

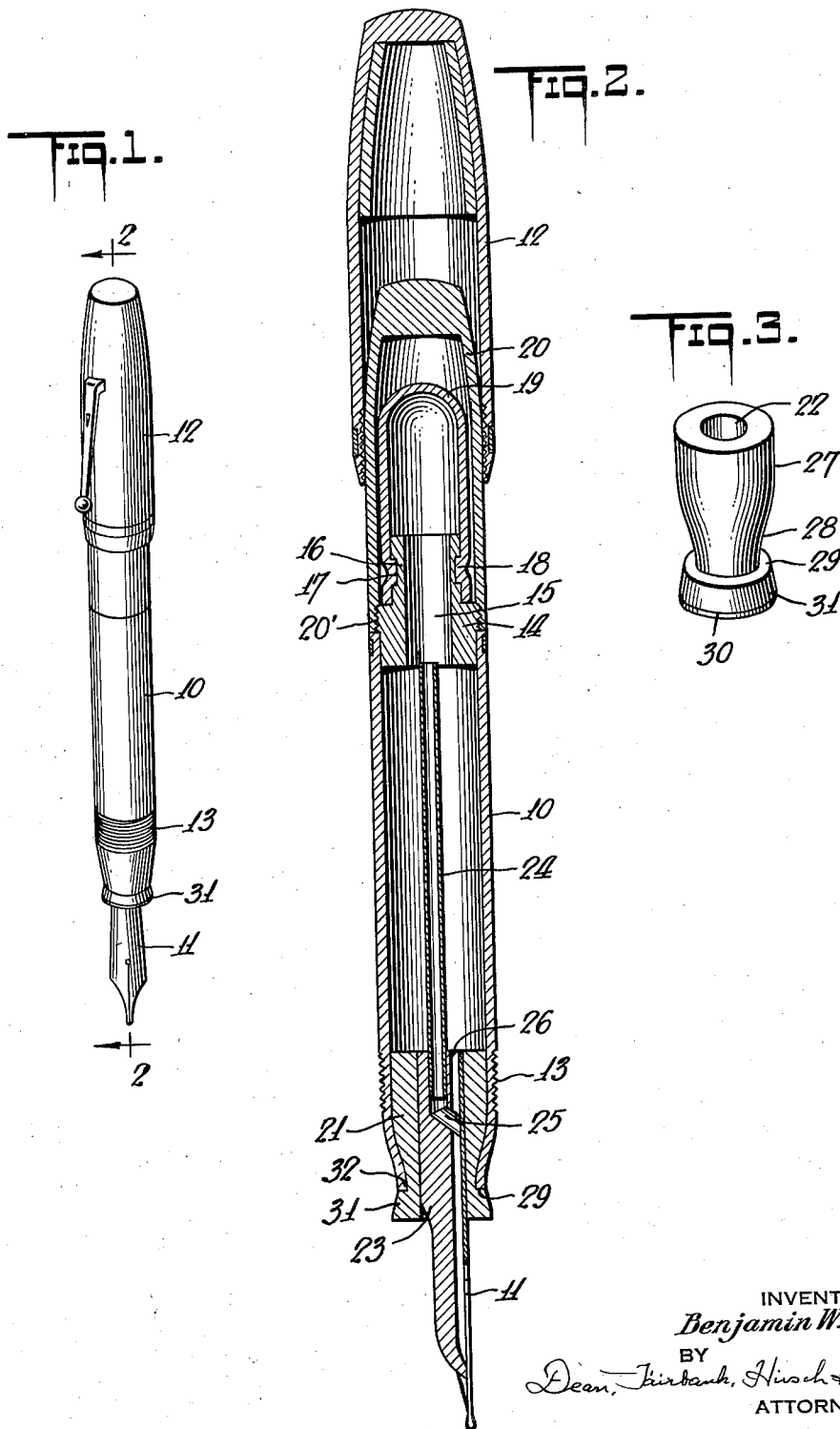
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B. W. HANLE

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FOUNTAIN PEN

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INVENTOR
Benjamin W. Hanle
BY
Dean, Fairbank, Hirsch & Foster
ATTORNEYS

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FOUNTAIN PEN

Benjamin W. Hanle, Elizabeth, N. J., assignor to
Eagle Pencil Company, a corporation of Dela-
ware

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1 Claim. (Cl. 120—52)

My present invention is concerned with fountain pens, more especially with the self-filling type of pen designated by the adjective "sacless" and devoid of the conventional rubber sac and filler lever for some years in common use.

