Sept. 10, 1940. E. L. SNYDER 2,214,386

PIPE BOWL CLEANER

Filed Jan. 11, 1939

Fig. 1

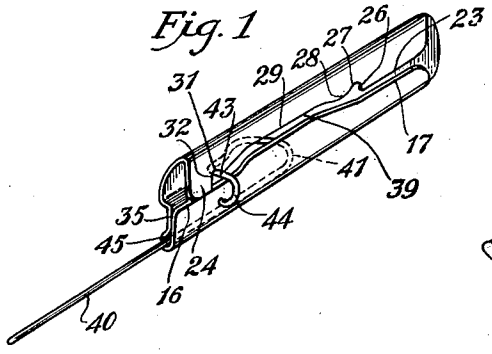
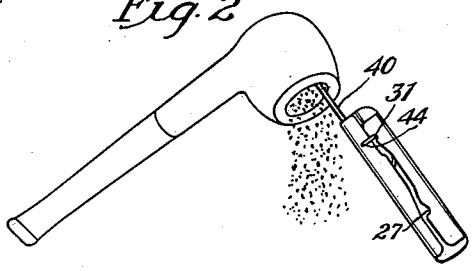



Fig. 2



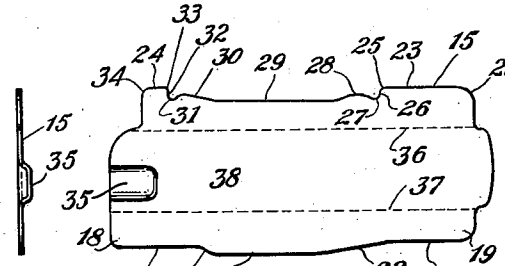




Fig. 4 16 21 20 Fig. 3 22 17

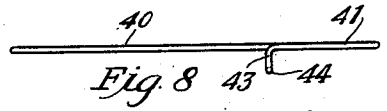



Fig. 8

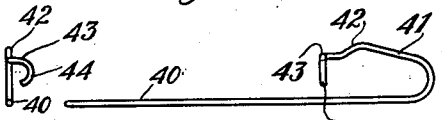



Fig. 9 Fig. 7

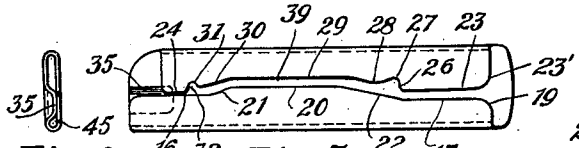



Fig. 6 Fig. 5

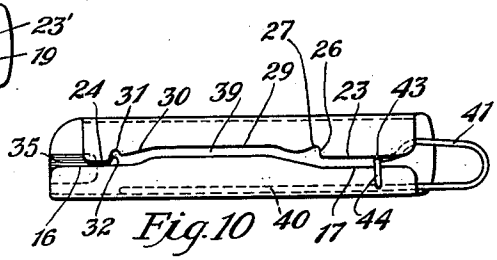



Fig. 10

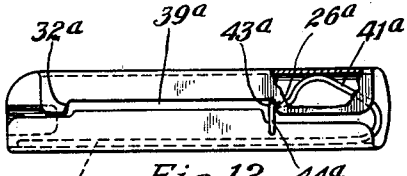



Fig. 12

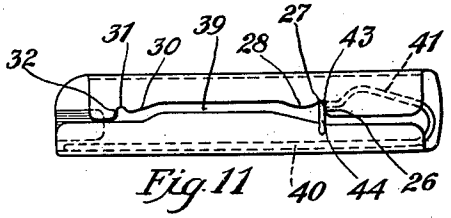



Fig. 11

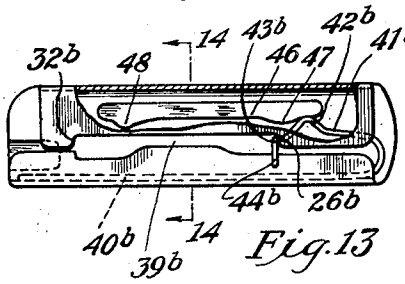



Fig. 13

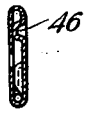



Fig. 14

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# UNITED STATES PATENT OFFICE

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## PIPE BOWL CLEANER

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Application January 11, 1939, Serial No. 250,390

6 Claims. (Cl. 131—246)

The invention relates to a device for cleaning the ashes and unburned tobacco from the bowl of a pipe. Due to the fact that the tobacco at the bottom of a pipe bowl becomes quite strong and soggy, it is customary for pipe smokers to leave this portion of the pipe full of tobacco unsmoked.

This leaves a somewhat firmly packed plug of unburned tobacco, and some ashes in the bottom of the pipe bowl which must be removed before the pipe is refilled for smoking.

Difficulty is often experienced in knocking this firmly packed plug or heel of tobacco from the bowl of the pipe, and many pipe smokers strike the pipe upon the heel of the shoe, a wall or other hard object to loosen this unburned tobacco and ashes, resulting in marring the upper edge of the pipe bowl and frequently causing the breaking of the pipe stem or mouth piece.

