Aug. 7, 1951 J. SIENS 2,563,695

FILTER SMOKER FOR INVALIDS, ETC

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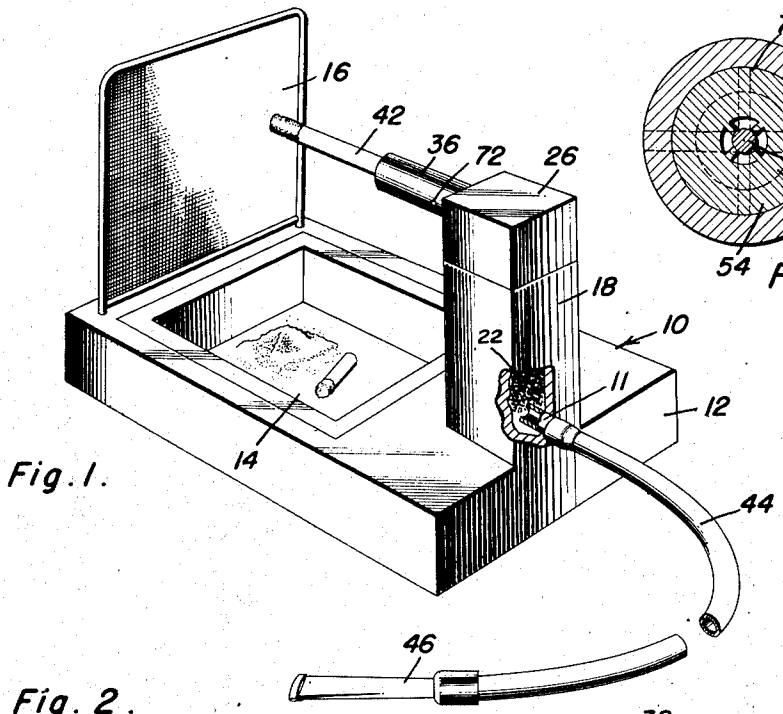


Fig. 1.

Fig. 2.

Fig. 3.

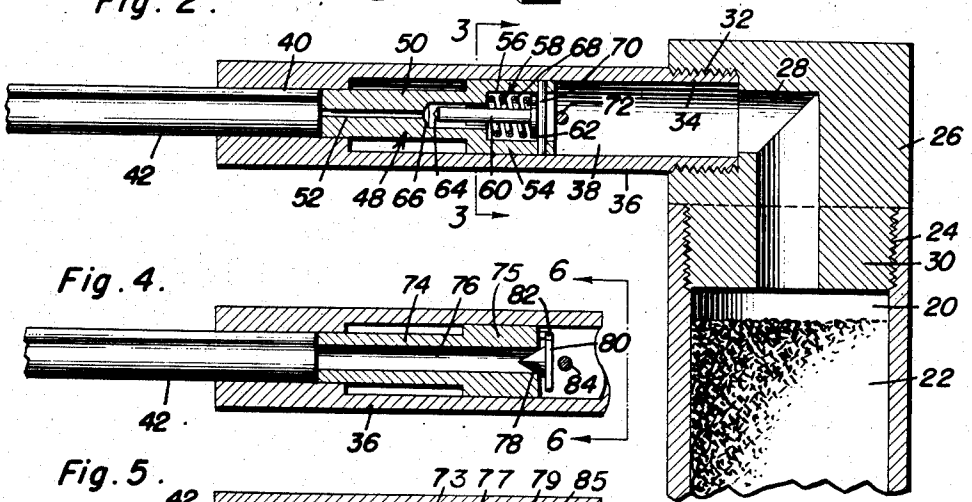
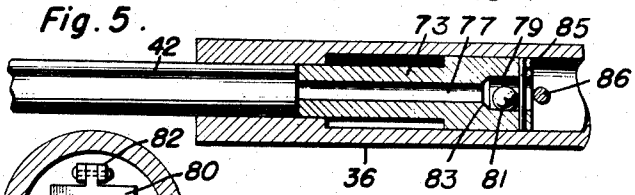


Fig. 4.

Fig. 5.



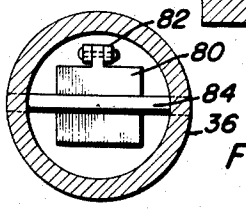


Fig. 6.

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FILTER SMOKER FOR INVALIDS, ETC.

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4 Claims. (Cl. 131—175)

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This invention relates to novel and utilitarian improvements in smoking sets or devices and has for its primary object to provide a smoking accessory, which will enable an individual to smoke a cigarette or cigar without holding the cigarette or cigar.

Another important object of this invention is to provide a smoking set which will serve as a convenient and dependable means for smoking for invalids or persons engaged in various occupations where both hands are required for effective performance, at the same time providing a cooler and more enjoyable smoke, since the smoke of the burning tobacco is passed through a filter in its journey to the smoker's mouth.

