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SEALING AND ALIGNMENT DEVICE FOR SMOKERS' PIPE STEMS

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FIG. 1.

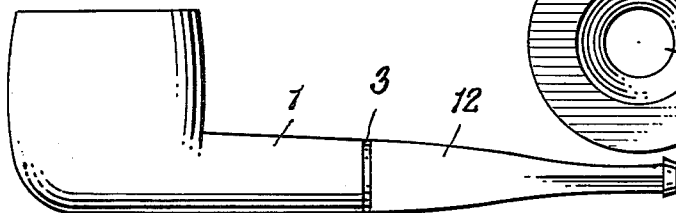


FIG. 2.

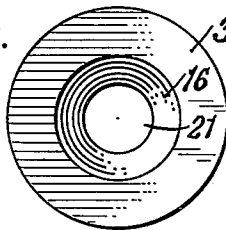


FIG. 3.

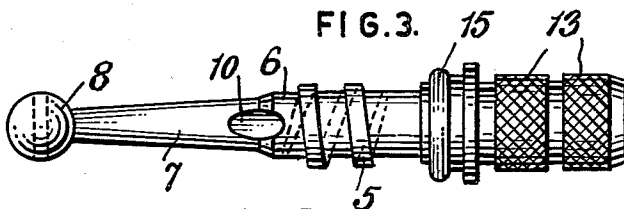


FIG. 4.

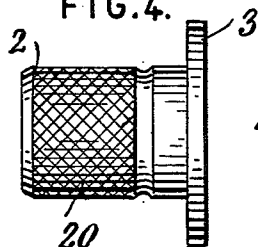


FIG. 5.

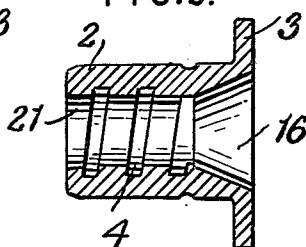


FIG. 6.

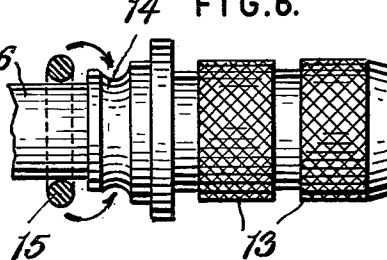
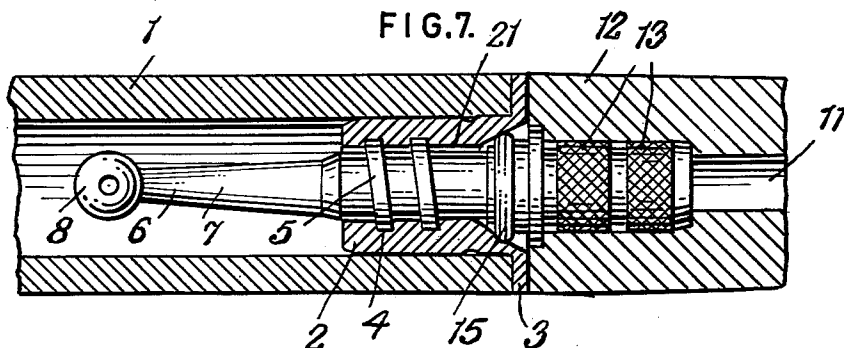


FIG. 7.



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1

2

3,079,931

SEALING AND ALIGNMENT DEVICE FOR SMOKERS' PIPE STEMS

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2 Claims. (Cl. 131-225)

This invention relates to smoking pipes and more particularly to means by which the bit of the pipe is detachably coupled or attached to the stem or stummel of the pipe in a manner to assure its correctly aligned position thereon and to prevent over-turning of the bit when placing the same in position.

An obstacle encountered in pipe manufacture is caused by the tendency of the bit to over-turn when it is threadably attached to the stummel, thereby causing the bit to become disaligned.

Attempts have been made to secure the desired result by various means, one of which consisted in placing a loose, slightly compressible washer between an extension of the pipe bit and a sleeve fitted into the stummel. A washer so positioned often becomes displaced and lost so that its effect as a sealing element and as a means for limiting the threading of the bit into position becomes destroyed.

It is therefore one of the objects of the present invention to provide a novel and improved means by which the bit can be securely yet removably attached to the stem in a manner to insure correct positioning or alignment of the bit with respect to the stem, and with the employment of a minimum number of parts and effort.

It is another object of the invention to provide a simple and effective means by which the bit can be easily fitted in position and adjusted in relation to the pipe stem, and to eliminate over-turn or misalignment of the bit.

It is another object of the invention to provide a construction in which a sealing ring may be so mounted and employed that it will not only operate as an effective sealing element and prevent over-turning of the bit, but it will be so mounted that it will not shift or become displaced upon separation of the bit from the stem.

With these and other objects to be hereinafter set forth in view, I have devised the arrangement of parts to be described and more particularly pointed out in the claims appended hereto.