As conducive to a clear understanding of the invention, it is noted that celluloid does not lend itself to the accuracy of machining requisite at the neck bore for accommodation of the nib and feed section. Accordingly, even in expensive fountain pen constructions in which the entire length of barrel is machined from celluloid rod stock, a hard rubber liner sleeve is commonly used to afford the accurately dimensioned bore for accommodation of the feed section and nib. In the less costly constructions of sacless fountain pens, celluloid tube stock wound from sheet celluloid is commonly used, the entire forward section almost one inch in length, of hard rubber, being exposed beyond the celluloid section, resulting in an unattractive appearance.

Among the objects of the present invention are to provide a sacless pen which may be made of inexpensive tubular celluloid stock, which has the requisite bore of hard rubber stock for the feed section and nib and in which there is preserved the attractive appearance of the entire barrel length of celluloid and in which there may be created in addition the ornamental effect of a trimming.

Another object is to provide a fountain pen construction of the above type which may be easily manufactured at small cost, which affords a leak-tight construction and which results inherently in a strengthening of the forward end of the celluloid tube.

In the accompanying drawing, in which is shown one of various possible embodiments of the several features of the invention,

Fig. 1 is a perspective view of the fountain pen, Fig. 2 is a view in longitudinal cross-section taken on the line 2—2 of Fig. 1, on a larger scale, and

Fig. 3 is a perspective view of the hard rubber neck unit.

Referring now to Fig. 1 there is shown a fountain pen of conventional external appearance comprising a barrel 10 having the usual nib 11 and the removable cap 12 adapted in closed position of the pen to be screwed upon the threaded portion 13 of the barrel.

Referring now to the sectional view of Fig. 2, the barrel 10, which is preferably of celluloid tube stock wound from celluloid ribbon, has a bushing 14 firmly fixed in the rear end thereof,

said bushing presenting a large bore 15 and a neck 16 reduced at 17 for accommodating the inturned bead 18 of a flexible filler section or nipple 19 which is normally protected by a cap 20 threaded as at 20' upon the bushing 14 and abutting the barrel section 10.

At the forward end, barrel 10 has a neck section 21 of hard rubber with an accurately reamed axial hole 22 which accommodates the feed section 23 and the nib 11. Air tube 24 extends axially of the barrel into feed section 23 and toward the bushing 14. The section 23 has an angular passage 25 from air tube 24 to the nib 11 and an ink feed vent 26 parallel to tube 24.

The hard rubber neck section 21 has a body 27 of diameter preferably substantially that of the bore of the barrel tube stock and is reduced in diameter toward its forward end in generally frusto-conical form as at 28 and presents a shoulder 29 near its forward end at the rear face of the forward button or flange enlargement 30 thereof.

The barrel tube 10 encircles the neck section 21 and is rigidly connected thereto by application of heat and pressure in a molding operation in which the end of the barrel is caused snugly and securely to embrace the neck section and at its forward extremity to abut the shoulder 29. The flange 30 of the neck section preferably tapers outward at 31 to afford the conventional contour for the front of the barrel, the forward end of the celluloid barrel stock coming flush with the exposed flange of the neck section 21.

The strength of the tube stock is increased at the forward end not only by the improved bond between the laminations thereof under the heat and pressure of molding in assembly of the neck section thereto, but also by reason of the greater thickness of the stock, as best shown at 32 in Fig. 2, resulting from the decrease in the diameter thereof in the molding operation.

The construction set forth thus affords an ornamental celluloid barrel structure from end to end, the forward extremity constituting a narrow ornamental, usually black, trimming, which adds to the beauty of the unit.

While the invention has a preferred application to pens with barrels of celluloid tube stock, it is understood that it is of wider application to barrels of other ornamental stock, and has its highest utility where such barrels are of material that does not lend itself readily to machining operations and so requires a neck section of hard rubber.

It will thus be seen that there is herein described an article in which the several features of this invention are embodied, and which article in its action attains the various objects of the invention and is well suited to meet the requirements of practical use.

As many changes could be made in the above construction, and many apparently widely different embodiments of this invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

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

A fountain pen of the sacless type comprising a unitary barrel of ornamental celluloid tube stock, a neck section of hard rubber presenting a body of outer diameter substantially that of the bore of said barrel, said body reduced in diameter toward its forward end in frustro-conical form and enlarged at its forward extremity to present a shoulder, the barrel section embracing said neck section, said barrel section being molded inward about said neck section to form a fluid tight joint, the thickness of the wall of said barrel section increasing with decrease of diameter toward the forward end and coming into abutment with said shoulder at the portion of maximum thickness.

BENJAMIN W. HANLE.