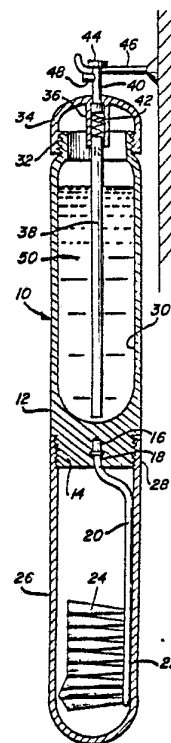




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(54) Title: TOOTHBRUSH CONTAINER WITH DISPENSER (57) Abstract <p>Compact article for carrying a toothbrush and dispenser for a fluent material. The article enables a user to conveniently carry a brush and dispenser without soiling or damaging the article or surrounding materials contacted. An elongated body (10) is provided defining a hollow fluent material receiving cavity (50) therein opening outwardly of one end of the body with a diametrically reduced toothbrush shank (20) supported centrally endwise outwardly of said other body end. A hollow cap (22) is removably telescoped over the toothbrush head (24) and the shank and is releasably supported from the other body end. In addition, a first closure cap (34) is removably supported from the one body and closing the outer end of the cavity. The closure cap includes a piston plunger operated dispensing pump supported therefrom. The pump includes a reciprocal actuator (40) and a discharge spout (48) disposed exteriorly of the closure cap. The actuator includes a reciprocal tubular shank projecting outwardly from the closure cap equipped with a hook engageable cross head (44) on its outer end.</p>		



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TOOTHBRUSH CONTAINER WITH DISPENSER

Technical Field

My invention relates to toothbrushes and particularly
5 to toothbrushes to be carried with the user.

Background Art

Various instances occur wherein travelers wish to
carry with them a compact toothbrush assembly as well as
a mouthwash or mouth deodorant fluent material. Various
10 forms of compact toothbrushes including removable closures
for the toothbrush heads thereof heretofore have been pro-
vided, but most of these previously known devices have not
proven satisfactory. In addition, many of the previously
known forms of compact toothbrush assemblies have not in-
15 cluded structure for containing a supply of mouthwash or mouth
deodorant fluent material. Accordingly, a need exists for
a compact toothbrush for use by travelers and which includes
structure for containing a fluent mouthwash or mouth deodor-
ant material.

20 Examples of previously known forms of compact toothbrushes
including some of the general structural and operational
features of the instant invention are disclosed in U. S.
Pat. Nos. 1,349,110, 2,233,522, 2,317,111 and 2,934,975.

25 Disclosure of Invention

The compact toothbrush of the instant invention includes
a handle defining body from one end of which a centrally
disposed and diametrically reduced support shank extends



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including a free end. The free end of the support shank includes a toothbrush head and a hollow cap is provided for telescoping over the toothbrush head and the shank and releasable support from the associated hand grip defining body end. The opposite end of the hand grip defining body defines an endwise outwardly opening recess or cavity in which fluent mouthwash or mouth deodorant material may be contained and a closure cap is provided for removably closing the outer end of the cavity.

10 The closure cap includes a plunger actuated pump which may be operated from the exterior of the body and is provided with an exterior discharge neck.

In a first form of the toothbrush the toothbrush shank is permanently mounted to the body, in a second form the toothbrush shank is formed integrally with the associated end of the body and in a third form of the toothbrush, the toothbrush shank is removably supported from the associated hand grip defining body. Finally, in a fourth form of the toothbrush, the toothbrush shank supporting end of the body is open and closed by a plug secured within the body and with which the toothbrush shank is integrally formed.

The main object of this invention is to provide a compact toothbrush which may be readily carried by persons who travel.

Yet another object of this invention is to provide a convenient compact toothbrush including a cover for the toothbrush head portion thereof.

Still another object of this invention is to provide a compact toothbrush including a cavity therein which fluent mouthwash or mouth deodorant material may be contained.

Still another object of this invention is to provide a toothbrush in accordance with the immediately preceding object and including a plunger actuated pump whereby fluent mouthwash or mouth deodorant material may be discharged under pressure from the toothbrush as required.



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A final object of this invention to be specifically enumerated herein is to provide a toothbrush in accordance with the preceding objects and which will conform to conventional forms of manufacture, be of simple construction and easy to use so as to provide a device which will be economically feasible, long lasting and relatively trouble free in operation.

