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Patented Nov. 22, 1898.

W. W. STEWART.
FOUNTAIN PEN.

(Application filed Jan. 28, 1898.)

(No Model.)

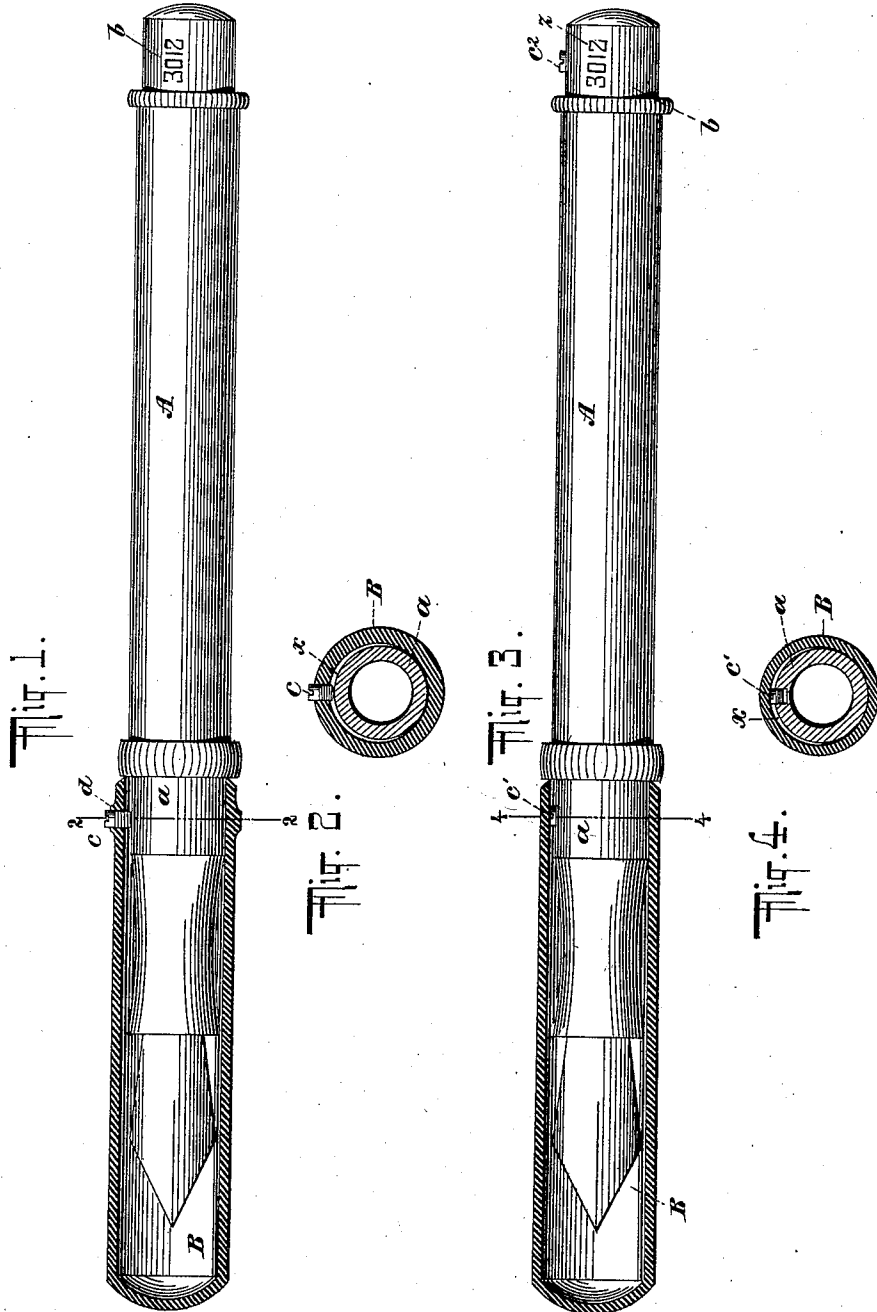


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

WITNESSES:

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FOUNTAIN-PEN.

SPECIFICATION forming part of Letters Patent No. 614,630, dated November 22, 1898.

Application filed January 28, 1898. Serial No. 668,299. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM W. STEWART, residing in New York, borough of Brooklyn, county of Kings, and State of New York, have
5 invented certain new and useful Improvements in Fountain-Pens, of which the following is a specification.

My invention relates to means for maintaining the caps of fountain-pens and like devices properly secured friction-tight to their holders and to compensate for any looseness between the cap and holder.

Heretofore great difficulty has been had in providing caps for fountain-pens or like devices which would fit friction-tight upon their holders. It has been found almost impossible to make any two caps of exactly the same dimensions. Thus the same drill used in finishing the interior of the caps often produces
20 openings of sufficiently different dimensions to enable one cap to be maintained friction-tight upon a holder, while another cap cannot be maintained in place. This is due to the fact that in some cases the pressure exerted
25 in the act of turning or drilling the cap is greater than at other times, and again the drill quickly becomes dull, which results in a change in the dimensions of the cap. It has also been found that the use of different
30 grades of vulcanite in the manufacture of caps would in itself result in holes of different proportions being formed in the caps. It is likewise customary in the manufacture of fountain-pens to impress different numerals or characters upon the cap-receiving head of the holder, as indicated at *z* in the drawings, for the purpose, among others, of indicating the character of the pen. The pressing of these numerals usually left slight burs raised
40 on the periphery of the cap-receiving head, which rendered it necessary to force the cap in place thereon. This caused an enlargement of the cap, and it could not afterward be maintained friction-tight upon the nozzle end of the holder.

