

Feb. 14, 1933.

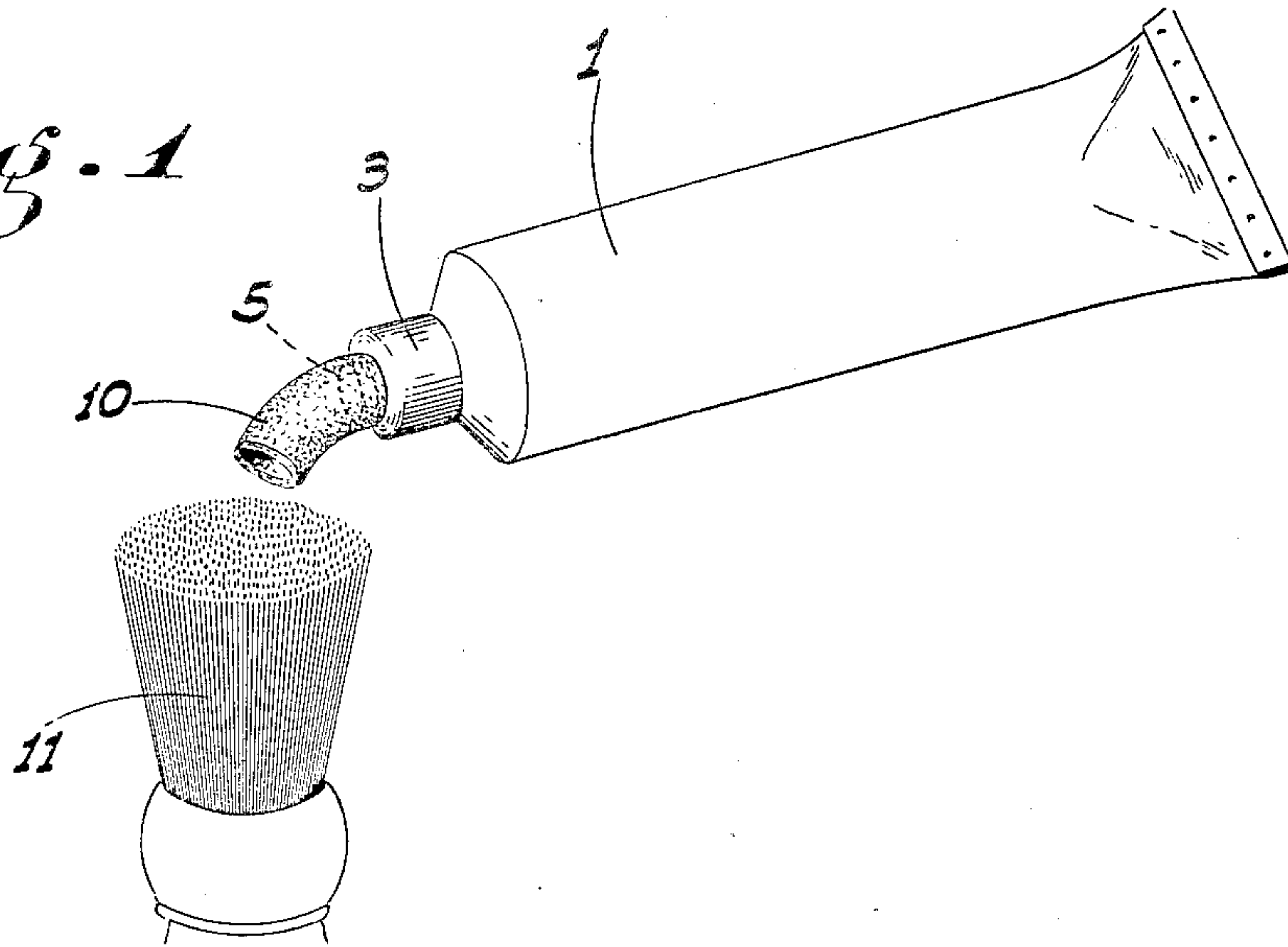
W. PETERSEN

