

(No Model.)

D. W. BEAUMEL.
STYLOGRAPHIC PEN.

No. 507,348.

Patented Oct. 24, 1893.

Fig. 1.

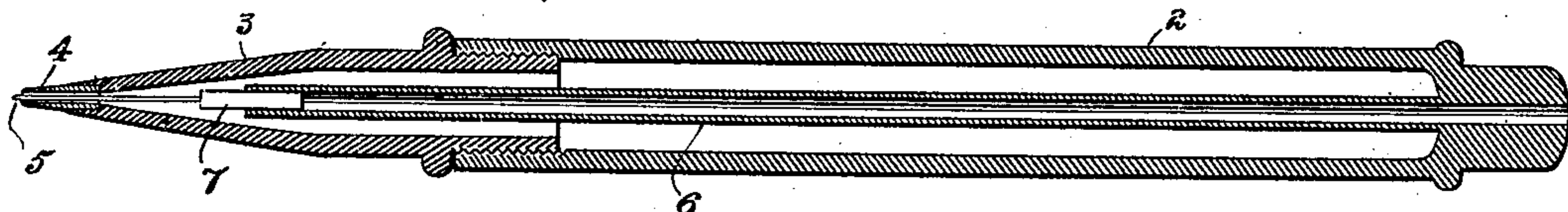


Fig. 2.

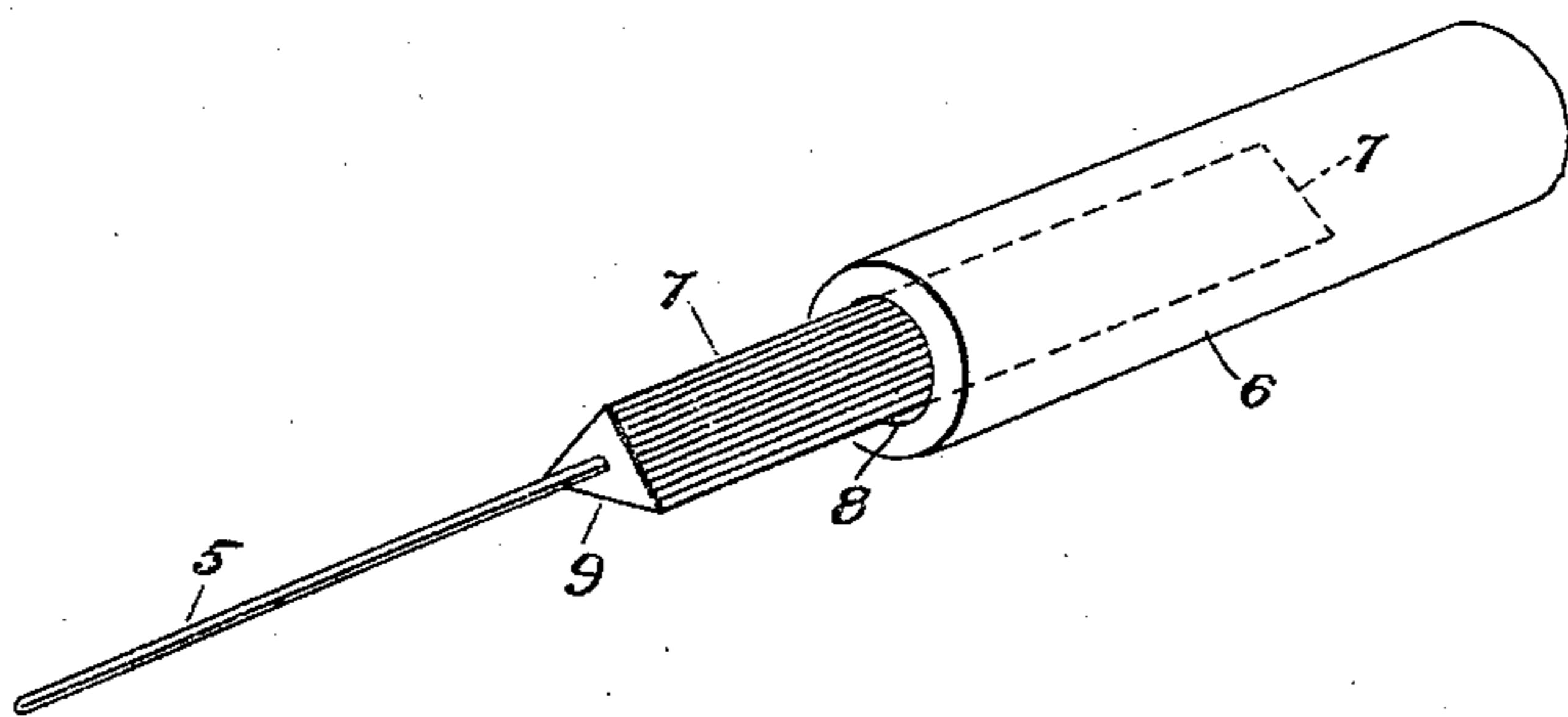


Fig. 3.