Paralleling the foregoing objects, it is the general aim and purpose of the instant invention to provide a device which will furnish a simple and convenient means whereby invalids or reclining and otherwise occupied individuals can enjoy smoking, with less hazards, less attention and service and in a more healthful manner, with a large amount of tar, nicotine and other harmful gases filtered out, as the smoke is drawn by the smoker.

These and ancillary objects and structural features of merit are attained by this invention, preferred embodiments of which are set forth in the following description and illustrated in the accompanying drawings, wherein:

Figure 1 is a perspective view of a smoking device, constructed in accordance with the principles of this invention;

Figure 2 is a detail view in vertical longitudinal section through the mouthpiece and adjacent portion of the device carried by the ash receiver;

Figure 3 is a transverse sectional view taken on the line 3—3, Figure 2;

Figure 4 is a vertical longitudinal section through the mouthpiece illustrating a modified form of valve structure;

Figure 5 is a vertical longitudinal view through the mouthpiece, illustrating a further modified valve structure, and

Figure 6 is a transverse sectional view taken on the line 6—6, Figure 4.

This invention has for its primary purpose to provide a device that may be dependably employed by individuals, while disposed in a reclining position, by individuals who are engaged in occupations where both hands are required for effective performance, by invalids, such as spastics, who are unable to use their hands. Thus, this invention includes an ash receiver, having

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a block vertically disposed thereon, the block being provided with a passage. An elongated flexible tube is associated with the block passage at one end and is provided with a mouthpiece at the other end, the latter being adapted for insertion in the mouth of the smoker. A cigarette or cigar holder is detachably associated with the opposite end of a block passage and is adapted to receive and retain an end of a cigarette or cigar. Thus, a smoker would position a cigarette or cigar in the holder and light the same by drawing through the tube. In the case of an invalid, the cigarette would be placed in the holder by an attendant. The smoker may then draw through the tube and enjoy the smoke, without fear of fire or any other hazard, the smoke passing through the passageway in the block and through a filter chamber, where it would be filtered by a suitable filter agent to reduce the nicotine and undesirable gas content thereof. To remove the butt from the holder, the smoker would merely blow through the tube and by means of a piston assembly disposed in the tube, the butt would be ejected from the holder. A screen or the like obstruction would be vertically disposed on the ash receiver in opposed alignment with the cigarette holder, so that the cigarette ejected from the holder would strike the screen and fall into the ash receiver.

Structurally speaking, this invention, generally designated by the character reference 10 includes a base 12 having a rectangular recess 14 formed therein. The recess 14 constitutes an ash receiver, which may be formed from the base block or may include an ash tray detachably inserted and seated in an opening formed in the base. A deflector screen 16 is vertically disposed at one end of the base and positioned at one end of the ash receiver. A block 18 extends upwardly from the opposing end of the base and is formed with a chamber 20 within which is disposed suitable filtering material 22.

The upper end of the block is internally threaded as at 24 to receive a detachable top section 26, having an L-shaped passage 28 formed therein. The top section 26 is formed with a coaxially reduced externally-threaded end 30 detachably inserted in the internally threaded end 24 of the block. The lateral extension of the passage 28 is enlarged and internally threaded at its inner extremity, as at 32, to detachably receive the threaded end 34 of a tubular holder 36. The holder 36 is formed with a longitudinally disposed bore 38 communicating with the passage 28 at one end and terminating at the

other end in a diametrically reduced passage 40, adapted to frictionally retain the end of a cigarette 42.

An elongated flexible tube 44 is secured at one end to the nipple 11 received within an opening in the block 18, as seen in Figure 1, the extending free end of the tube having a mouthpiece 46 positioned thereon. The tube 44 will be in open communication with the chamber 20, through the nipple 11.

Thus, it can be seen that a smoker may conveniently smoke a cigarette or the like form of tobacco, by inserting the mouthpiece 46 in his mouth and drawing the smoke from the cigarette holder 36 through the passage 28, the filtering chamber 20 and the tube 44.

Means is provided for ejecting a cigarette butt from the outer end of the holder responsive to the blowing through the tube by the smoker. Thus, a smoker upon puffing or blowing through the tube would automatically create a pressure in the holder and slide or move forwardly an ejector or expeller, which responsive to the gas pressure created by the smoker would move against the inserted end of the cigarette and force the same outwardly. The cigarette would be ejected from the holder and would drop into the recess or tray below the holder. It can be appreciated that the provision of the upright screen opposite the holder would deflect the cigarette butts into the tray and would prevent the cigarette butts from being expelled beyond the tray or recess.

