

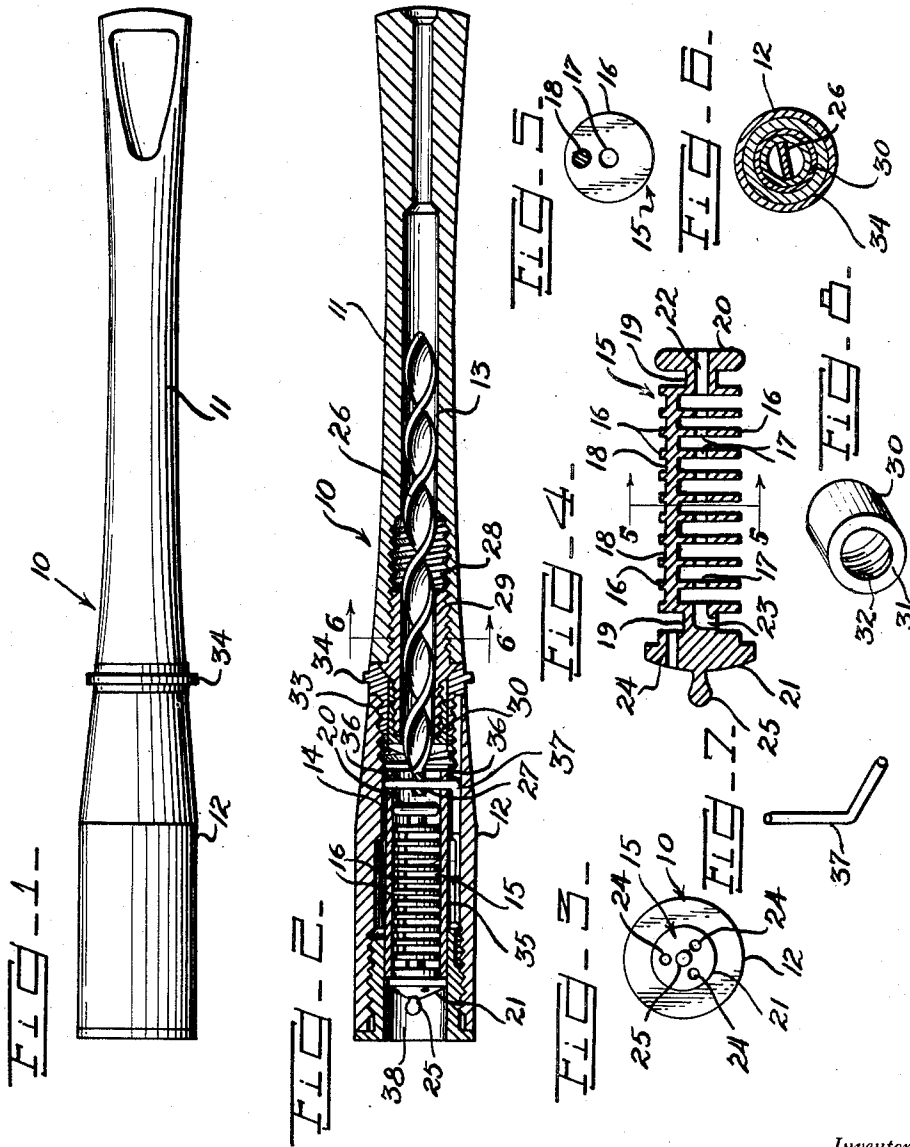
Dec. 26, 1950

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2,535,282

SMOKE FILTERING DEVICE

Filed May 24, 1946



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# UNITED STATES PATENT OFFICE

2,535,282

## SMOKE FILTERING DEVICE

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Application May 24, 1946, Serial No. 672,040

2 Claims. (Cl. 131—188)

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This invention relates to new and useful improvements and structural refinements in smoke filtering devices, and the principal object of the invention is to provide a device of the character herein described, such as may be conveniently and effectively employed as a cigar or cigarette holder, or alternatively, as the stem for pipes, for the purpose of filtering the smoke before it enters the mouth of the smoker.

A further object of the invention is to provide a smoke filtering device which may be readily disassembled for purposes of inspection, cleaning, or repair.

Another object of the invention is to provide a smoke filtering device in which a novel filtering element is employed for the purpose for which the device is intended.

An additional object of the invention is to provide a smoke filtering device which is simple in construction, and which will not easily become damaged.

With the above more important objects in view, and such other objects as may become apparent as this specification proceeds, the invention consists essentially of the arrangement and construction of parts as illustrated in the accompanying drawings, in which:

Figure 1 is a side elevation of the invention,  
Figure 2 is a longitudinal, cross-sectional view thereof,

Figure 3 is an end view of the same,  
Figure 4 is a longitudinal, cross-sectional view of the filtering element per se,

Figure 5 is a cross-sectional view, taken in the plane of the line 5—5 in Figure 4,

Figure 6 is a cross-sectional view, taken in the plane of the line 6—6 in Figure 2,

Figure 7 is a perspective view of a retaining pin used in the invention, and

Figure 8 is a perspective view of a retaining collar used in the same.