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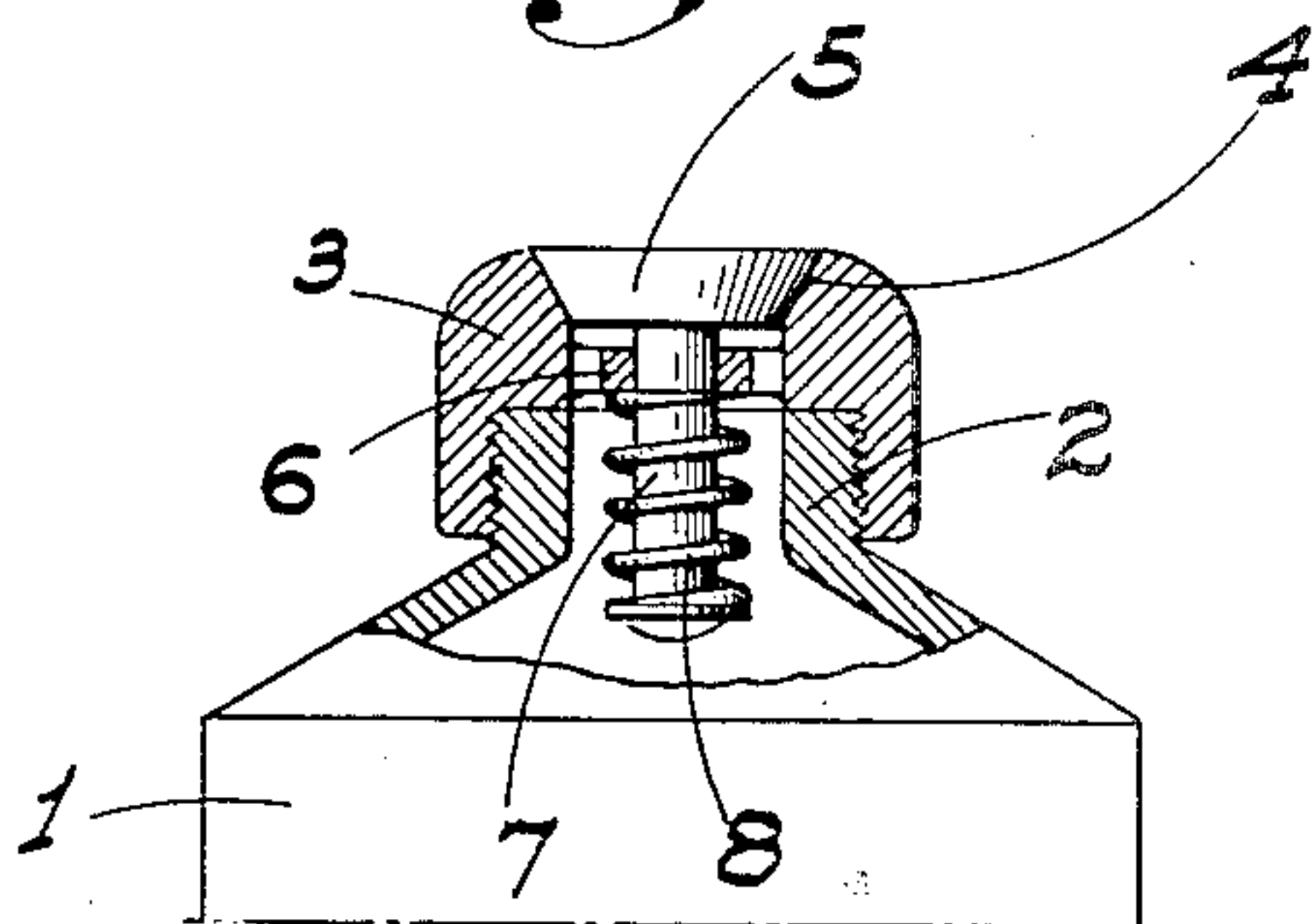
SELF SEALING PASTE TUBE

