along the said gathered margin by means of a row of stitches passing through said strip and material and overlying the free edge of said margin and one edge of said elastic strip.

LOUIS H. TALMADGE.