In the accompanying drawing, wherein an illustrative embodiment of the invention is disclosed,

FIG. 1 is a side elevational view of a pipe embodying the improved construction;

FIG. 2 is an end view of the sleeve that is fitted within the end of the stem or stummel of the pipe;

FIG. 3 is an enlarged side elevational view of the extension member of the bit;

FIG. 4 is an enlarged side elevational view of the sleeve;

FIG. 5 is a longitudinal sectional view through the sleeve;

FIG. 6 is a slightly enlarged view of the portion of the stem extension, showing the O-ring in an unseated position, and

FIG. 7 is an enlarged longitudinal sectional view through portions of the stem or stummel and the bit, showing the improved construction applied thereto.

Referring to the drawing, 1 indicates a portion of the tubular or hollow stem or stummel of a pipe of conventional construction, and which portion of the pipe, integrally or otherwise, projects from the bowl in the known manner. Tightly fitted within the end of the

hollow stem or stummel 1 is a metallic sleeve indicated at 2. The sleeve 2 is usually provided with a roughened outer surface or knurled portion 20 to maintain it against rotative movement within the stem 1 after it has been fitted therein.

At one end, the sleeve 2 is provided with an external, radially-extending flange 3 which abuts against the end of the stem or stummel 1 when the sleeve is fitted in the stem. The forward end of the bit 12 substantially contacts against this flange when the bit is attached to the stem. The sleeve 2 is provided with a central passage 21 internally formed with a spiral thread 4 for engagement with co-operating external thread 5 provided on a metallic bit extension 6.

The forward end of the bit extension is of known form, and includes a tapering part 7 terminating in an apertured ball 8 at its forward end. The extension 6 is provided with an axial passage having its forward outlet at 10 and through which the smoke is drawn into the passage 11 provided in the bit 12.

The rear portion of the bit extension 6 is roughened or knurled as at 13 to enable the extension to be securely anchored in the forward end of the bit and project therefrom to the extent indicated in FIG. 7.

Provided in the bit extension between the thread 5 thereon and the knurled area 13 is an annular groove 14 acting as a seat for a relatively soft and compressible O-ring 15. Said O-ring is preferably, but not necessarily round in cross section and it is elastically sprung into place in the groove 14, as indicated by the arrows in FIG. 6, and it retains its position in the groove by its elasticity. The result is that the bit extension 6 acts as a carrier for this sealing ring which remains attached to the bit extension at all times. Thus, when the bit is detached for cleaning, the O-ring remains in position on it, so that the possibility of the O-ring becoming displaced and lost is prevented.

The bore or passage 21 in the sleeve 2 is tapered as shown at 16 at its end adjacent to the flange 3, and this tapered portion 16 serves as a conical seating surface against which the O-ring contacts when the bit is screwed home. The O-ring is so positioned in the groove 14 that a substantial portion of the ring is projected out of the groove and this peripheral portion of the ring contacts with and resiliently seats against the conical seating surface 16 as shown in FIG. 7.

From the foregoing, the construction and operation of the herein-described bit attachment will be apparent. The O-ring 15, when sprung into seating position in the groove 14 retains its place therein and it projects out of the groove to an extent to enable it to bear against the tapered seat 16 as the bit is screwed home by the engagement of the threads 5 with the internal threads 4 in the sleeve 2. The O-ring is compressed as the bit is threaded home and it acts to resist turning movement of the bit beyond the extent of rotation required to properly align the bit with the stem so that over-turning of the bit is prevented. Also the seating action of the O-ring against the tapered seat 16 is such as to prevent air leakage at this point.

Having thus described a single embodiment of the invention, it is obvious that the same is not to be restricted thereto, but is broad enough to cover all structures coming within the scope of the annexed claims.

What I claim is:

1. A pipe having a stem comprising, a sleeve fixedly fitted into one end of the stem against rotation, a bit having a forward extension member provided with an external thread, said extension member having an annular groove located within the sleeve, an O-ring of elastic and compressible nature fitted in and elastically retained by the groove, the sleeve having an axial passage formed

3

with an internal thread and having a conical seat at one end adjacent and engageable with said O-ring, the O-ring being compressible against the conical seat upon threadable engagement between the internal threads in the sleeve and the external thread on the bit extension whereby overturning of the bit is prevented and the O-ring will prevent air leakage past their threads and will be retained on said stem groove.

2. A smoking pipe comprising, a pipe stem, a sleeve fixedly fitted into one end of the stem against rotation, said sleeve being provided on its interior with a spiral thread extending from a forward portion of its length, the rear portion of the interior of said sleeve being substantially conical from said thread, a bit having a forward extension member provided with an external thread for engagement with the thread within the sleeve, said extension member having an annular groove located rearwardly of its external thread and for positioning within the conical portion of the sleeve, an O-ring of an elastic and compressible nature fitted in and elastically retaining itself in the groove, the O-ring being compressible

4

sible against the conical interior of the sleeve when the bit extension is moved forwardly through the sleeve by the threaded engagement between its threads and the threads in the sleeve, upon rotative movement of the bit relative to the stem whereby overturning of the bit is prevented and the O-ring will prevent air leakage past their threads and will be retained on said stem groove.

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