

No. 729,139.

PATENTED MAY 26, 1903.

J. H. CROWELL.
FOUNTAIN PEN.

APPLICATION FILED NOV. 28, 1902.

NO MODEL.

Fig. 1.

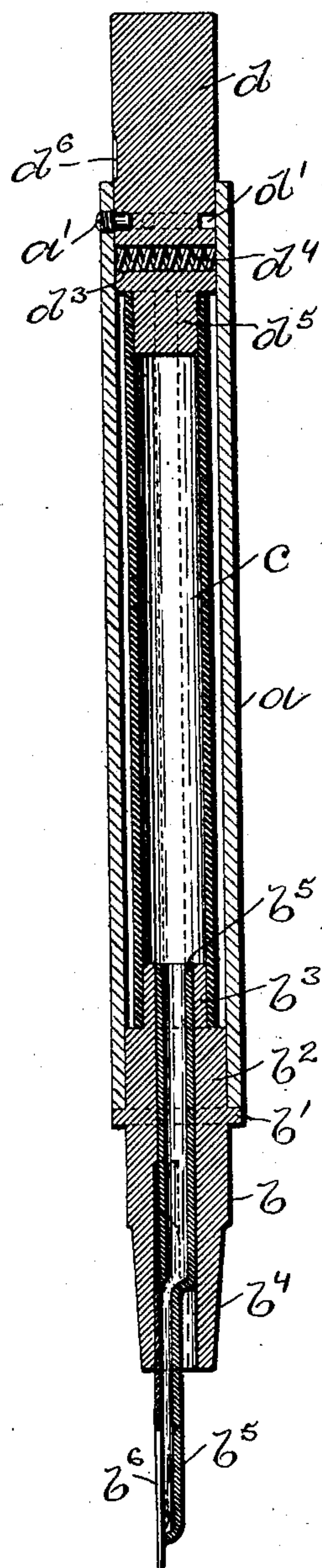


Fig. 2.