These together with other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof, wherein like numerals refer to like parts throughout.

15 Brief Description of Drawings

Figure 1 is a perspective view of the compact toothbrush of the instant invention in a fully closed position and supported from a suitable support hook;

Figure 2 is an enlarged fragmentary vertical sectional view taken substantially upon the plane indicated by the section line 2--2 of Figure 1;

Figure 3 is a fragmentary perspective view of the hand grip end of the toothbrush illustrating the removable closure cap for the fluent material receiving cavity and portions of the piston plunger operated dispensing pump;

Figure 4 is a fragmentary vertical sectional view illustrating a second form of toothbrush shank;

Figure 5 is a fragmentary vertical sectional view illustrating a third form of toothbrush shank;

Figure 6 is a fragmentary vertical sectional view illustrating a fourth form of toothbrush shank; and

Figure 7 is a fragmentary vertical sectional view illustrating a modified form of closure cap for the fluent material receiving cavity end of the toothbrush and modified cap also may be supported from a suitable hook structure.



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Best Mode for Carrying Out the Invention

Referring now more specifically to the drawings, and to Figures 1 and 2 in particular, the numeral 10 generally designates a first form of toothbrush constructed in accordance with the present invention. The toothbrush includes an elongated hand grip defining body including a diametrically and externally threaded end 14 on one end. The end 14 includes a blind bore 16 formed therein in which the base end 18 of a toothbrush shank 20 is non-removably secured. The toothbrush shank 20 includes an outer free end 22 defining a toothbrush head including bristles 24. A hollow cap 26 including one internally threaded open end 28 is removably threaded over the diametrically reduced and externally threaded end 14 in order to enclose the head 22 and the shank 20 within the hollow cap 26.

The end of the body 12 remote from the diametrically reduced end 14 includes an endwise outwardly opening cavity 30 formed therein and a diametrically reduced and externally threaded terminal end 32 over which an internally threaded closure cap 34 is removably threaded. The closure cap supports a piston plunger operated pump 36 internally thereof including a check valve equipped pick up tube 38 extending inwardly to the innermost portion of the cavity 30. The pump 36 additionally includes an externally projecting reciprocal and check valve equipped piston actuator 40 which is spring biased to an outermost position by a compression spring 42. The outer end of the actuator 40 includes a cross head 44 supported therefrom and the cross head 44 may be conveniently supportively engaged with a wall mounted hook 46 or the like for support of the toothbrush 10 from the hook 46. The actuator 40 is hollow and includes a discharge neck 48 communicated with the interior of the actuator 40 and spaced inward of the cross head 48. It will be noted that upon reciprocation of the actuator 40 fluent material 50 from within the cavity 30 is pumped therefrom and discharged through the neck 48 under pressure.

With attention now invited more specifically to Figure 4



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of the drawings, there may be seen a modified form of body 12' with which the base end 18' of a shank 20' corresponding to the shank 20 is integrally formed.

5 In Figure 5 of the drawings, there may be seen in a further modified form of body referred to in general by reference numeral 12'' including a blind threaded bore 17 in which the base end 18'' of a toothbrush shank 20'' corresponding to the toothbrush 20 is removably threadedly engaged.

10 In Figure 6 of the drawings there may be seen yet another modified form of body 112 corresponding to the body 12 but which includes an open end 113. A plug 115 is sealingly secured in the open end 113 and integrally supports the base end 118 of a toothbrush shank 120 therefrom.

15 Finally, with attention invited more specifically to Figure 7 of the drawings, there may be seen a closure cap 34' corresponding to the closure cap 34 but which does not support a pump corresponding to the pump 36 therefrom. In addition, the closure cap 34' is not internally threaded
20 and is adapted to be frictionally engaged with an externally smooth diametrically reduced end corresponding to the terminal end 32. However, the closure cap 34' includes an outer support shank 40' supported therefrom and including an outer end enlarged head 44' corresponding to the head 44 thus enabling
25 the cap 34' to be supported from the hook 46.

The fluent material 50 may comprise a mouthwash or mouth deodorant material. Additionally, if a supply of mouthwash or mouth deodorant is not desired, the cavity 30 may be utilized to contain a dentifrice.

