

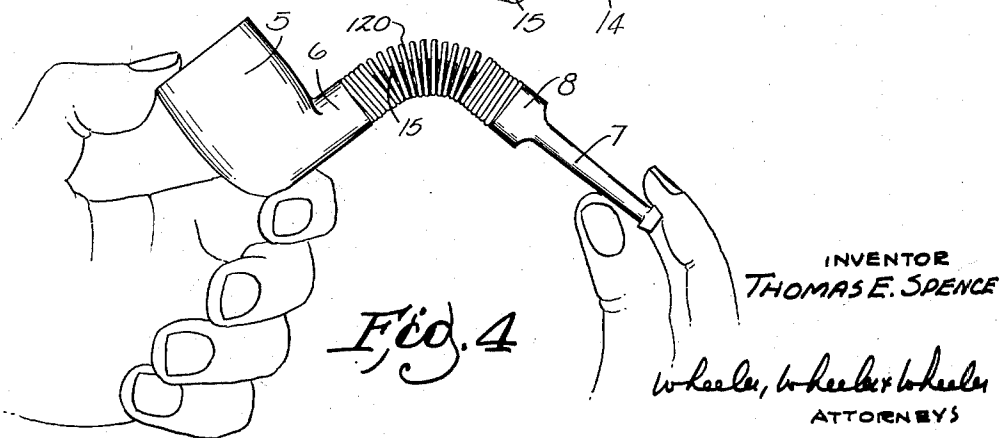
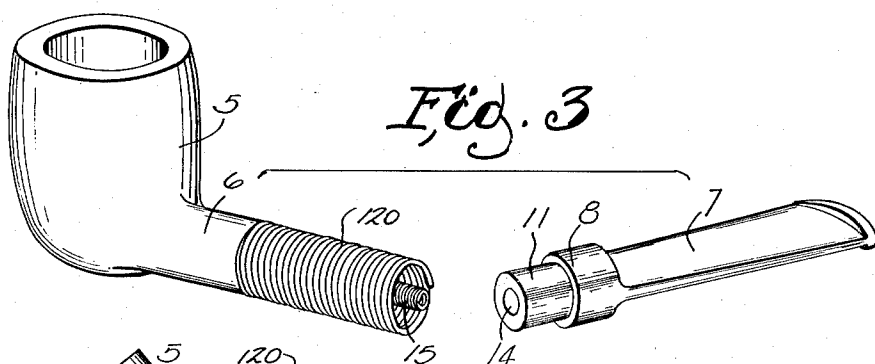
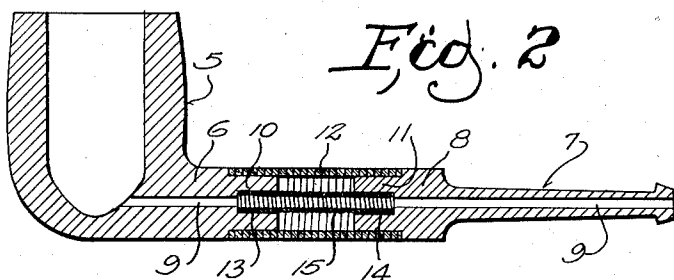
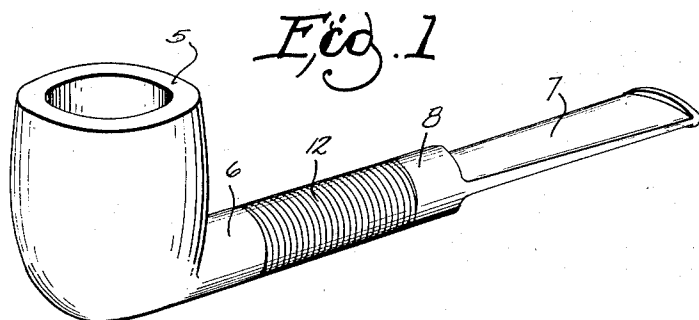
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2,583,900

TOBACCO PIPE

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TOBACCO PIPE

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8 Claims. (Cl. 131-225)

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This invention relates to improvements in tobacco pipes. The present invention is an improvement over the pipe construction disclosed in my copending application 515,662, filed December 27, 1943, and abandoned subsequent to the filing of this application.