Filed Oct. 26, 1931

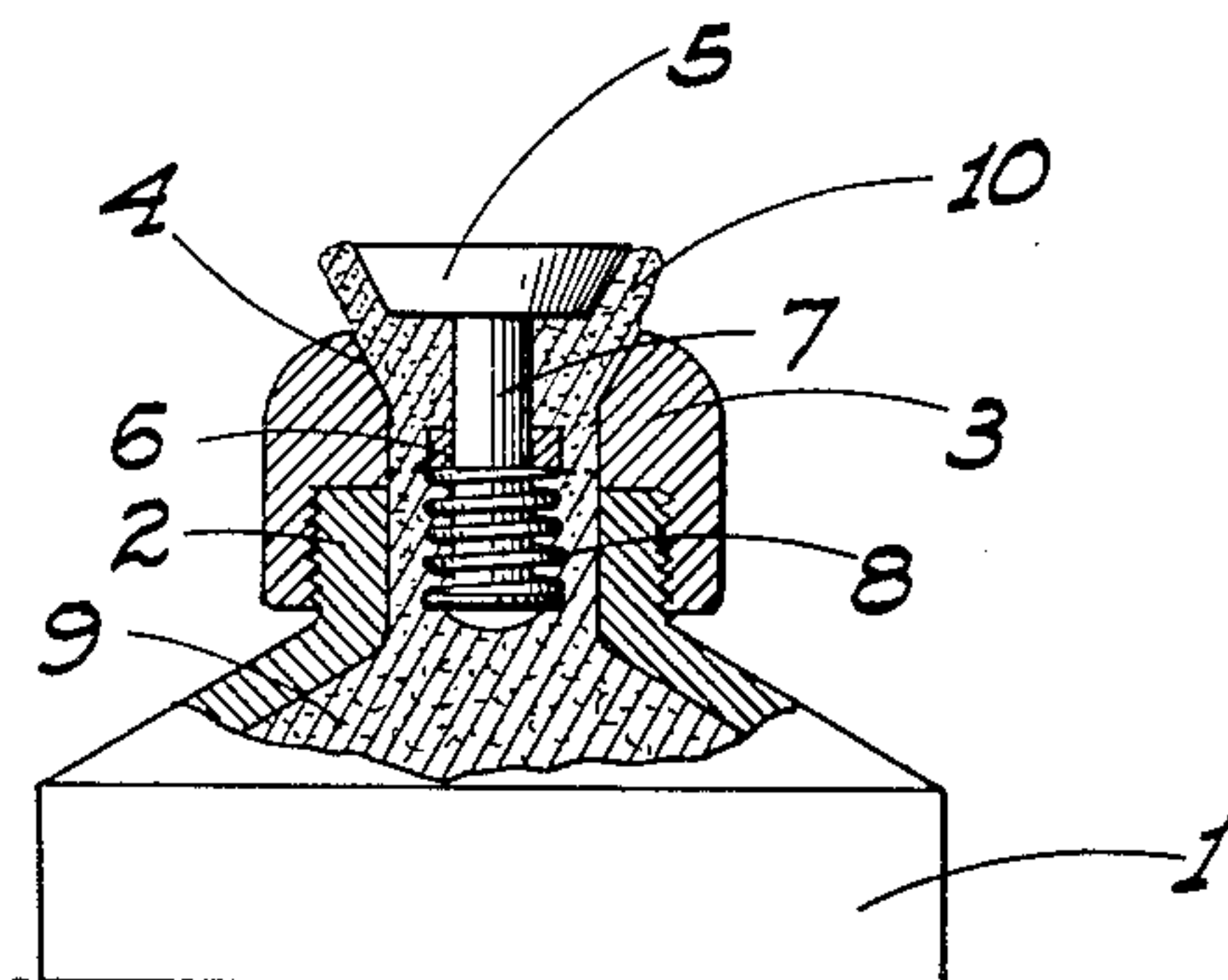
*Fig. 1*



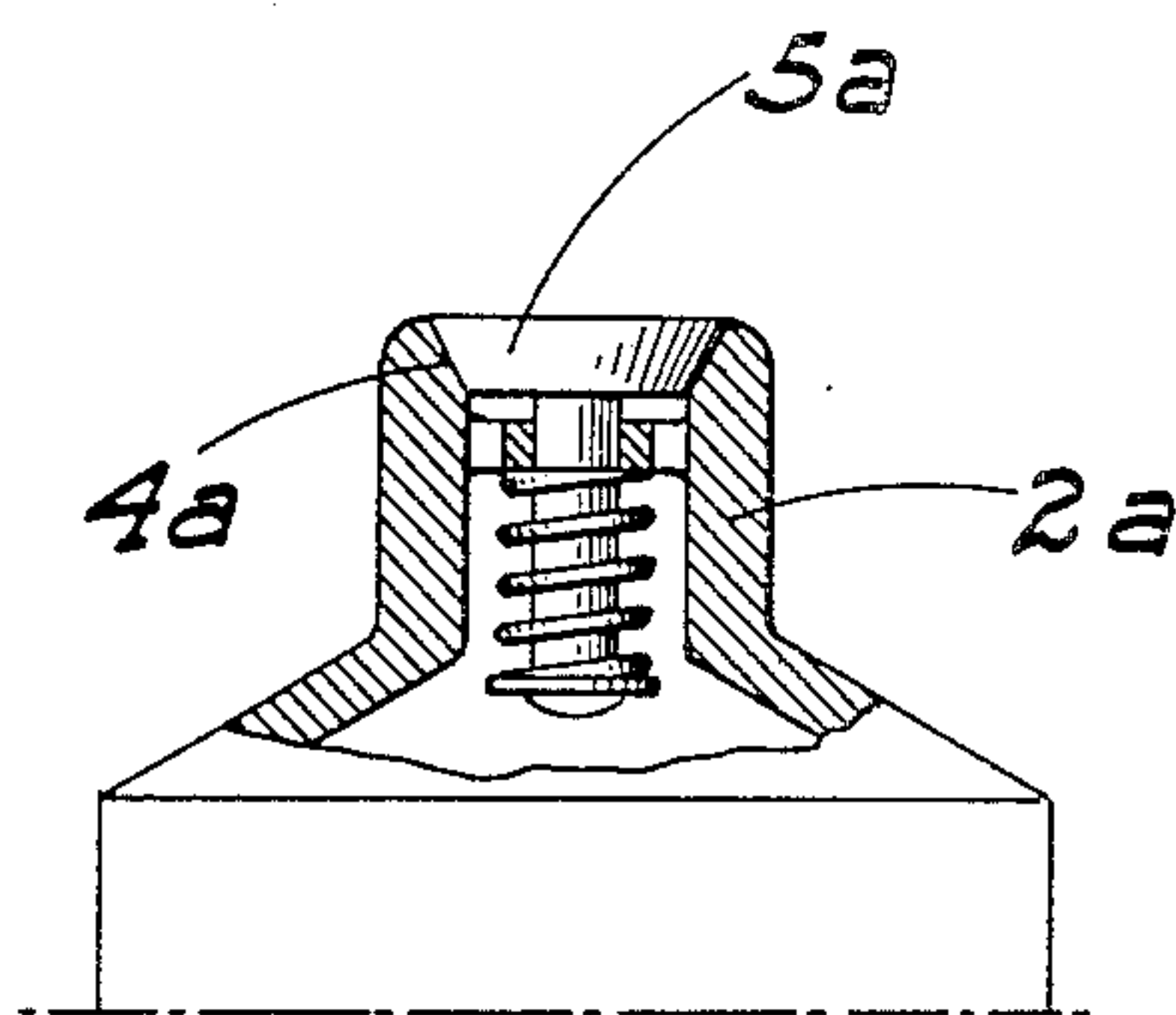
*Fig. 2*



*Fig. 3*



*Fig. 4*



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# UNITED STATES PATENT OFFICE

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## SELF-SEALING PASTE TUBE

Application filed October 26, 1931. Serial No. 571,086.