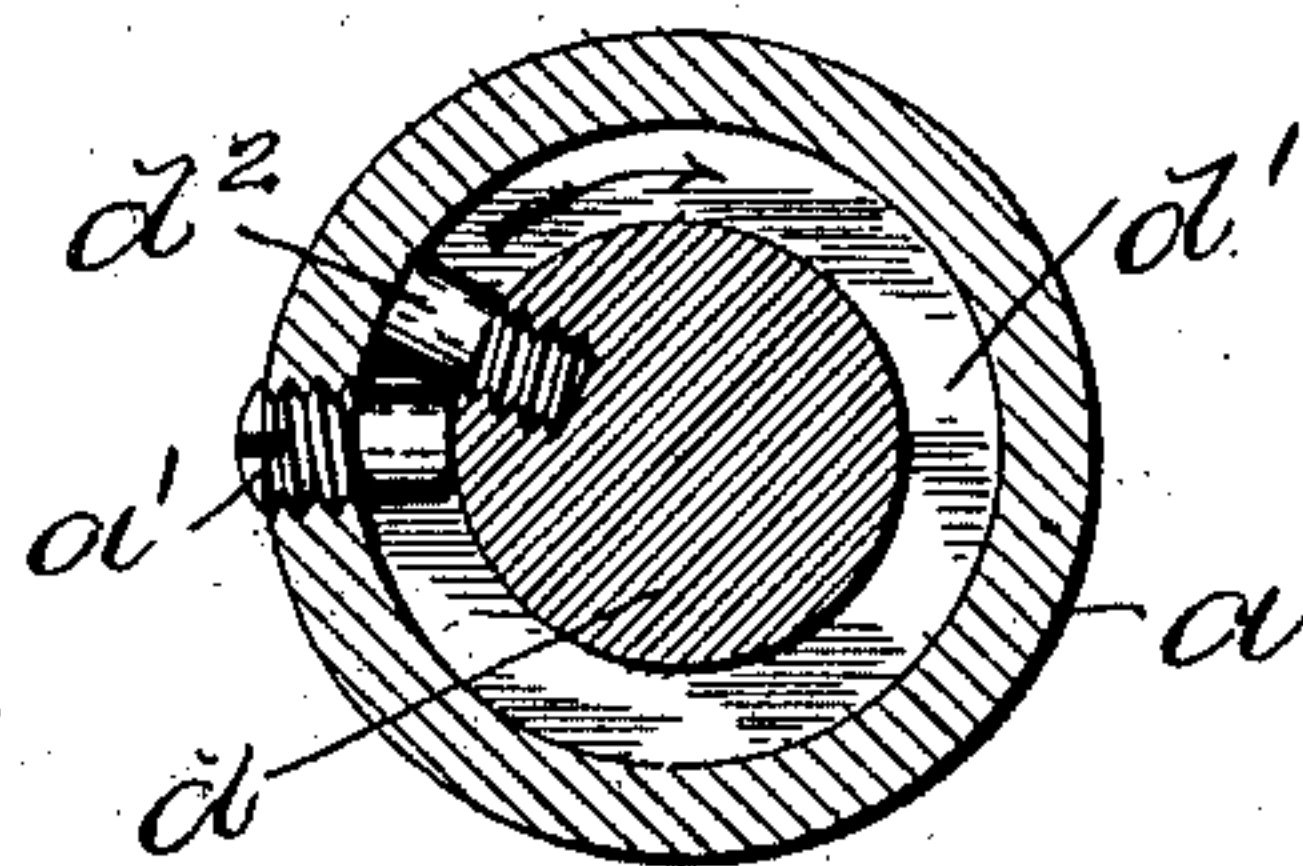


Fig. 3.

