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PLUG APPLIANCE FOR TOBACCO PIPES

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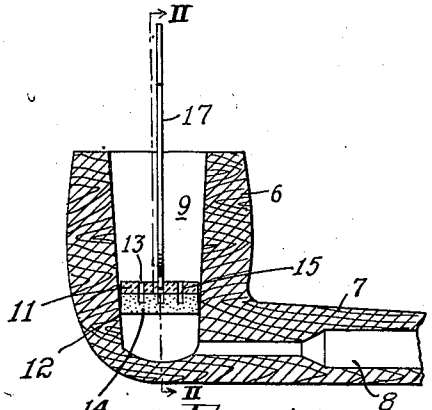

Fig. 1.

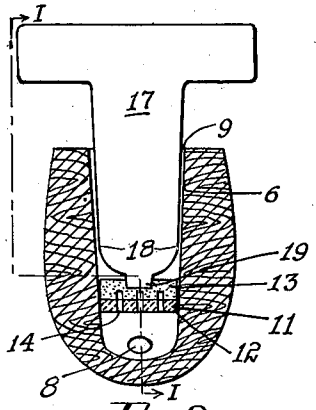

Fig. 2.

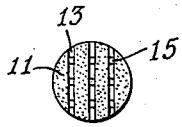

Fig. 3.

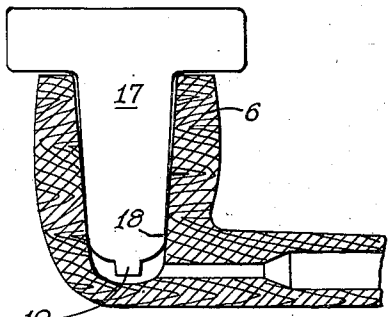

Fig. 4.

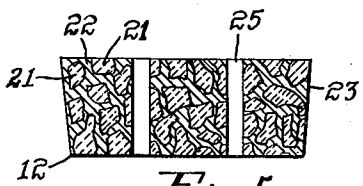

Fig. 5.

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PLUG APPLIANCE FOR TOBACCO PIPES

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8 Claims. (Cl. 131—12)

My invention relates to absorbent plugs or perforated buttons to fit tightly in the bottoms of tobacco-pipe bowls, to give the advantages of a clay pipe to pipes made of wood or other substantially non-porous material.

A principal object of my invention is to provide an absorbent perforated plug or filter which will stick, or be firmly seated, in a standard or ordinary pipe-bowl, so that the pipe may be inverted and tapped lightly against an ash-tray, in order to dislodge the remaining tobacco, after a smoke, without dislodging the plug.

The provision of a fast-sticking plug raises the question of removing it when it is dirty, say, after every bag-full of tobacco. This problem is solved, according to my invention, by making the plug readily frangible, either because of its composition or configuration or both, so that, when the smoker desires to remove the plug, he simply breaks it and knocks out the pieces, afterwards replacing it with a new plug.

The advantages of fired clay and other porous material, in absorbing the condensable distillation-products of combustion of tobacco, have long been known. When tobacco is burned, some of the resulting distillation-products are of low dew-points or condensing-temperatures, and hence are inhaled in the gaseous form, while others will condense into liquids and semi-solids, mostly in the cold bottom-portions of the bowl, where they tend to form a soggy mass through which the smoke must be drawn. It is because of this, that absorbent materials have heretofore been found so useful in the manufacture of tobacco-pipe bowls, even to the extent of providing porous linings or plugs to fit in the bottoms of non-porous pipe-bowls, but heretofore these porous plugs have had the fatal defect of either being loosely-fitting, so that they would fall out when the bowl is dumped out, or requiring a threaded bowl or other special construction not applicable to ordinary pipe-bowls. No smoker wants a pipe that he cannot dump out, after smoking, or that he has to fiddle with, to put together again, each time he empties it. Thus, removable porous plugs, while previously known, have not found any material extent of use.

It is the primary object of my invention to overcome these disadvantages of previous porous plugs, and to give pipe-smokers the pleasure of a clean, dry smoke, from a clean dry pipe, without requiring a special pipe-bowl, or one which would have to be reassembled after each emptying.

It is my object to provide a tight-fitting porous plug which is so trifling in cost that it can be given away with every bag of tobacco, or as a sales-inducement for a particular brand or brands of tobacco, or which can be put up in small boxes of a dozen or so, for just a few cents. I have found that about 95 percent of all ordinary pipes have substantially the same size of bowl, probably because all of them are made for convenient tamping-in of the tobacco with the finger, and hence I am able to provide a single size of plug which is substantially universally applicable to ordinary tobacco-pipe bowls.

It is a further object of my invention to provide, in combination with a porous plug, or with a box of porous plugs, a useful instrument or combination-tool which will serve as a reamer for pipe-bowls, as an aid in inserting a plug in a bowl, and as a means of breaking a used plug so as to get it out of the bowl to make room for a new plug.

