Feb. 9, 1926. 1,572,342

C. E. WILTSEY

METHOD FOR MAKING PIPE FILTERS

Filed March 22, 1921

Fig. 1.

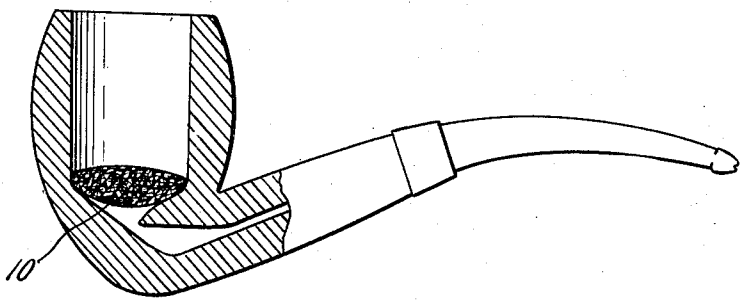


Fig. 2.

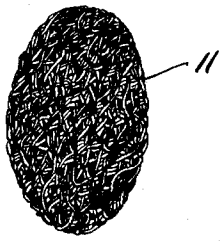


Fig. 3.

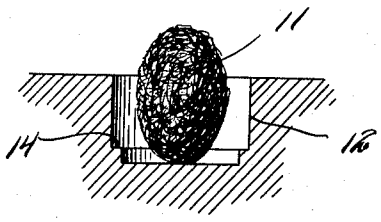


Fig. 4.

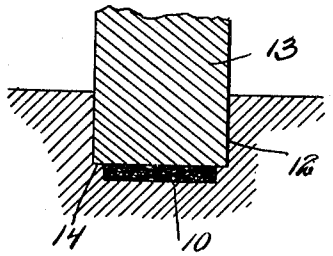




Fig. 5.

Witnesses:
H. L. Fox.
M. C. Gannon.

Inventor
C. E. Wiltsey.
By T. Lloyd Meredith
his Attorney

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UNITED STATES PATENT OFFICE.

CHARLES E. WILTSEY, OF EAST ORANGE, NEW JERSEY.

METHOD FOR MAKING PIPE FILTERS.

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To all whom it may concern:

Be it known that I, CHARLES E. WILTSEY, a citizen of the United States, residing at East Orange, in the county of Essex and State of New Jersey, have invented new and useful Improvements in Methods for Making Pipe Filters, of which the following is a specification.

This invention relates to smokers' articles and has especial relation to filters or screens adapted to be removably positioned within the bowl of a pipe for filtering the smoke and to prevent small particles of tobacco from entering and obstructing the pipe stem and also preventing the formation of a "heel."

Another object of the invention is the provision of an article of the above type, which is preferably formed of steel wool or like fireproof material, enabling it to be placed upon the market at a nominal cost and for this purpose, the invention also aims to provide a method of manufacture, which will cause the strands or fibers to be so interwoven as to dispense with the necessity of a binding, the result being a disk-like structure in which the edges and top and bottom surfaces are substantially smooth.

With the above and other objects in view, the invention further includes the following novel features and details of construction, to be hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claim.

In the drawings:—

Figure 1 is a sectional view of a pipe showing the invention positioned within the bottom of the bowl.

Figure 2 is an enlarged sectional view showing the manner in which the strands or fibers of the material are interwoven, preparatory to the formation of the disk.

Figure 3 is a view showing the position of the oval or cocoon structure within the mould before pressure is applied.

Figure 4 is a view after the application of pressure.

Figure 5 is a detail perspective view of the completed article.

Referring in detail to the drawings, wherein like characters of reference denote corresponding parts, the improved filter or screen which is formed of steel fiber and is of disk-like shape, is indicated at 10. The filter or screen is so made that it will hold its shape without the aid of a marginal binding, the process of formation being such that the strands or fibers of the wool are not cut or broken, but are interwoven with one another, so that no loose particles will result, which would likely prove dangerous to the smoker. By making the filter or screen without a marginal binder, the said filter or screen will fit into the bottom of the bowls of pipes of various sizes and shapes and will occupy a position in the bottom of the bowl to prevent the passage of small particles of tobacco into the stem.

In order to provide an article which possesses all of the characteristics, as above set forth, the material is first treated with a solution of strong lye to cut and remove the grease. It is then formed into an oval or cocoon shape as shown at 11 in Figures 2 and 3, the material being rolled to attain this shape and during the process of rolling, the ends of the strands or fibers work inwardly so that the said strands or fibers are interwoven with one another. After being thus formed, the material is placed within a die or socket 12 in the position shown in Figure 3, after which pressure is applied by means of a punch or mandril 13, the lower end of the latter engaging a shoulder 14 provided in the die 12 so as to limit its inward movement. The material is then compressed into the form of a disk as shown at 10 in Figures 4 and 5, the compressing action further tending to interlock the strands or fibers of the material, so that the finished article will provide a more or less compact and porous mass having a substantially smooth surface with the material evenly distributed throughout. By forming the material into the shape shown in Figures 2 and 3 and placing it in the die in the manner shown, it is expanded or forced outward into contact with the walls of the die and no cutting action occurs. This is important, inasmuch as no short ends or small particles of the material results, such as might prove dangerous, as previously stated.

Various modifications may be made in the process of manufacture of making the article and the right is herein reserved to make any or all changes which fall within the scope of the appended claim, the main purpose of the invention being to provide an article of this character in which the strands or fibers of the material are closely inter-

woven, so that after the article is compressed into shape, there will be no necessity for a binding of any character.

Having described the invention what is claimed is:—

A method of making a filter or screen for smokers' pipes consisting of rolling a quantity of fibrous fire proof material into oval formation, whereby the strands will be interwoven to provide a homogeneous mass, then placing the same within a mould and subjecting the material to end pressure to force the ends of the strands into the mass and provide a disk having a substantially smooth surface.

In testimony whereof I affix my signature.

CHARLES E. WILTSEY.