30 The foregoing is considered as illustrative only of the principles of the invention. Further, since numerous modifications and changes will readily occur to those skilled in the art, it is not desired to limit the invention to the exact construction and operation shown and described, and
35 accordingly, all suitable modifications and equivalents may be resorted to, falling within the scope of the invention.



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Claims

1. A combined toothbrush, toothbrush enclosure and fluent material reservoir assembly, set assembly comprising an elongated body defining a hollow fluent material receiving cavity therein opening outwardly of one end of said body, means for manually expelling fluent material from said hollow fluent material receiving cavity, said expelling means having an orifice for expelling said fluent material, the other end of said body including a toothbrush shank supported therefrom, projecting outwardly of said other body end and including an outer free end, a toothbrush head supported from said outer free end, a first closure cap removably supported from said one end and closing the outer end of said cavity, and a hollow cap removably telescoped over said toothbrush head and said shank and releasably supported from the other end of said body
2. The combination of claim 1 wherein said closure cap includes said expelling means which comprises a piston plunger operated dispensing pump supported therefrom including a pickup tube extending inward of said cavity to a point adjacent the inner end thereof, said pump including a reciprocal actuator and discharge spout disposed externally of said closure cap.
3. The combination of claim 2 wherein said actuator includes a reciprocal tubular shank projecting outwardly from said closure cap equipped with a hook engageable cross head on its outer end portion.
4. The combination of claim 3 wherein said discharge spout is carried by the outer end of said tubular shank inward of said cross head and communicates with the interior of said tubular shank.