It is a primary object of the invention to provide a flexible and heat dissipating section in the stem of the tobacco pipe joining the bit to the bowl, the coils of the springs used having sufficient strength and bias to support the bowl and to maintain normally mutual contact between coils and to provide a substantially hermetically tight passage through which normal draft proceeds without material air leakage. Yet when cleaning is desired, the helical spring section of the stem may be flexed to open up its contiguous coils, not only permitting all liquids to drain therefrom, but permitting a flow of cleansing water transversely through this section of the stem, if desired.

The particular object of the present invention is to overcome a difficulty encountered in the use of the device disclosed in my former application. Despite the fact that the helical coils of the spring used provide a substantially hermetically tight seat upon each other to exclude material ingress of air, there is nevertheless a certain amount of liquid leakage which occurs by capillarity from the inside to the outside of the coil. This leakage is not sufficient to permit the liquids to form drops on the outside of the coil, but is sufficient so that the hand or clothing of the user may become soiled. The present invention eliminates this difficulty by the provision of two helical springs which are spaced one within the other, both contributing to the normal rigidity of the stem and the one acting as a shield which remains dry and clean in spaced relation about the inner spring through which the draft occurs and in which condensation collects. The dual spring arrangement has the same advantages as the single spring so far as cleaning is concerned and likewise protects the pipe from damage in the event of a blow or fall and has substantially the same degree of heat radiation. Yet substantially all liquids are confined to the inner spring, and any liquids which penetrate the inner spring by capillarity are nevertheless held in contact therewith and do not come in contact with the outer spring which comprises the stem proper.

In the drawings:

Fig. 1 is a view in perspective of a tobacco pipe embodying my invention.

Fig. 2 is a view of the pipe in longitudinal section.

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Fig. 3 is a view in perspective showing the component parts of a slightly modified embodiment of the pipe as they appear when separated.

Fig. 4 is a view in perspective showing the pipe of Fig. 3 as it appears with the stem flexed by manual pressure.

The pipe bowl 5 may have a short length of stem 6 connected to it in a conventional manner. The bit 7 comprises an outer stem portion 8. Stem portions 6 and 8, as well as bit 7, provide smoke passage 9.

The stem portions 6 and 8 have their terminal ends somewhat reduced in diameter at 10 and 11, respectively, to fit within the tightly coiled helical spring 12, the bias of which is preferably sufficient to hold its respective coils in tight bearing engagement. However, tightness of the coils is not essential in spring 12.

The stem-ends 10 and 11 are internally counterbored at 13 and 14, respectively, to receive an inner helical spring 15, the interior diameter of which preferably corresponds to the diameter of the smoke passage 9 which continues there-through. The coils of this spring are preferably very tightly engaged under the bias of the resilient material used, this spring preferably being depended upon almost entirely to prevent leakage of outside air into the smoke passage through the stem.

The springs may be made of wire which is either circular in cross section or rectangular in cross section. Other forms of wire may also be used but these two forms are most easily available and best suited for the purpose. It is preferred that at least the outer spring 12 be made of square cross section wire so that its coils will present a smooth cylindrical surface both interiorly and exteriorly and the bearing surfaces between coils and between the spring and the bit and the stem 6 will be increased in area. However, for many less expensive pipes the springs made of round wire, as shown at 120 in Figs. 3 and 4, will be satisfactory.