This invention relates to tubes from which semi-liquid pastes, cream and the like are dispensed, such as shaving cream and tooth paste. Such tubes are ordinarily provided with caps which are small and are apt to be dropped or mislaid, which permits the contents of the tube, at least near the top, to cake and dry out.

It is therefore the principal object of my invention to provide a valve device for such tubes, to take the place of the usual cap and arranged so that a squeezing pressure on the tube and its contents will cause the latter to open the valve and be exuded from the tube; while with the release of such pressure the valve will close of itself. The operator need therefore give no attention to the closing of the tube and the contents cannot dry out, and the annoyance incident to the handling of the usual tubes is therefore eliminated. The device is also arranged so that it may be applied to ordinary tubes without making any changes in the latter.

A further object of the invention is to produce a simple and inexpensive device and yet one which will be exceedingly effective for the purpose for which it is designed.

These objects I accomplish by means of such structure and relative arrangement of parts as will fully appear by a perusal of the following specification and claim.

In the drawing similar characters of reference indicate corresponding parts in the several views:

Fig. 1 is a perspective view of a shaving cream tube equipped with my self closing valve showing the contents of the tube as being discharged onto a shaving brush.

Fig. 2 is an enlarged section of the tube at its outlet end showing the valve in a closed position.

Fig. 3 is a similar view showing the valve opened.

Fig. 4 is a section showing a modified form of the device.

Referring now more particularly to the characters of reference on the drawing, and particularly at present to Figs. 1 to 3, 1 denotes a tube of the standard collapsible character, provided at one end with a rigid circu-

lar outlet member or mouth 2. The usual closure cap is removed and its place taken by another cap 3 provided with a cone-shaped valve seat 4 having a similarly shaped valve 5, which opens outwardly of the tube. The cap below the valve communicates freely with the outlet and has a cross arm or spider 6 forming a guide for the stem 7 of the valve, which stem projects into the outlet. A compression spring 8 of sufficient strength to overcome the natural pressure of the cream 9 in the tube is disposed about the stem below the cross arm. A forceful pressure on the relatively non-compressible cream, imparted thereto by squeezing the tube, overcomes the resistance of the spring and the cream bearing against the relatively large base of the valve forces the same open as shown in Fig. 3.

A column of cream initially of tubular form as shown at 10 in Fig. 1 is therefore exuded from the tube. This form of exuded column is especially beneficial in connection with the dispensing of shaving cream since a given volume of the cream will be distributed over a much greater area of the brush 11 than is the case with a solid column and its conversion into the desired lather is facilitated.

The above described arrangement is in the form of an attachment which may be applied to a standard tube without any change being made to the latter. In Fig. 4 the same construction and operation of the valve is employed except that the cap 3 is omitted and the outlet 2a itself is provided with the valve seat 4a in which the valve 5a seats.

From the foregoing description it will be readily seen that I have produced such a device as substantially fulfills the objects of the invention as set forth herein.

While this specification sets forth in detail the present and preferred construction of the device, still in practice such deviations from such detail may be resorted to as do not form a departure from the spirit of the invention, as defined by the appended claim.

Having thus described my invention what I claim as new and useful and desire to secure by Letters Patent is:

A valve attachment for the outlet neck of



a collapsible tube comprising a tubular cap adapted to be secured on the neck, said cap at its outer end being formed with a valve seat, an outwardly opening valve to engage  
5 the seat, a stem depending from the valve through the cap and into the neck, a bearing element in the cap through which the stem slidably projects, and a spring about the stem acting to hold the valve normally  
10 closed; the cap having a cylindrical bore of unbroken contour from the inner end of the valve seat to the outer end of the neck and forming a continuation of the outlet thereof; said bore being the same size as the outlet.  
15 In testimony whereof I affix my signature.  
WALTER PETERSEN.

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