The object of my invention is to overcome these and other disadvantages present in fountain-pens heretofore made and to provide at little additional expense simple and
50 efficient means for compensating for any dif-

ferences in dimensions between the cap of the fountain-pen and the part or parts of the holder with which the said cap coöperates.

To these ends my invention consists in the novel arrangement and combination of parts
55 hereinafter described and claimed.

In the accompanying drawings, wherein like characters represent corresponding parts in the different views, Figure 1 is a side elevation of a fountain-pen embodying my
60 invention, the cap being shown in section. Fig. 2 is a sectional view of the same on the line 2 2, Fig. 1. Fig. 3 is a side elevation of a fountain-pen corresponding to the representation shown in Fig. 1 and illustrates a modified form of construction embodying my
65 invention. Fig. 4 is a transverse sectional view of the same on the line 4 4 of Fig. 3.

In the drawings, A represents a holder or reservoir of a fountain-pen or other similar
70 device, which may be of any desired or preferred construction and which is shown as provided with a cap-receiving portion *a* at the nozzle end of the pen and a cap-receiving portion *b* at the head of the pen.

B represents a pen-protecting cap, which may be of any desired construction, and is shown in the present instance as provided with a set-screw *c*, which is preferably carried by a portion of the holder where the
80 stock is thickened, as indicated at *d*, for the purpose of giving a better bearing or support for the screw. The screw is adapted to pass entirely through the cap and to be brought into contact with the cap-receiving portion
85 *a*, as indicated in Figs. 1 and 2. It is obvious that when the cap is withdrawn from the nozzle end of the pen the same screw *c* will contact with the cap-receiving head or portion *b* in the same manner that it does at the nozzle end of
90 the pen.

In Figs. 3 and 4 a modified construction is illustrated, wherein set-screws *c'* *c''* are carried by the cap-supporting portions of the holder at the nozzle and cap-receiving head,
95 respectively. These set-screws are adapted to abrade against the inner face of the cap and to maintain a frictional contact between the cap and the holder.

It will be observed that by my invention I 100

provide adjustable means for regulating the frictional contact between the cap and the cap-supporting portions of the holder, and in practice I find it desirable to make the seat of the cap slightly larger than the cap-receiving portions of the holder, so that the cap may without difficulty be placed upon the cap-receiving portions of the holder and will provide a small air-space, as indicated at *x*, between the inner wall of the cap and the cap-supporting portion *a* of the holder.

It has been customary heretore to make small vent-holes in the caps of fountain-pens in order to allow the free passage of air from the interior of the holder or reservoir when the pen is carried in the pocket of the user, the heat from the body causing the expansion of air in the reservoir. These holes are likewise provided in some pens to prevent ink from being drawn from the holder when the cap is quickly withdrawn from the nozzle, as would be the case with a closed cap, because of the partial vacuum formed in the cap. It will be observed that by my invention these vent-holes may be dispensed with, because sufficient space can be provided between the holder and the cap to allow the free passage of air.

Having described my invention, what I claim, and desire to secure by Letters Patent, is—

1. In a fountain-pen, the combination of a holder, a removable pen-protecting cap adapted to be retained in place thereon by frictional contact, and supplemental means for maintaining frictional contact between said cap and holder.

2. In a fountain-pen, the combination of a holder, a removable pen-protecting cap adapted to be retained in place thereon by frictional contact, and supplemental adjustable means for regulating the frictional contact between said cap and holder.

3. In a fountain-pen, the combination of a holder, a removable pen-protecting cap adapted to be retained in place thereon by frictional contact and adjustable means carried

by said cap and adapted to bear upon the cap-receiving portion or portions of the holder.

4. In a fountain-pen, the combination of a holder, a removable pen-protecting cap adapted to be retained in place thereon by frictional contact, and an adjustable screw carried by said cap and adapted to bear upon the cap-receiving portion or portions of the holder.

5. In a fountain-pen, the combination of a holder, a removable pen-protecting cap having a seat of larger dimensions than the cap-receiving portions of said holder so as to provide an air-space between said parts to admit air to the pen, and means for maintaining the cap in frictional contact with the cap-receiving portions of the holder.

6. In a fountain-pen, the combination of a holder, a removable pen-protecting cap having a seat of larger dimensions than the cap-receiving portions of said holder so as to provide an air-space between said parts to admit air to the pen, and adjustable means independent of said cap and holder for maintaining the cap in frictional contact with the cap-receiving portions of the holder.

7. In a fountain-pen, the combination of a holder, a removable pen-protecting cap having a seat of larger dimensions than the cap-receiving portions of said holder so as to provide an air-space between said parts to admit air to the pen, and an adjustable screw for maintaining the cap in frictional contact with the cap-receiving portions of the holder.

8. In a fountain-pen, the combination of a holder, a removable pen-protecting cap having a seat of larger dimensions than the cap-receiving portions of said holder so as to provide an air-space between said parts to admit air to the pen, and an adjustable screw carried by the cap and adapted to bear upon the cap-receiving portions of the holder.

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Witnesses:

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