Like characters of reference are used to designate like parts in the specification and throughout the several views.

Referring now to the accompanying drawings in detail, the invention embodies in its construction, a stem designated generally by the reference character 10, and consisting of a mouth-piece 11 and an adaptor 12.

The former is provided with a longitudinally extending bore 13, while the latter is formed with a further bore 14, the two bores being longitudinally aligned and extending throughout the length of the stem 10. The essence of novelty of the invention resides in the provision of a fil-

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tering element designated generally by the reference character 15, the same being best illustrated in the accompanying Figure 4. This element consists of a plurality of spaced, axially aligned discs 16, each provided with a central aperture 17, and connected to the adjacent discs by the means 18.

It will be noted that the means 18 are longitudinally aligned and disposed eccentrically on the discs, and that the apertures 17 constitute a smoke passage throughout the several discs. The end discs of the filter element are equipped with the necks 19, each of these in turn, terminating in an enlarged cap 20, 21. The neck 19 and the cap 20 are provided with a central smoke passage 22 in alignment with the passages 17, while an angulated passage 23 is formed in the remaining neck, adjacent the cap 21. The latter is formed with an eccentrically disposed smoke passage 24 and is also provided with a ball shaped terminal 25. It will thus be seen that the caps and necks are provided with further smoke passages, said further smoke passages in said necks merging into and being in alignment with apertures of the adjacent discs, and the ball shaped terminal 25 is adapted to be inserted into the end of a cigar or cigarette held by said device.

The smoke baffle 26 consists of an axially twisted strip forming a spiral, screw-like shaft, configured substantially as shown in the accompanying drawings. One end of said shaft is formed with a transversely extending aperture 27, the purpose of which will be hereinafter more fully described.

The outer end of the bore 13 is internally threaded as at 28, to receive an externally threaded nipple 29. An internally threaded retaining sleeve 30 is positioned at the projecting end of the nipple 29, the sleeve 30 being formed with an inturned flange 31, defining a substantially circular aperture 32. The baffle 26 is positioned in the bore 13, with the outer end portion thereof projecting through this aperture, as will be clearly apparent from the accompanying drawings. The inturned flange 31 of sleeve 30 acts as a guide for baffle 26 and retains it in centered position.

One end of the bore 14 of the adaptor 12 is internally threaded as at 33, and a coupling nut 34 engages this internally threaded portion and separately connects the adaptor to the mouth-piece 11.

An open-ended, tubular sleeve 35 is removably positioned in the bore 14 of the adaptor 12, and the filter element 15 is removably receivable in

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the sleeve 35, as is best shown in the accompanying Figure 2. The inner end of the sleeve 35 is formed with a pair of transversely aligned apertures 36, and an L-shaped retaining pin 37 passes through the aperture 27 provided in the baffle 26, whereby the latter is removably secured in position. The filtering element 15, sleeve 35 and baffle 26 are removable together as an assembly after the element 38 is unscrewed.

The cigar or cigarette (not shown) is, of course, receivable in the end portion 38 of the adaptor bore 14, the terminal 25 of the element 15 assisting to retain such cigar or cigarette in position therein.

As the smoke is drawn into the mouthpiece 11, it will necessarily pass through the smoke passages in the filtering element 15 and wind its way, so to speak, around the baffle 26. The filtering of nicotine and other impurities will thus be effected and the advantages of the invention become clearly apparent.

While in the foregoing there has been shown and described the preferred embodiment of this invention it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention as claimed.

What I claim as my invention is:

1. A smoke filtering device comprising in combination, a mouthpiece, an adaptor, a coupling nut separably connecting said mouthpiece to said adaptor, said mouthpiece and said adaptor being formed with a continuous, longitudinally extending bore, a filtering element removably positioned in the bore of said adaptor, a baffle removably positioned in the bore of said mouthpiece, said baffle comprising an axially twisted strip forming a spiral, screw-like shaft, a sleeve enclosing the filtering element and inserted in the bore of the adaptor and having a transverse aperture in the inner end portion of the sleeve, and a pin extending through said aperture and through the adjacent end of said baffle, whereby the filtering element, sleeve and baffle are removable as an assembly from the bore for cleaning purposes, said element and said sleeve being frictionally

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held in said bore and comprising means to hold said baffle from shifting in said bore during normal use.

2. In a smoke filtering device, a filtering element comprising in combination, a plurality of spaced, axially aligned discs each provided with a central aperture, an eccentrically disposed longitudinal means securing said discs one to another, a cap at each end of said element, and a centrally disposed neck securing each of said caps to the adjacent of said discs, said apertures constituting a smoke passage, said caps and said necks being provided with further smoke passages, said further smoke passages in said necks merging into and being in alignment with the apertures of the adjacent discs, and one of said caps having a ball shaped terminal adapted to be inserted into the end of a cigar or cigarette held by said device.

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