The respective springs preferably telescope without undue resistance into and out of engagement with the respective stem sections with which they are normally connected. The frictional engagement of the parts should, however, be adequate to prevent any accidental separation and hence it is preferred to make the springs fit sufficiently tightly so that they will normally be engaged or disengaged by relative rotation between the stem sections and springs. It will be obvious that if both springs have the same direction of helical pitch, the rotation of the stem

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section 8 (for example) in a direction to loosen the coils of one of the springs will tend to tighten the coils of the other due to the fact that one of the springs is engaged internally and the other externally. Accordingly, where the springs fit sufficiently tightly so that they are normally engaged by relative rotation of the parts, it is preferred that one of the springs have a lefthand twist and the other a righthand twist, as shown in Fig. 2. While this is not essential, it is a preferred arrangement.

It is found that heat radiated from the inner coil 15 is re-radiated by the outer coil 12 to give substantially as cool a smoke as if a single coil were used. Cleaning is also done with the same facility. As indicated in Fig. 4, manual pressure applied to the bowl and bit will readily flex the spring portions of the stem so that water may be flushed transversely through the coils of the concentric springs for the thorough cleaning thereof.

Yet it will be obvious that any moisture penetrating spring 15 by capillarity will be prevented in ordinary use from soiling the user's hands or clothing because of the spacing between springs 15 and 12. The added stiffness of the spring stem which results from the conjoint action of the two springs is also a desirable factor in supporting even a heavy bowl without such sagging which might occur to admit air to the smoke passage through the coils of a single spring, if used instead.

While the springs are sufficiently strong to support the bowl without sagging, they will nevertheless perform a very important function in protecting the bowl and stem of the pipe from breakage if the pipe is dropped or bent. Many pipes are destroyed by breakage and it is found in actual experimentation that practically all breakage is avoided where springs are incorporated in the stem as herein disclosed.

I claim:

1. A tobacco pipe comprising a bowl section and a bit section and means resiliently flexibly connecting said sections, said means comprising inner and outer springs, said sections having smoke conduit means between which the inner spring provides communication and external surfaces between which the outer spring extends, said springs comprising convolutions normally mutually in contact but separable by the bending of said springs for the cleaning of the interior of the inner spring, said springs being adapted resiliently to resume their original position with their convolutions in mutual contact when released from bending position.

2. A smoking pipe comprising the combination with a bowl and bit, of stem sections connected respectively with the bowl and bit and provided with smoke conduit means leading from the bowl and opening through the bit, and a resiliently flexible connection between the stem sections and comprising inner and outer springs, said inner spring having adjacent convolutions biased into pressure engagement with each other whereby to provide a substantially closed connection between said sections to afford communication between the smoke conduit means of the respective sections, the convolutions of both springs being separable when the springs are bent and adapted to resume their original positions when released from bending pressure.

3. The device of claim 2 in which the outer spring also has its adjacent convolutions in engagement with each other.

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4. The device of claim 2 in which the respective sections have counterbores in which the ends of the inner spring are engaged.

5. The device of claim 2 in which the respective sections have external portions of reduced diameter over which the outer spring is engaged, the outer spring being externally substantially flush with said sections beyond the reduced portions thereof.

6. The device of claim 2 in which the terminal portions of the respective sections are externally reduced in diameter sufficiently to accommodate the outer spring substantially flush with the external remainder of said sections and said terminal portions are provided internally with counterbores registering with said conduit means and in which the ends of the inner spring are positioned.

7. The device of claim 2 in which the terminal portions of the respective sections are externally reduced in diameter sufficiently to accommodate the outer spring substantially flush with the external remainder of said sections and said terminal portions are provided internally with counterbores registering with said conduit means and in which the ends of the inner spring are positioned, the outer spring having its successive convolutions biased into mutual engagement sufficiently tightly to preclude undesired smoke dilution.

8. The device of claim 2 in which the terminal portions of the respective sections are externally reduced in diameter sufficiently to accommodate the outer spring substantially flush with the external remainder of said sections and said terminal portions are provided internally with counterbores registering with said conduit means and in which the ends of the inner spring are positioned, the outer spring having its successive convolutions biased into mutual engagement sufficiently tightly to preclude undesired smoke dilution, said convolutions of both the inner and outer springs being opposite as to pitch to facilitate engagement of the springs with the respective stem sections and disengagement by relative rotation.

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