The object of the invention is to provide a simple and inexpensive device for removing ashes and tobacco which packs in the lower portion of the bowl of a pipe, thus making it unnecessary to strike the pipe on any hard object in order to loosen the tobacco packed therein.

A further object is to make a pipe bowl cleaner having only two parts, and which can be assembled without the use of screws, rivets or welding and without a press operation after the parts are assembled.

Another object is to form the holder or handle of the pipe bowl cleaner from a single piece of sheet metal formed so that a portion of the same will provide a track or cam surface for holding the cleaning wire or rod in position within the holder when extended for use and when withdrawn into the holder.

A further object is to provide a pipe bowl cleaner which will be flat and of such a length so as to easily fit within a vest or coat pocket, and to provide rounded corners on the holder or handle so as not to tear the pocket lining or injure the user's hand.

A further object is to form the cleaning wire from a single piece of spring wire which will have a spring action for locking the cleaning wire within the holder as well as for holding it in open and closed position in the holder, and to provide a looped end upon the wire which will extend beyond the side wall of the holder and serve as a knob for operating the cleaning wire to open and closed positions.

The above objects together with others which will be apparent from the drawing and following description, or which may be later referred to, may be attained by constructing the improved pipe bowl cleaner in the manner illustrated in the accompanying drawing in which

Figure 1 is a perspective view of the improved pipe bowl cleaner showing the cleaning wire locked in the extended position ready for use;

Fig. 2, a perspective view of a pipe showing the manner in which the improved bowl cleaner is used for removing packed tobacco and ashes from the bowl;

Fig. 3, a plan view of the sheet metal blank from which the holder is formed, dotted lines indicating the center lines upon which the metal is bent when formed to shape;

Fig. 4, an end view of the blank shown in Fig. 3, showing the raised portion of the metal which forms the guide for the forward end of the wire holder when formed to shape;

Fig. 5, an elevation of the holder formed to the final shape and ready for assembly or for a plating finish if desired;

Fig. 6, an end elevation of the holder shown in Fig. 5;

Fig. 7, an elevation of the cleaning wire with the spring loop and knob formed thereon;

Fig. 8, a top plan view of the cleaning wire shown in Fig. 7;

Fig. 9, an end elevation of the cleaning wire;

Fig. 10, an elevation of the holder with the cleaning wire partly assembled therein;

Fig. 11, an elevation of the completed tool with the cleaning wire locked in the closed or retracted position;

Fig. 12, a sectional elevation of a slightly modified form of the pipe bowl cleaner showing the cleaning wire in closed or retracted position;

Fig. 13, a sectional elevation of another modification of the invention with the cleaning wire in closed or retracted position; and

Fig. 14, a transverse section taken as on the line 14—14, Fig. 13.

Similar numerals refer to similar parts throughout the drawing.

Referring first to Figs. 3 and 4, the sheet metal blank from which the holder or handle member of the cleaner is formed is indicated generally at 15. This blank may be of any suitable kind of sheet metal, and may, if desired, be plated or otherwise finished after it is formed to final shape.

The lower edge of this blank may include the spaced horizontal portions 16 and 17 at opposite ends thereof, terminating at their outer ends in the rounded corners 18 and 19, respectively. The center straight portion 20 of the lower edge

may be also substantially parallel and is located below the portions 16 and 17 being connected thereto at opposite ends as by the rounded portion 21 and the inclined straight portion 22, respectively.

The upper edge of this blank has the straight horizontal portion 23 at one end and the second, comparatively, short horizontal portion 24 at the other end.

The straight portion 23 terminates at its outer end in the rounded corner 23', and its inner end has a smaller rounded corner 25 merging into a substantially vertical edge 26 which in turn merges into a substantially half-round notch 27.

A slightly rounded edge 28 rises from the half-round notch 27 and beyond the same is the horizontal straight edge 29 located inwardly from the straight edges 23 and 24 and terminating at its outer end in the inclined straight edge 30 beyond which is the substantially half-round notch 31 and short vertical edge 32, the upper end of which is rounded as at 33 and merges into the short straight edge 24 the outer end of which is provided with the rounded corner 34.

The end of the blank adjacent to the straight upper and lower edges 24 and 16 may have a raised portion 35 formed therein for a purpose to be later described.

The blank as shown in Figs. 3 and 4 is adapted to be folded along the two parallel dotted lines 36 and 37 so that the upper and lower edge portions of the blank are folded over upon the central portion 38 thereof to form the finished holder as shown in Figs. 5 and 6.

The short horizontal upper edge portion 24 is brought into substantial contact with the horizontal lower edge portion 16 while the remainder of the upper and lower edge portions are spaced slightly apart as best shown in Fig. 5, providing a cam groove or track 39 for a purpose to be later explained.

The cleaning wire as shown in Figs. 7, 8 and 9 is formed from a single length of wire of suitable diameter and preferably having sufficient spring quality to produce the desired result as hereinafter set forth.

