J. ABEGG.

FOUNTAIN PEN.

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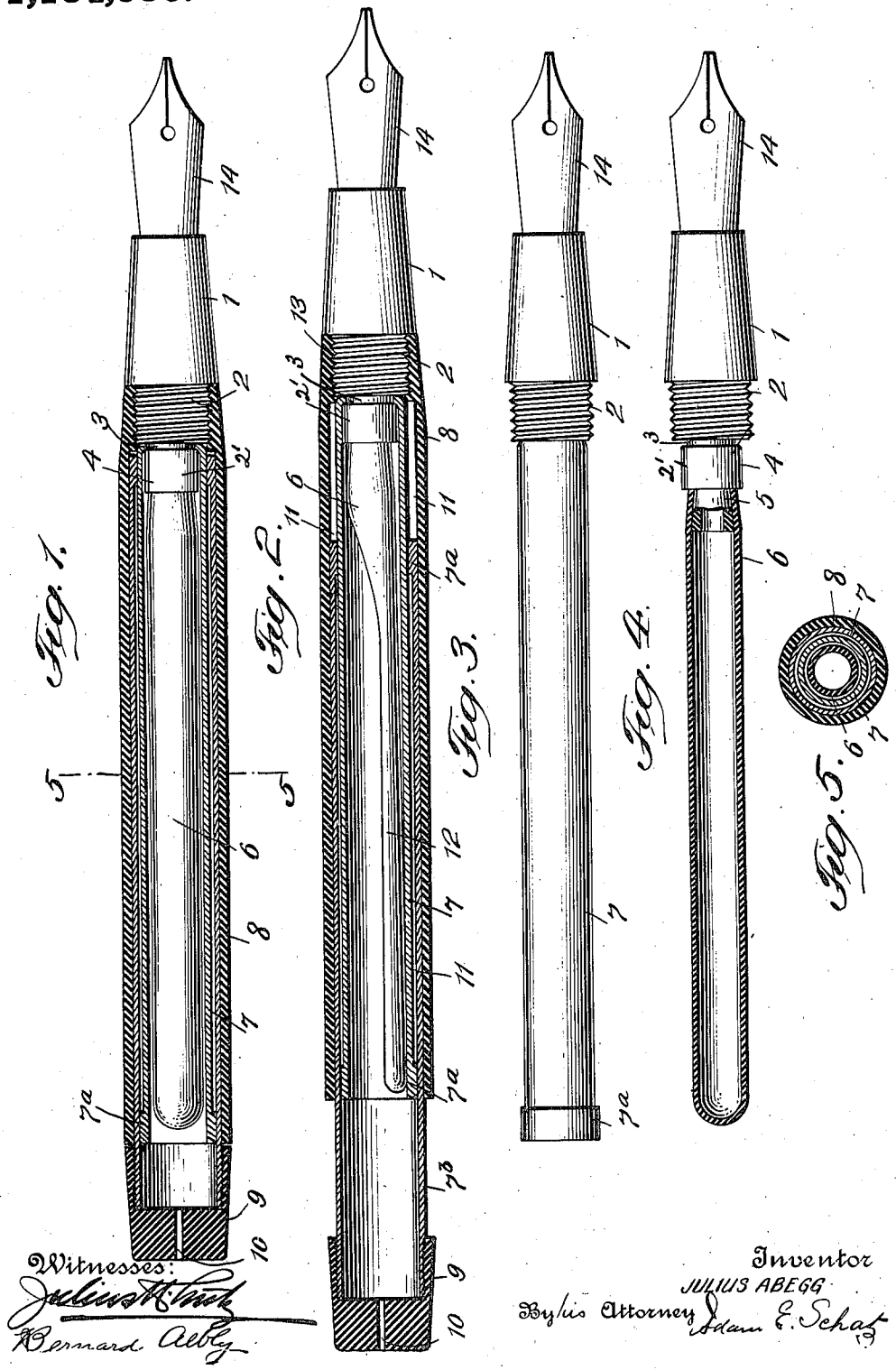
1,134,936.

Patented Apr. 6, 1915.



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UNITED STATES PATENT OFFICE.

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FOUNTAIN-PEN.

1,134,936. Specification of Letters Patent. Patented Apr. 6, 1915.

Application filed March 28, 1914. Serial No. 827,806.

