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A. CRAIG

FOUNTAIN PEN FILLER

Filed May 23, 1925

Fig. 1.

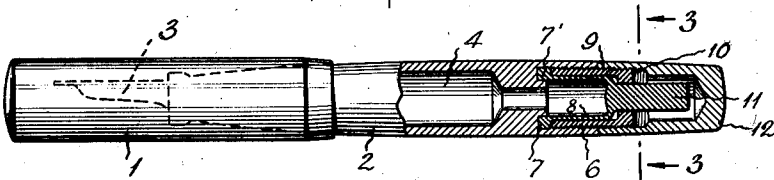


Fig. 2.

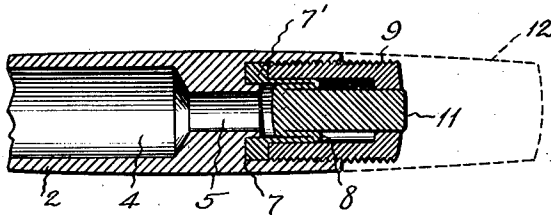
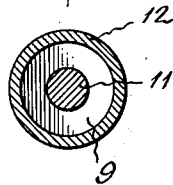


Fig. 3.



WITNESSES

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FOUNTAIN-PEN FILLER.

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This invention relates to fountain pens and filling mechanism therefor and has for an object to provide an improved construction wherein the usual sack is eliminated
5 and means provided for drawing a quantity of ink directly into the barrel.

Another object of the invention is to provide a fountain pen in which a collapsible cup is provided at one end of the barrel of
10 a fountain pen and associated with a plunger for permitting a ready collapsing thereof for expelling air from the barrel of the fountain pen.

A still further object of the invention is to provide a fountain pen with a filling mechanism at the end opposite the pen, the arrangement being such that the filling
15 mechanism may be operated once or several times to partially fill or entirely fill the barrel of a pen.

In the accompanying drawing—

Figure 1 is a view partly in elevation and partly in longitudinal vertical section, the same disclosing an embodiment of the invention.
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Figure 2 is a view similar to the right hand half of the showing of Figure 1, the same being on an enlarged scale and the filling mechanism moved to a collapsed
30 position.

Figure 3 is a transverse sectional view through Figure 1 on line 3—3, the same being on an enlarged scale.

Referring to the accompanying drawing by numerals, 1 indicates a cap which may be of any usual construction and which is normally slipped over one end of the barrel
35 2 so as to cover the pen point 3 and associated parts when the device is not in use. The barrel 2 is formed with the usual chamber 4 but in the present invention it is not necessary to provide a bag in this chamber as the ink is drawn directly into
40 the chamber and is fed therefrom in the usual manner as the pen is used. The pen point 3 and associated parts are of any usual or preferred structure and form no part of the present invention except in combination.
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The barrel 2 at the end opposite the pen point 3 is provided with a reduced passage-way or bore 5 merging into an enlarged internally threaded chamber 6. An annular depression 7 is also provided into which the enlarged annular portion or enlargement 7'
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of the collapsible cup 8 is mounted. If desired, the annular enlargement 7' may be cemented or otherwise rigidly secured to the barrel 2. An externally threaded sleeve 9 is screwed into the chamber 6 until the
60 lower end thereof presses the enlargement 7' tightly and firmly into the annular groove 7. The sleeve 9 is provided with an apertured end 10 through which the rod or plunger 11 extends, said rod or plunger being preferably integral with the cup 8,
65 which cup is preferably made from a good grade of rubber and which is adapted to be collapsed as shown in Figure 2 when expelling either ink or air from the chamber 4.
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After the ink or air has been expelled as shown in Figure 2, the end of barrel 2 carrying the point 3 is submerged in ink in case it is desired to again fill the chamber 4 and then plunger 11 is released. This will permit the cup 8 to gradually distend until it assumes the position shown in Figure 1 and as it distends it will produce a suction or rarefaction in chamber 4 and in
75 this manner draw into this chamber a quantity of ink. As shown, the displacement of cup 8 is less than the chamber 4 and if it should be desired to entirely fill chamber 4 after the first supply of ink has been
80 drawn therein, the entire pen structure is moved to a vertical position with the point 3 uppermost. The plunger 11 is again caused to function until it assumes the position shown in Figure 2 and this action
85 will expel a given quantity of air so that an additional supply of ink may be drawn in as the cup again distends. This action is repeated several times or until the chamber 4 is completely filled. In order that the plunger 11 may not be actuated accidentally, a protecting cap 12 is screwed onto the outer end of the sleeve 9. This cap also acts as a lock nut for locking the sleeve against accidental movement. After the
90 chamber 4 has been filled or partially filled, the entire device then acts in the usual manner of a fountain pen.
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What I claim is:

1. In a fountain pen, a barrel having a reduced passage at the end opposite that carrying the pen point, and a chamber at said end, and a collapsible and extensible rubber cup in the said chamber and having its open end secured around said passage and pro-
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vided at its closed end with a short rod projecting out through an aperture in the end of the chamber, whereby when the cup has been collapsed in the chamber by the rod and the rod released, the cup will distend to produce suction in the barrel.

2. In a fountain pen, a barrel having a reduced passage at the end opposite that carrying the pen point and at said end an internally threaded chamber, a collapsible and extensible rubber cup having its open end secured around the said passage and provided at its closed end with a short rod projecting therefrom to normally lie wholly outside of the cup, and an externally threaded sleeve screwing into the said chamber around the cup and having an apertured end through which the rod projects.

3. In a fountain pen, a barrel having a reduced passage adjacent its upper end an annular groove around said passage, and an internally threaded chamber at said end, a collapsible and extensible rubber cup having at its open end an annular exterior enlargement fitting in the groove surrounding the passage and provided at its closed end

with an integral short rod projecting therefrom to normally lie wholly outside of the cup, and an externally threaded sleeve screwing into the chamber and into engagement with the annular enlargement of the cup, said sleeve enclosing the cup and having an apertured outer end through which the rod of said cup projects.

4. In a fountain pen, a barrel having a reduced passage adjacent its upper end and an internally threaded chamber at said end, a collapsible and extensible rubber cap having its open end secured around the passage and provided at its closed end with a short rod projecting therefrom to normally lie wholly outside of the cup, an externally threaded sleeve of a length greater than the depth of the chamber and screwing into the same with a portion projecting therefrom, said sleeve enclosing the cup and having an apertured end through which the rod projects, and an internally threaded cap screwing on the projecting end of the sleeve, said cap serving to protect the said rod and to prevent accidental movement of the sleeve.

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