With the foregoing and other objects in view, my invention consists of the plugs, compositions, instruments, combinations and methods hereinafter described and claimed, and shown, by way of example, in the accompanying drawing, wherein

Fig. 1 is a longitudinal sectional view of a tobacco-pipe bowl, with one of my plugs therein, and with the combination-tool in place in one of the slots of the plug, the section-plane being indicated by the line I—I in Fig. 2;

Fig. 2 is a transverse sectional view of the same, the section-plane being indicated by the line II—II in Fig. 1;

Fig. 3 is a top plan view of one of the plugs;

Fig. 4 is a view similar to Fig. 1 without the plug, illustrating the use of the combination-tool as a reamer to prepare the pipe-bowl for the plug; and

Fig. 5 is an enlarged sectional view of a modified form of plug.

In Figs. 1 and 2, I have shown a smoker's tobacco-pipe of ordinary construction and comprising a bowl 6 and a stem 7, the stem having a longitudinally extending hole or smoke-passage 8 therein, communicating with the bottom of the chamber 9 of the bowl 6.

My plug or filter is shown at 11 and comprises a round piece of readily breakable or frangible, absorbent or porous, material, preferably underfired clay, of a size adapted to fit tightly into the bottom portion of the bowl 6 of an ordinary pipe, so as to be preferably spaced from the extreme bottom of the bowl. The sides of the plug 11 may be either frusto-conical, as shown in Fig. 5, or cylindrical, as shown in Figs. 1 and 2, or they may be curved to fit the curvature of the pipe-bowl,

although at present I prefer a shape having sharp or not particularly rounded edges 12 which bite slightly into the pipe-bowl, or into the incrustations which quickly form in the bowl when the pipe is smoked for a little while. It is not necessary for the plug to stick all the way around its edges 12; if it catches at just a few points, these are sufficient to hold the plug while the tobacco is being tamped into place in the bowl, as the connection or tight-fit of the plug in the bowl becomes tighter when the pipe is smoked, due to the cementitious incrustations of combustion-products of tobacco, which are deposited.

A preferred form of construction of the plug 11 is shown in Figs. 1 to 3, comprising a plurality of slits 13 in the top face of the plug, and a plurality of other slits 14 in its bottom face, the top and bottom slits intersecting each other to provide perforations 15 at the points of intersection. These slits also form portions of reduced cross-section to facilitate breakage when it is desired to replace a dirty plug with a new one.

The underfired clay material out of which I preferably construct my plug is especially suitable for a plug which is to be tightly wedged in the pipe-bowl, and which is removable, in general, only by breaking it, because the underfired clay is brittle, and very easily breakable (particularly if it has a weakened section), as distinguished from some other materials like plaster of Paris, which will crumble and pack down, if pressure is applied to it. Moreover, my clay is tasteless, which is not true of many composition-materials, such as those utilizing water-glass, or dissolved sodium silicate, as the binding-medium.

I have already remarked that almost all pipe-bowls are of near enough the same size so that a single size of plug will suffice to tightly wedge itself in practically all of them. I have also remarked on the incrustations of tobacco condensation deposits which form in the bottom of the bowl, forming very quickly in ordinary pipes, when used without my absorbent plugs, and forming less quickly when some of the condensable distillation-products are absorbed by means of my porous plug.

When one of my plugs is to be applied, for the first time, to an old pipe, therefore, it is necessary to clean out these thick incrustations from the bowl, in order to make the bowl big enough for the proper fitting of the plug. To this end, I preferably provide an auxiliary instrument 17 having a reaming-surface 18 which is of a size and shape corresponding to the plug 11. This reamer 17 may be a suitable piece of sheet steel, of trifling cost, which may be sold in a package with some of the plugs 11, or may be inserted, together with one of the plugs, in the top of each bag of tobacco.

When one of my plugs is first used in an old pipe, considerable reaming of the bowl is usually necessary, as illustrated in Fig. 4, in order to sufficiently remove the incrustations. After that, when plugs are changed, only a slight or perfunctory reaming operation is required, if any, before the new plug is inserted. My reamer is a means, therefore, of making a standard size of plug fit practically all pipes, of all stages of age or incrustations, and to this extent, my plugs and reamer are to be regarded as a unitary instrumentality or combination for the use of smokers of tobacco-pipes.