The major portion of this wire is straight as indicated at 40, one end thereof being bent upward into a slightly divergent U-shaped loop 41 terminating in the slightly downturned curved portion 42 which is then bent outward at a right angle as at 43 terminating in a curved knob 44.

When the holder is formed as shown in Figs. 5 and 6, and the cleaning wire, as shown in Figs. 7, 8 and 9, the two parts are ready to be assembled to form the finished article without requiring any press operation or other machine operation.

The cleaning wire and holder may be assembled by hand, it only being necessary to insert the straight end 40 of the cleaning wire into the rear or right hand end of the holder and compress the loop 41 sufficiently to permit the outturned angular end 43 thereof to enter the right hand end of the slot 39 between the straight edges 23 and 17 as indicated in Fig. 10.

By then pushing the cleaning wire toward the left the outturned angular portion 43 thereof will spring up into the notch 27 as shown in Fig. 11, the vertical edge 26 contacting the angular portion 43 of the cleaning wire and preventing the same from being pulled backward or toward the right.

To extend the cleaning wire 40 to the position shown in Figs. 1 and 2 for the purpose of using the same to loosen the tobacco and ashes in the pipe bowl, the knob 44 is pushed forward or to the left by means of the thumb causing the outturned angular portion 43 of the wire to ride down under the curved edge 28 and forward or to the left through the cam groove 39 until it springs up into the notch 31 and contacts the vertical edge 32, thus locking the cleaning wire in the extended position.

It will be seen that the raised portion 35 of the rear or central portion of the holder substantially contacts with the upturned lower edge portion thereof, as best shown in Figs. 1 and 6, providing a tubular guide 45 for the forward end of the cleaning wire.

This reduced guide portion of the holder also acts as a scraper for the cleaning wire when the same is withdrawn into the holder, removing any particles of ashes or tobacco which may have adhered thereto.

In Fig. 12 is shown a slightly modified form of the invention in which the cam groove 39*a* of the holder is of slightly different shape than that above described and in which the cleaning wire 40*a* has a loop 41*a* of sufficient width to frictionally engage the upper folded edge of the holder.

This cleaning wire is otherwise the same as above described, the turned out angular portion 43*a* extending through the slot 39*a* and being provided with a knob 44*a*.

In this form of the invention the cleaning wire is held in either extended or retracted position only by friction of the loop 41*a* against the upper folded edge of the holder, the straight vertical walls 26*a* and 32*a* acting as stops to limit the movement of the cleaning wire in either direction.

In the modification shown in Figs. 13 and 14 the spring loop 41*b* of the cleaning wire 40*b* is bent rather sharply as at 42*b* to frictionally engage the underside of a pressed in track or cam surface 46 formed in the central portion of the holder and provided with depending humps 47 and 48 near opposite ends thereof over which the portion 42*b* of the spring loop rides when moving to retracted or extended position.

The cam slot 39*b* in the holder is provided with the vertical edges 26*b* and 32*b* for contact with the angular portion 43*b* of the wire to limit the movement of the cleaning wire in each direction when the same is operated in the manner above described by means of the knob 44*b*.

I claim:

1. A pipe bowl cleaner including a hollow, elongated holder having a longitudinal slot therein, a cam track in the holder, a cleaning wire slidably located in said holder and having a spring loop at one end adapted to co-operate with said cam track, and an angular knob upon said loop slidably located through said slot.

2. A pipe bowl cleaner including a hollow, elongated holder having a stepped longitudinal slot therein having a low side open at one end and a high side closed at the other end, a cleaning wire slidably located in said holder and having a spring loop at one end, and an angular knob upon said loop slidably located through the high side of stepped slot.

3. A pipe bowl cleaner including a hollow, elongated holder having a longitudinal slot therein, a cam track in said slot, a cleaning wire slidably located in said holder and having a spring loop at one end, and an angular knob upon said loop slidably located through said slot.

4. A pipe bowl cleaner including a hollow, elongated holder having a longitudinal slot therein, each end of the slot being angularly disposed in one direction and terminating in a notch disposed in the opposite direction and having a straight outer edge, a cleaning wire slidably located in said holder and having a spring loop at one end and an angular knob upon said loop slidably located through said slot.

5. A pipe bowl cleaner including a hollow holder formed from a single sheet of metal having two opposite edge portions folded toward each other and so shaped that they form a cam slot, a cleaning wire slidably located in said holder and having a spring loop at one end and an angular knob upon said loop slidably located through said slot.

6. A pipe bowl cleaner including a hollow elongated handle formed from a single sheet of material having its side edges shaped to provide a longitudinal slot closed at one end and having an offset portion near its other end and open through said last named end of the holder, a cleaning wire slidably located in said holder and having a spring loop at one end terminating in an angular knob slidably located through said slot, the closed end of the slot and the offset portion thereof limiting the movement of said angular knob in each direction.

EUGENE L. SNYDER.