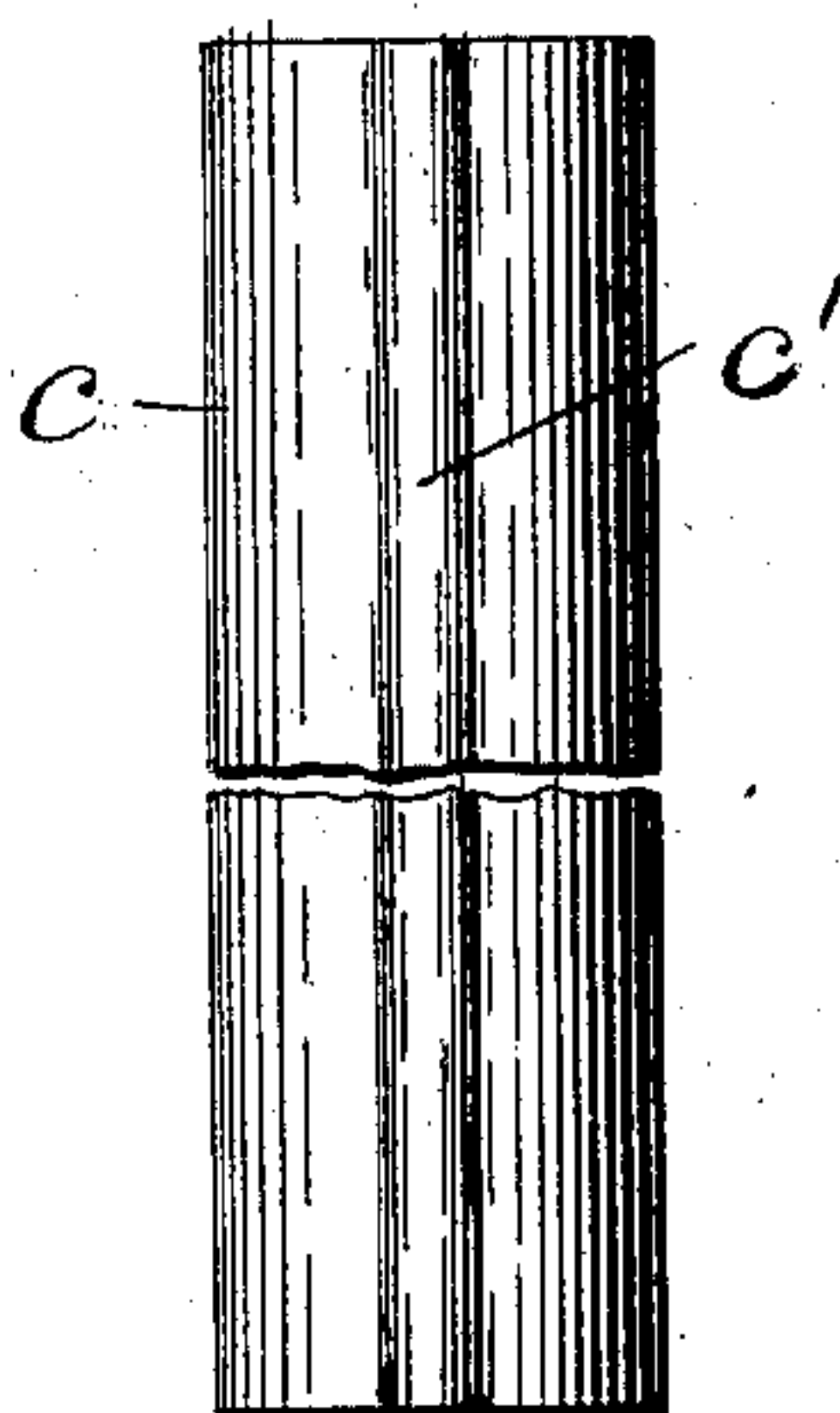


Fig. 6.

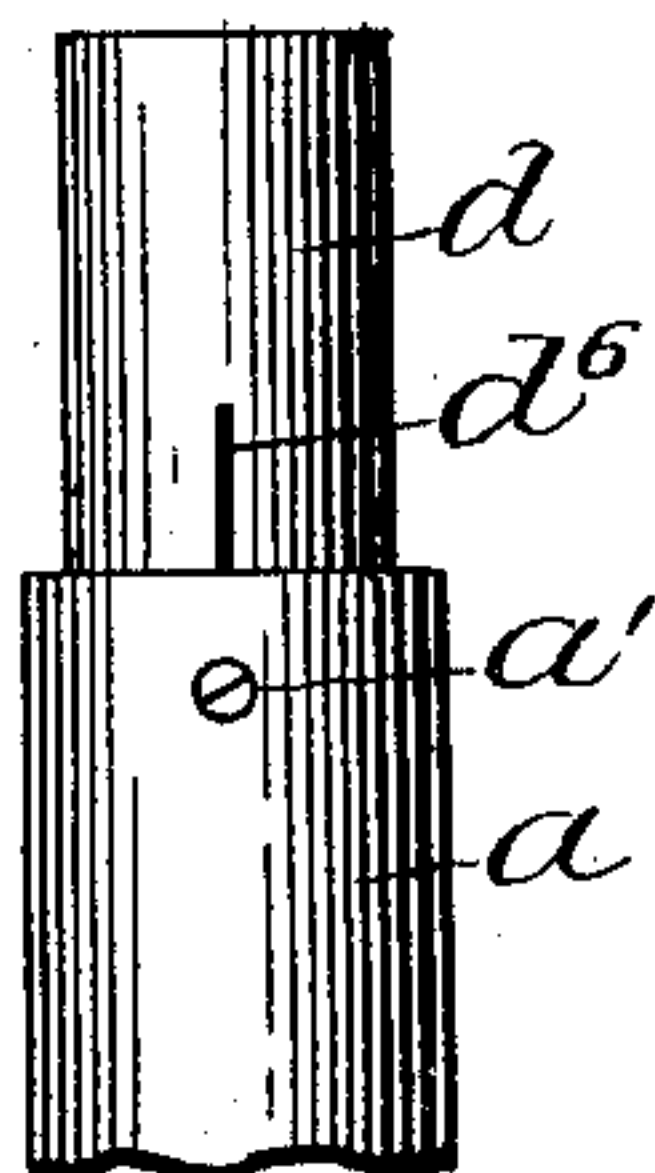


Fig. 4.