The ejector means, indicated by numeral 48, shown in Figure 2, includes a piston or plunger-like member 50 having a longitudinally disposed bore 52 therein. An enlarged end 54 is formed at one extremity and slidably engages the inner surface of the holder. A chamber 56 is formed in the enlarged end 54 and a valve structure or assembly 58 is housed therein. The valve assembly includes a valve stem 60 projecting from a disk-like head 62 and terminating in a conical end 64 adapted to seat in a valve seat 66 formed on the juxtaposed end of the passage 52. A weak spring 68 is concentrically disposed about the valve stem between the head 62 and the shoulder formed at the outer end of the chamber. A transversely disposed pin 70 is positioned for engagement with the head 62 to limit the movement of the valve responsive to the urging of the spring. A similar stop pin 72 is transversely disposed in the holder to limit inward movement of the piston or plunger-like ejector. A smoker by blowing into the tube would urge the stem 60 and disk 62 to compress the weak spring 68, thereby to seat the valve stem in the seat 66. The pressure exerted against the outer face of the disk and the working face of the piston would move the same and push or eject the cigarette from the holder. The relationship of the size of the annular space between the disk 62 and the enlarged end 54, the weakness of the spring, the location of the pin 72 and the area of the disk are such as to enable an average individual to draw smoke through the various ducts with comfort, and upon blowing, to force the valve onto the seat 66 without undue exertion.

A modified form of ejector is illustrated in Figures 4 and 6, wherein the same includes a piston or ejector 74 having a longitudinally extending passage 76 formed therein. A conical shaped valve 78 is adapted for disposition in the inner end of the bore or passage 76, the same being carried by a plate 80 hinged as at 82 to the enlarged end of the piston 75. A transverse stop pin 84 is provided for limiting the inward movement of the valve and piston.

As seen in Figure 5, the piston 73 is formed with a longitudinally extending passage 77, the latter terminating at inner end in an enlarged chamber 79 within which is freely disposed a ball valve 81. The valve 81 is adapted to seat in the conical valve seat 83 formed at the juncture between the chamber and the passage, responsive to a certain gas pressure built up by the gas directed through the tube. A transverse stop pin 85 is provided for the ball valve and a pin 86 is transversely disposed in the holder for limiting the inward movement of the piston.

It can be appreciated that other modified forms of piston and valve assemblies may be provided but each of the embodiments would perform the same function and have the same general purpose, namely, to allow smoke to be drawn from the burning cigarette through the tube and the mouthpiece into the smoker's mouth and to allow the cigarette to be ejected from the holder responsive to a blowing force exerted by the smoker through the tube. Thus, the plunger-like ejectors or pistons can be provided with any type of standard or conventional valve assembly, which would admit of the passage of smoke therethrough responsive to the puffing of a smoker and which would close in order to enable the piston to function as a transmitter of pressure, the piston transmitting a pressure exerted by the air conveyed by the tube and imparting a pressure on the inserted end of the cigarette to eject the same from the holder.

It can be seen that a convenient and safe device has been provided for enabling a person to smoke a cigarette or the like form of tobacco, without at any time employing his hands. After a cigarette is once inserted in the holder and the same is lit, the subsequent smoking operation and ejecting operation may be carried out by merely drawing or blowing through the mouthpiece.

Having described the invention, what is claimed as new is:

1. A smoking set comprising an ash receiver, a block extending upwardly from said receiver and having a passage therein, a flexible tube secured at one end of said passage, a mouthpiece carried by the extending free end of the tube, a cigarette holder detachably associated with the other end of the block passage and valve means disposed in said holder for selectively enabling smoke to be drawn through the tube and for ejecting a cigarette from the holder responsive to blowing through the tube.

2. A smoking set comprising an ash receiver, a block extending upwardly from said receiver and having a passage therein, a screen extending upright from said receiver and disposed opposite from the block, a flexible tube associated with said block passage and having a mouthpiece attached to the free end thereof, a detachable cigarette holder secured to the block passage, said screen being aligned with the longitudinal axis of the holder whereby a cigarette ejected from the holder will strike the screen and rebound back into the ash receiver, and valve means in said holder for selectively enabling smoke to be drawn through the tube, and for ejecting a cigarette from the holder responsive to a pressure created by blowing through the tube.

3. A smoking set comprising an ash receiver,

a block extending upwardly from one end of the receiver and having a passage therein, a screen vertically disposed on said receiver at the opposing end thereof, a flexible tube associated with said block passage, a cigarette holder removably connected to said block for communication with the block passage, a cigarette ejector disposed in said holder and having a longitudinal bore, said screen being aligned with the longitudinal axis of the holder whereby a cigarette ejected from the holder will strike the screen and rebound back into the ash receiver, and valvular means mounted in said bore for selectively closing the same to move the ejector to expel a cigarette.

4. A smoking set comprising a base, an ash receiver formed at one end of said base, a block extending upwardly from the other end of the base, a vertical screen disposed at one end of the ash receiver, a flexible tube having a smoke duct therein connected at one end to said block, a tubular cigarette holder detachably secured at one end to said block and projecting outwardly therefrom above the ash receiver, said screen being aligned with the longitudinal axis of the

holder whereby a cigarette ejected from the holder will strike the screen and rebound back into the ash receiver, a plunger slidably disposed in said holder and formed with a longitudinal bore in communication with said smoke duct, and a check valve assembly in said bore for enabling smoke to be drawn through the holder and plunger, and for closing off the bore in the plunger responsive to a pressure created by blowing through the tube and for moving the plunger to expel a cigarette.

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