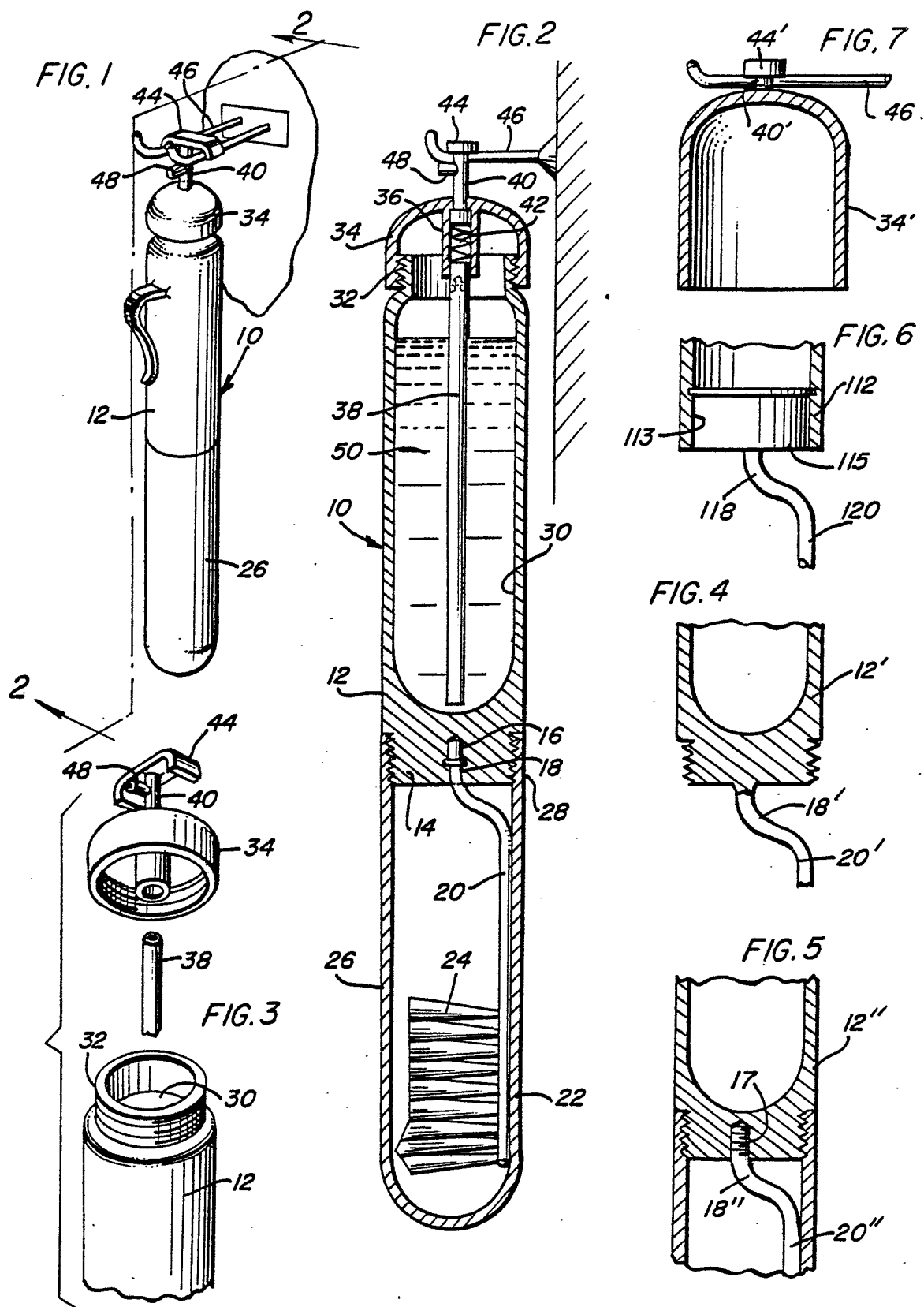


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5. The combination of claim 1 wherein said toothbrush shank is formed integrally with said other end of said body.
- 5 6. The combination of claim 1 wherein said toothbrush shank is removably supported from the other end of said body.
7. The combination of claim 1 wherein said other end of said body is open and closed by a plug sealingly closing the other end of said body, said toothbrush shank being formed integrally with said plug.
- 10 8. The combination of claim 1 wherein said closure cap is removably frictionally engaged with said one end of said body.
9. The combination of claim 1 wherein said closure cap
- 15 is removably threadedly engaged with said body.



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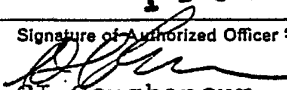


SUBSTITUTE SHEET



INTERNATIONAL SEARCH REPORT

International Application No PCT/US81/00953

I. CLASSIFICATION OF SUBJECT MATTER (if several classification symbols apply, indicate all) ³		
According to International Patent Classification (IPC) or to both National Classification and IPC		
Int. Cl. ³ A45D 44/18, A46B 11/02, B05B 17/00		
U.S. Cl. 132/84B 222/192 239/289 401/195		
II. FIELDS SEARCHED		
Minimum Documentation Searched ⁴		
Classification System	Classification Symbols	
U.S.	401/16, 17, 18, 27, 137, 150, 171, 179, 180, 195, 268, 269; 132/84R, 84B; 222/192, 320, 321, 341; 239/289, 331, 333	
Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ⁵		
III. DOCUMENTS CONSIDERED TO BE RELEVANT ¹⁴		
Category *	Citation of Document, ¹⁶ with indication, where appropriate, of the relevant passages ¹⁷	Relevant to Claim No. ¹⁸
X	US, A, 2,474,860, Published 05 July 1949, PERWAS	1-9
X	US, A, 2,770,826, Published 20 November 1956, CURFMAN	1-9
A	US, A, 1,844,036, Published 09 February 1932, HARRISON	1-9
A	US, A, 2,828,500, Published 01 April 1958, PECOCK	1-9
A	US, A, 3,406,694, Published 22 October 1968, ODENCE	1-9
A, ^P	US, A, 4,244,525, Published 13 January 1981, MANNA	1-9
A	US, A, 2,038,778, Published 28 April 1936, WILLIAMS	3, 4
A	US, A, 1,420,581, Published 20 June 1922, SCHONEMAN	5
A	US, A, 2,601,244, Published 24 June 1952, BOULICAULT	6-8
A	DE, A, 2,400,514, Published 03 October 1974, BERG	6-8
A	US, A, 2,317,111, Published 20 April 1943, PERWAS	9
<p>* Special categories of cited documents: ¹⁵</p> <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p>"A" document defining the general state of the art</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document cited for special reason other than those referred to in the other categories</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> </div> <div style="width: 45%;"> <p>"P" document published prior to the international filing date but on or after the priority date claimed</p> <p>"T" later document published on or after the international filing date or priority date and not in conflict with the application, but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance</p> </div> </div>		
IV. CERTIFICATION		
Date of the Actual Completion of the International Search ²		Date of Mailing of this International Search Report ²
31 August 1981		11 SEP 1981
International Searching Authority ¹		Signature of Authorized Officer ²⁰
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