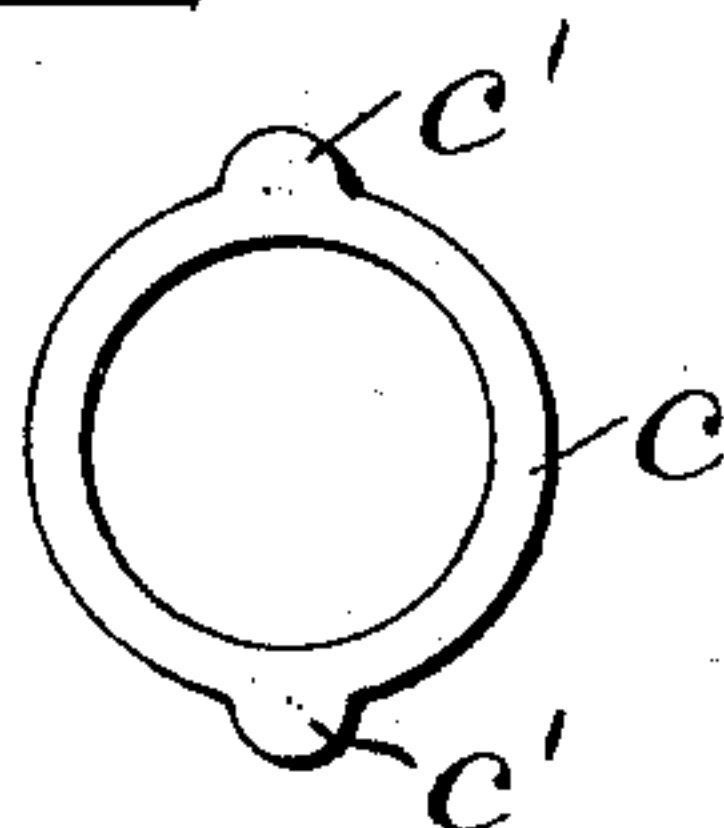
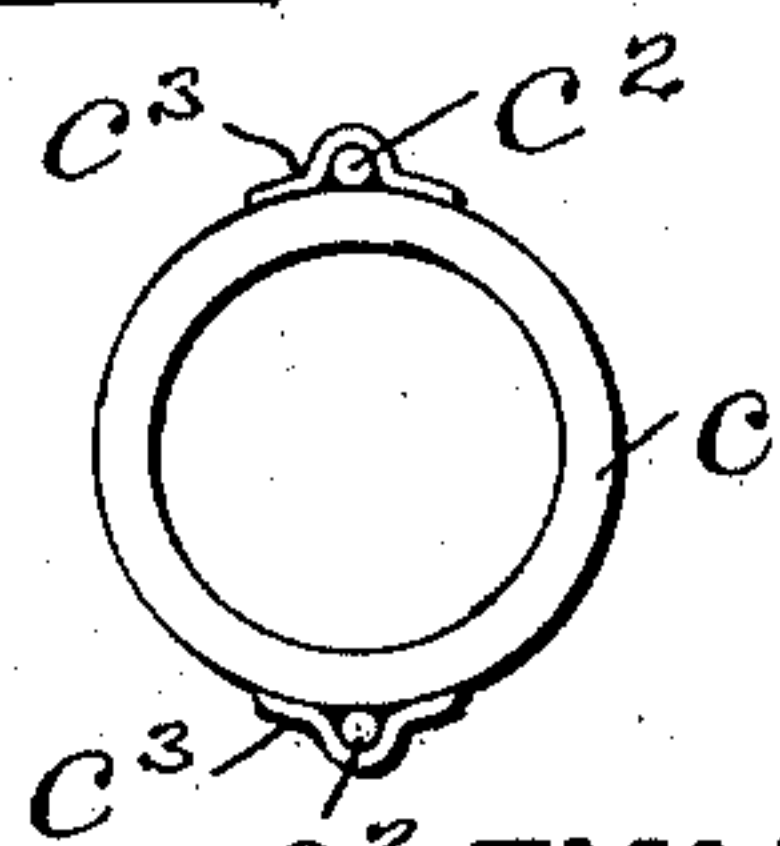


Fig. 5.



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FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 729,139, dated May 26, 1903.

Application filed November 28, 1902. Serial No. 133,081. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. CROWELL, a citizen of the United States, residing at Vineyard Haven, in the county of Dukes and State of Massachusetts, have invented a new and useful Improvement in Fountain-Pens, of which the following is a specification.

This invention has reference to an improvement in fountain-pens in which an elastic reservoir is used to contain the ink-supply.

The object of the invention is to insure a more reliable action of the elastic reservoir and a better control of the ink-supply.

To this end the invention consists in the peculiar and novel construction of the elastic reservoir and the operating devices for the same, whereby the supply of the ink to the reservoir and the delivery of the ink may be more reliably controlled, as will be more fully set forth hereinafter.

Figure 1 is a longitudinal sectional view of my improved fountain-pen. Fig. 2 is a transverse sectional view taken through the groove of the operating-post to show the stops by which the rotation of the post is limited. Fig. 3 is a side view of the elastic ink-reservoir, showing the same, on an enlarged scale, with the central portion cut out. Fig. 4 is an end view of the elastic ink-reservoir, and Fig. 5 is an end view of a modified form of the same. Fig. 6 is a detail view of the upper end of the fountain-pen, showing the index on the operating-post.

