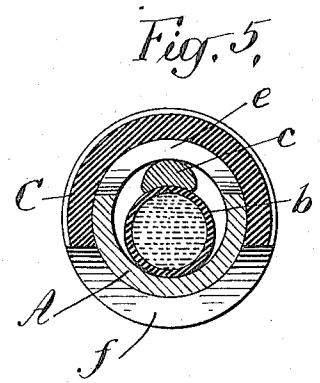
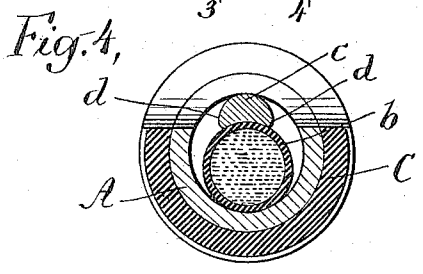
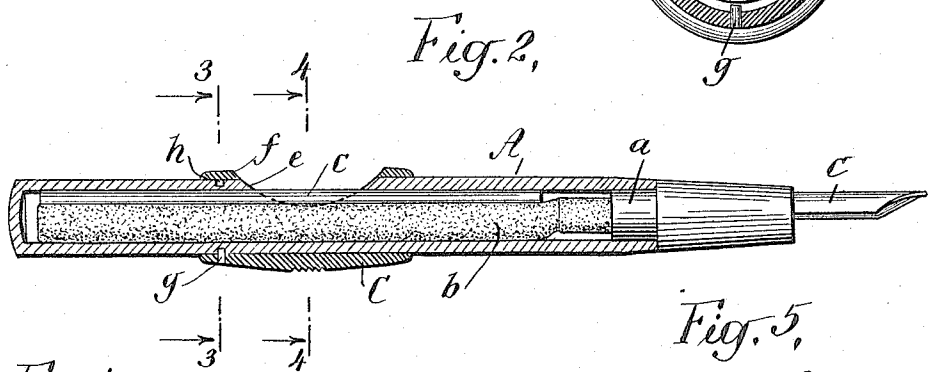
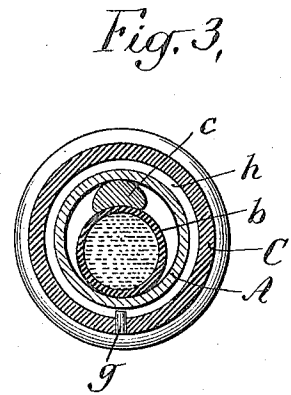
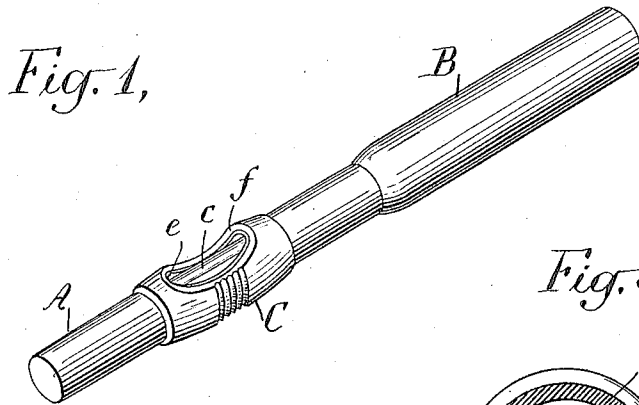


1,169,603.

Patented Jan. 25, 1916.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

DAVID W. BEAUMEL, OF BROOKLYN, NEW YORK.

## FOUNTAIN-PEN.

1,169,603.

Specification of Letters Patent.

Patented Jan. 25, 1916.

Application filed November 4, 1911. Serial No. 658,546.

*To all whom it may concern:*

Be it known that I, DAVID WILLIAM BEAUMEL, a citizen of the United States, residing at No. 504 Madison street, Brooklyn, county of Kings, State of New York, have invented certain new and useful Improvements in Fountain-Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to certain new and useful improvements in fountain pens, particularly of that type wherein the supply of ink is contained in a flexible tube of soft rubber located within the pen case, which tube is filled by collapsing it by means of pressure applied to its walls through the instrumentality of a pressure bar extending longitudinally of it and which is adapted to be depressed by the operator through an aperture provided in the walls of the case, which aperture is normally covered by a sleeve when the pen is in use. In filling fountain pens of this character, the flexible tube of soft rubber is collapsed by the operator, in the manner indicated, the pen point together with the open end of the collapsed tube is inserted in an ink well, and the pressure upon the collapsed tube being then removed, it resumes its original form and volume and becomes filled with a supply of ink from the well.

It is the purpose of my invention, as will hereinafter more fully appear, to increase the durability of the collapsible tube and consequently of the fountain pen as a whole, by substituting for the metal bar or strip heretofore employed for collapsing the tube, a strip of hard rubber, thereby avoiding the corrosive action of the metal bar or strip, and, at the same time by suitably curving or rounding the edges of the hard rubber bar or strip eliminating the cutting or abrading action of the metal strip formerly employed, and which materially cut down the last quality of the soft rubber font.