To all whom it may concern:

Be it known that I, JULIUS ABEGG, a citizen of the United States, and resident of Hoboken, in the county of Hudson and State of New Jersey, have invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

The object of my invention is to construct a fountain pen in which I provide three tubes of suitable material in which the inner tube acts as a protection to the elastic sack, into which ink is sucked by compressing said sack by air pressure, produced by drawing the inner sliding tube out, letting air into the tube through an opening in the top of the said tube and then placing the finger over the opening to retain the air and pressing the same back to its normal position and thus compressing the sack along its whole length thus forcing the air or ink that may be contained in the sack out. The pen nozzle is then inserted into the ink, the opening at the other end released, and the vacuum formed in the sack is filled with ink. The interior tube is provided at its outer upper end, with a shoulder, which engages with the shoulder provided on the lower inner end of the middle or compression tube, and is thus prevented from being pulled entirely off the innermost tube. Furthermore, the shoulders on the two inner tubes act as a packing to prevent the air pressure being partly lost, since they form a practically air tight compartment, so long as the end opening is covered.

Another object I have in view, is so compressing the sack, that it will not collapse, and will carry sufficient ink to fill the entire sack, which may be the full length of the tube.

I am aware that plungers and other devices have been tried but in such cases the sack must be of small size and cannot carry sufficient ink, the sack in many cases buckling, thus preventing the inlet of ink in sufficient quantity.

I attain these objects by means of the mechanism shown on the accompanying drawings, in which—

Figure 1, is a vertical sectional view of a fountain pen embodying the chief particulars of my invention. Fig. 2, is a vertical sectional view, with the central tube drawn out, preparatory to filling the same with air. Fig. 3, is a vertical view with the inner tube, as attached to the nozzle or inlet. Fig. 4, is a vertical sectional view showing the sack as the same is attached to the nozzle head. Fig. 5, is a cross section on line 5—5 of Fig. 1.

Referring to the drawings 1 is a nozzle to which is attached at its inner end an inlet 2′.

4 is a shoulder which fits tightly into the forward end of an inner tube 7, the forward end of the said inner tube being forced into the recess 3 between said shoulder 4 and the threaded end of the nozzle in order to make a tight joint; 5 is a shoulder narrower at its base, in order to form a collar to which the sack 6 is tightly fixed by any suitable means.

7 is the inner tube having at its rear end the shoulder 7^a.

8 is the outer casing or tube, which may be constructed of hard rubber or any suitable material and is provided at one end on its innermost side with a thread 13 to lock the same with the nozzle thread 2.

9 is a cap showing a central air opening, 10 to let in the air when the tube 7 is drawn for the purpose of compressing the sack to charge the same with ink. This cap may be attached to the tube 7 by friction and may be of sufficient length to serve as a cap for the nozzle and pen although the cap 9 being conically shaped, may serve as a holder for a protecting cap for the nozzle, but not here shown.

10 are the air openings.

11 is a space formed between the inner and outer tubes, in which the packing 7^a slides. Of course these packings 7 and 7^a will be fitted to allow the tube 7 to be forced down, without too much resistance; 12 is the sack 6, shown in a compressed form, brought about by the pressure of the air within the inner tube, when tube 7 is forced to its normal position by closing the openings 10 with the finger; 13 represents the thread on the inner side of tube 8 and which engages with the thread 2 of the nozzle 1; 14 represents the pen inserted in the end of the nozzle 1.

To fill the pen it is only necessary to draw out the tube 7, by means of the cap 10. Then the finger is pressed over the opening and the tubes 7 is forced back to its normal

position, to compress the air, which in turn is forced along the sides of the sack, which is thereby compressed along its entire length and the contents forced out. The finger is then removed, and the collapsed sack draws up the ink, and becomes filled throughout.

Practice has shown that by the use of my construction the fountain pen will hold quite a large quantity of ink while the tube is protected from collapsing or buckling by the protection afforded by the inner tube.

What I claim as my invention and desire to secure by Letters Patent, is—

A fountain pen comprising a nozzle, a shoulder on said nozzle, and a compressible ink sack attached to said nozzle by said shoulder, a recess on said nozzle, an inner barrel surrounding the sack and the inner end of which is depressed in to said recess the outer end being open, an outer barrel carried by said nozzle, a tube slidable between said barrels and having a cap at its rear end with an opening therein.

Signed at New York city, in the county of New York and State of New York, this 26th day of March, A. D. 1914.

JULIUS ABEGG.

Witnesses:

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