In the drawings, *a* indicates an open-ended cylindrical sleeve, and *b* the penholder, which serves as a plug by which one end of the sleeve *a* is closed. It has the flange *b'* bearing on the end of the sleeve *a*, the cylindrical plug *b²* closely fitting in the sleeve *a*, and the sleeve *b³*, on which one end of the elastic tube *c* is secured on one end and the tapering pen-support *b⁴* on the other end. The penholder *b* is perforated longitudinally. The ink-supply tube *b⁵* is secured in the perforation and extends to nearly the point of the pen *b⁶*, supported in the tapering end of the penholder. Within the other end of the sleeve *a* is inserted part of the operating-post *d*, and on the inserted part is formed the groove *d'*, having the stop *d²*, preferably screwed into the body of the post *d*. The stop *a'*, secured in the wall of the sleeve *a*,

projects into the groove *d'*. The inserted portion of the post *d* fits the sleeve with a sliding fit and is provided with the transversely-extending hole *d³*, in which the coiled spring *d⁴* is inserted, so that the ends of the coiled spring bear against the inner surface of the sleeve *a* and exert sufficient resistance to the turning of the post *d* within the sleeve to prevent accidental disturbance of the adjustment of the operating-post *d*. The cylindrical stud *d⁵* on the inner end of the post *d* forms the support for the corresponding end of the elastic tube *c*. The portion of the post *d* extending beyond the end of the sleeve *a* serves to turn the post and is provided with the index-mark *d⁶*, preferably placed on a line with the stop *a'* when the stop *d²* is in the position shown in Fig. 2. The projecting end of the post *d* may be formed into a head. The elastic tube *c*, which forms the ink-reservoir, is made of rubber or similar elastic material and is provided, preferably on the opposite sides, with the ribs formed, preferably, of rubber and integral with the tube *c*.

In the modified form, as shown in Fig. 5, two wires *c² c²* are shown secured to the opposite sides of the elastic tube *c* by the bands *c³ c³*.

The object of the longitudinally-extending ribs *c' c'* or the wires *c² c²* is to insure the uniform twisting of the elastic tube *c* from end to end and prevent the local twisting of the elastic tube, which causes local strain on the tube and impairs the utility as well as the life of the elastic tube.

To enable others skilled in the art to use my improved fountain-pen, I will describe the operation of the same more fully. When the reservoir of the pen is to be filled with ink, the post *d* may be turned in the sleeve *a* nearly a complete turn, when the stop *d²* is brought in contact with the stop *a'*. This turning movement of the post *d* acts on the end of the elastic tube *c*, secured to the post, and by means of the ribs *c' c'* or the wires *c² c²* twists the elastic tube uniformly from end to end, thereby contracting the tube. When now the pen and the supply-tube *b⁵* are immersed into ink and the operating-post *d* is turned in the reverse direction, the elastic tube will untwist and expand, drawing the ink into the elastic tube *c*. The supply of ink to the pen may now be

regulated by turning the operating-post d in the direction of the arrow shown in Fig. 2 to partly contract the elastic tube. The index-mark d^b indicates to the eye the exact condition of the concealed elastic tube and enables the user to accurately adjust the delivery of the ink to the pen.

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

1. In a fountain-pen, an ink-reservoir of elastic material locally reinforced by projecting ribs formed integral with the reservoir, as described.

2. In a fountain-pen, an ink-reservoir consisting of a tube of elastic material reinforced by longitudinal ribs, as described.

3. In a fountain-pen, the combination with the elastic tube c , of means for reinforcing the tube, as and for the purpose described.

4. In a fountain-pen, a rotatably-mounted operating-post, an index on the post, and means, substantially as described, for holding the post in the adjusted position, as described.

5. In a fountain-pen, the combination with the elastic reservoir and the inclosing sleeve

a , of the operating-post d , the groove d' in the post, a rotatable stop in the groove and a fixed stop on the sleeve extending into the groove, as described.

6. In a fountain-pen, the combination with the sleeve a and the stop a' on the same, of the operating-post d , the spring d^4 extending transversely through the stop and bearing on the inner surface of the sleeve, the groove d' , and the stop d^2 , as described.

7. In a fountain-pen, the combination with the elastic tube c and the sleeve a inclosing the tube, of the penholder b forming a plug for closing one end of the sleeve, and a support for one end of the elastic tube, of an operating-post secured to the other end of the elastic tube and mounted to rotate on a fixed plane in the sleeve, an index on the operating-post, and stops limiting the rotation of operating-post, as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

JOHN H. CROWELL.

Witnesses:

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