My invention is further characterized by a particular manner of associating the rotary slide with the case of the pen, in such manner that it will remain by frictional contact securely in the position to which it is rotated, and so that the circular groove in the outer periphery of the case for engagement with the pin in the sleeve is reinforced and protected against strains that

would otherwise tend to break the case at that point.

In the accompanying drawings, Figure 1 represents in perspective, a fountain pen embodying my invention, the rotary sleeve being shown in the adjustment required for compressing the flexible or collapsible ink-containing tube; Fig. 2 represents a longitudinal sectional view, on a slightly larger scale and with the protecting cap removed; Figs. 3 and 4 represent, on a still larger scale, cross-sectional views on the lines 3—3 and 4—4; Fig. 5 represents a like view to that shown in Fig. 4 but with the sleeve revolved to the closed position.

Similar letters of reference indicate similar parts throughout the several views.

Referring to the drawings, A indicates the case of the pen and B indicates the usual cap for protecting the pen-point end when the pen is carried in the pocket, these parts being, as usual, of hard rubber. Within the case A is contained the removable font or ink-carrying tube *b*, communicating with the customary plug *a* and in communication in the usual way with the pen-point *c*, as is well understood by those versed in the art. The font *b* is collapsible and is made of soft rubber.

The means for collapsing the font consists of a strip of hard rubber *e*, cemented by rubber cement to the outer wall of the font, and provided at its lower edges with rounded portions *d*, so that when depressed any tendency for the tube to be cut or abraded along these edges will be eliminated. The fact that the strip *e* is of hard rubber and is likewise cemented to the soft rubber font by rubber cement, presents a combination wherein tendency to corrode, which is always present in those instances where metal strips are applied to the soft rubber tube, is entirely avoided, the tube, its cementing material and the pressure bar or strip being generically of the same material devoid of chemical action the one upon the other.

The case A is provided with the hard rubber sleeve C and is provided with an aperture *e* with which is adapted to register a like aperture *f* in the sleeve, so that when these apertures are in alinement as shown in Figs. 1 and 2, the pressure bar may be depressed so as to collapse the font and to fill it with ink in the manner hereinbefore described. The sleeve C is fixed against longi-

tudinal movement upon the case A, by means  
 of a pin *g* of metal inserted in the lower  
 part of the sleeve and on the side opposite  
 to that which contains the opening *f*, that is  
 5 to say, on that side of the sleeve which is the  
 stronger because it has not been weakened  
 by the making of the opening *f*. The pin *g*  
 engages with a circular groove *h* made in the  
 hard rubber case A, and this groove, as will  
 10 be noted, is protected by the lower portion  
 of the sleeve, as is indicated more fully in  
 Fig. 2, so that any bending strain which  
 would otherwise be liable to break the case  
 along this groove is efficiently and fully  
 15 guarded against, and so that, with the re-  
 inforcement afforded by the sleeve, the cas-  
 ing is in no way weakened in its resistance  
 to transverse strains in spite of the fact that  
 it is grooved for the reception of the pin *g*.  
 20 The further advantage of connecting the  
 sleeve with the case by means of the pin and  
 groove connection shown is that the sleeve  
 may be made with an inner diameter so  
 exactly like that of the external diameter  
 25 of the case that it will make so tight a fit  
 therewith as to insure the sleeve from acci-  
 dentally shifting its position after it has  
 been set either to the open or closed adjust-  
 ment of its aperture *f*. This is of notable  
 30 importance in the general organization, for  
 the obvious reason that unless thus securely  
 and reliably held, the sleeve would tend to  
 shift in the pocket of the user, thereby open-  
 ing the closure which protects the pressure  
 35 bar or strip *e*, which is, of course, to be  
 avoided.

Having thus described my invention what I claim is:

In a self-filling fountain pen, the combi-  
 nation of a barrel having an opening in its 40  
 side and having its periphery practically  
 uniform for the greater part of the length  
 of the barrel, a collapsible and expansible  
 ink-holding tube located within the barrel 45  
 and upon which pressure may be applied  
 through said opening in the side of the bar-  
 rel, a non-split sleeve mounted upon the  
 periphery of said barrel with capacity of  
 rotation thereon and with a snug fit so as to  
 itself maintain its position of angular ad- 50  
 justment on said barrel, the said sleeve be-  
 ing provided with an opening in its side  
 adapted to register with the opening in said  
 barrel by rotating said sleeve, the said bar- 55  
 rel having its walls of practically uniform  
 thickness in the vicinity of said sleeve and  
 being provided with a peripheral pin-re-  
 ceiving groove, and a pin located upon the  
 interior of said sleeve at a point remote from  
 the opening in said sleeve and engaging with 60  
 said groove for holding the sleeve against  
 longitudinal movement, the said sleeve cov-  
 ering the said groove and thereby reinforc-  
 ing the barrel against breaking strains at  
 the groove, substantially as described. 65

In testimony whereof I affix my signature,  
 in presence of two witnesses.

DAVID W. BEAUMEL.

Witnesses:

JOHN C. PENNIE,  
 MINERVA LOBEL.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."