My reamer-instrument 17 is preferably provided also, in addition to the reamer-portion 18, with another portion 19 which is adapted to fit in one of the perforations or slits 13, and which is useful both for inserting the plug 11 in the bowl 6, and for breaking the plug when it is to be removed from the bowl. Owing to the rounded bottom of the bowl, it is sometimes difficult, with the fingers alone, to make the plug stay flat or level while it is being pressed into the bowl. This difficulty is overcome, by my combination-tool 17, by engaging the tab 19 of the tool in the central slit 13 of the plug, and thus holding the plug on the end of the tool while the plug is being inserted into place in the bowl, thereby preventing the plug from twisting out of place before it can be pressed in. It is desirable that the slit-engaging tab 19 be smaller than the reamer-portion 18, so that, when the plug is in place within the pipe-bowl, the tool may be wiggled from side to side to loosen it out of the slit, so that the tool may be removed, without removing the freshly inserted plug. As shown in Figs. 2 and 4, the slit-fitting tip or tab 19, of reduced width, preferably extends below the reaming-portion 18, although a similar tab may be provided at any other place on the tool 17, or it may be a separate instrumentality.

When it is desired to remove an old used-up plug 11, the combination-tool 17 again comes in handy, as the slit-engaging tab 19 may be used like a screw-driver, which, with a slight twisting-motion, will quickly break the tightly-stuck plug. Or, if desired, a pencil or any similar instrument may be utilized to press on the center of the plug and break it, after which, the pieces may be easily dug or dumped out of the bowl.

In the form of plug shown (enlarged) in Fig. 5, a cylindrical form is used, and instead of using a uniform molding of clay, I have shown, by way of suggestion, a composition made up of a large number of discrete lumps 21 of a porous material, which may be more or less baked clay, and a binder 22 of a weaker material, which may be plaster of Paris, disposed in the insterstices between the lumps. Here the plaster of Paris, being used only as a binder between discrete lumps of a stronger material, readily fails under stress, and provides more or less definite cleavage paths or weak points facilitating the breaking of the plug. Instead of a separate binding material such as plaster of Paris, the piece pressed of the discrete lumps may be fired at a temperature where incomplete fusing takes place, so that the lumps are merely sintered together, so that the piece breaks readily along surfaces of adhesion of the lumps.

In some cases, I may find it desirable to utilize a light peripheral coating on the cylindrical or frusto-conical lateral surface 23 of the plug (Fig. 5), or near the biting-edge or bowl-engaging edge 12 thereof (see Figs. 1 and 2), said coating being of any material which softens and becomes adhesive at moderate temperatures, so as to cement the plug to the bowl, before the first pipe-full of tobacco is smoked, so that, when the tobacco is knocked out, after the smoke, the plug will not fall out. Such a coating-material may be a suitable mixture of shellac and rosin, for example, although I am not limited to any particular material for this purpose.

In the plug shown in Fig. 5, the perforations are holes 25 extending straight through the disk, rather than being formed by intersecting slits as in Figs. 1 to 3.

It will be understood that, by my invention, a clean, dry smoke is provided, and the tobacco in

the bottom of the bowl does not become soggy during the course of a smoke. Consequently, the pipe is easily emptied, after a smoke, by inverting the bowl over an ash-tray or other receptacle, and tapping it ever so slightly, if at all. The hard pounding, or sharp rapping, to which pipes are frequently subjected during this process is thus altogether eliminated.

While I have shown my invention in certain definite forms of embodiment, which are at present preferred, it is to be distinctly understood that, in its broader aspects, my invention is by no means limited thereto and these specific forms are to be taken rather as illustrations of the underlying basic principles of my invention. I desire, therefore, that the appended claims shall be accorded the broadest construction consistent with their language and the prior art.

I claim as my invention:

1. A brittle, readily frangible absorbent plug mass for a pipe-bowl, which will stick in the bowl of a standard tobacco-pipe, said plug having a weaker portion extending substantially through the mass whereby the insertion of a tool into the mass and the application of a torque thereto will readily cause breakage of the mass at the weaker portion after it has become stuck in the bowl.

2. A plug for a smoker's pipe-bowl comprising underfired clay, said plug having therein a slit terminating in a thin wall-portion, whereby the insertion of a tool into the slit and the application of a torque thereto will readily cause breakage of the plug.

3. A frangible absorbent plug of a size adapted to fit in a pipe-bowl, and having a peripheral coating of a material which softens and becomes adhesive at moderate temperatures.

4. An attachment for pipe-bowls comprising a tightly bowl-fitting absorbent plug having a transverse slit therein, said slit terminating in a thin wall to permit the plug to be readily broken upon the insertion of a suitable tool in the slit.

5. An absorbent pipe-bowl plug having one or more slits in its top face, and one or more slits in its bottom face, the top and bottom slits intersecting each other to provide perforations at the point or points of intersection.

6. An absorbent pipe-bowl plug comprising a number of lumps of a porous material having weaker portions therebetween, so that said plug is easily broken.

7. A frangible absorbent plug as recited in claim 1, having a peripheral coating of cementitious material.

8. A brittle, readily frangible absorbent plug which will stick in the bowl of a standard tobacco-pipe, said plug being of a composition and having a predetermined line of fracture rendering it readily breakable after it has become stuck in the bowl.

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