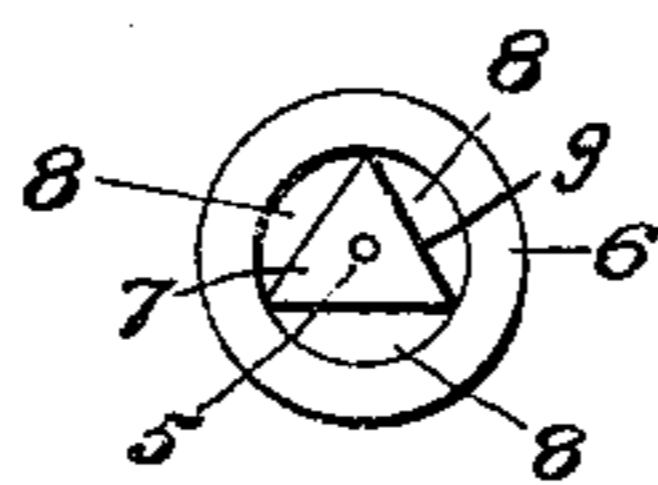
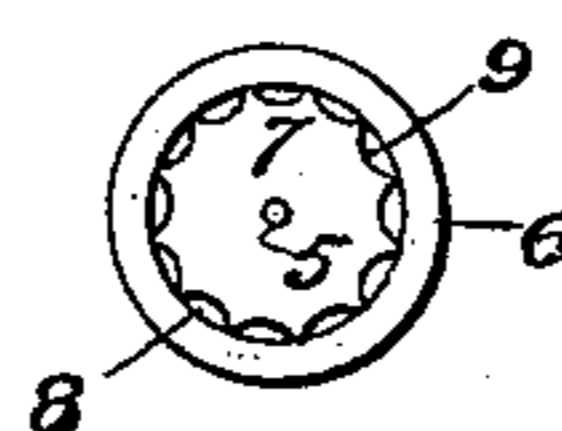


Fig. 4.



Fig. 5.



WITNESSES:

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STYLOGRAPHIC PEN.

SPECIFICATION forming part of Letters Patent No. 507,348, dated October 24, 1893.

Application filed June 14, 1893. Serial No. 477,584. (No model.)

To all whom it may concern:

Be it known that I, DAVID W. BEAUMEL, a citizen of the United States, residing at New York city, county and State of New York, have
5 invented certain new and useful Improvements in Stylographic Pens, of which the following is such a full, clear, and exact description as will enable any one skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a self-supplying stylographic pen and it consists in the various
15 novel and peculiar arrangements and combination of the several parts of the device, all as hereinafter fully described and then pointed out in the claims.

I have illustrated my invention in the accompanying drawings, wherein—

Figure 1, is a view in section of the complete pen, the plane of which section passes through the longitudinal axis of the pen. Fig. 2, is an enlarged perspective view of part
25 of the air-tube together with the vent-plug and stylus or needle. Fig. 3, is an end view of the parts shown in Fig. 2. Figs. 4 and 5, are, respectively, modifications of the vent-plug—the view in these figures being the same as that in Fig. 3.

Referring to the drawings, in which like numbers of reference indicate like parts throughout, 2 designates the hollow handle or reservoir of the pen, into the lower end of
35 which is inserted a nozzle 3, the outer end of which is cone-shaped and formed with a perforation or duct 4, through which the stylus or needle 5, loosely passes. An air-tube 6, leads from a suitable exterior part, preferably the butt end, of the handle or reservoir
40 2, and extends thence down into the nozzle. The several described parts are well known in this class of pens and they may be constructed and arranged as shown or in any other well known suitable manner. The inner end of this air-tube is open and into such
45 end I insert a vent-plug 7, which is preferably held in position by friction by virtue of the edges of the plug bearing against the interior of the tube. Between the exterior of the vent-plug 7, and the interior of the air-

tube 6, I form one or more air-ducts 8, 8, for the purpose of admitting the requisite quantity of air to the reservoir of the pen. In the constructions herein shown, the air-ducts 8,
55 are formed by cutting away or flattening the sides of the vent plug as at 9, 9, and I prefer to have more than one of such ducts, so that in case one of the same should become stopped up the air would still be admitted to the reservoir through the remaining duct or ducts.

In Figs. 1, 2 and 3, the vent-plug is of a prismatic shape, that is, it is triangular in cross-section and presents three flat sides 9,
65 9, which in conjunction with the interior of the air-tube forms the requisite air-ducts 8.

In Fig. 4, the vent-plug is hexagonal in shape having six flat sides 9, and thereby affords six air-ducts 8.

In Fig. 5, the vent-plug has its exterior
70 formed with grooves or corrugations 9, which together with the interior walls of the air-tube form a series of air-vents.

I have by preference shown the vent-plug 7, as carrying the needle or stylus 5, but this
75 construction need not be adhered to. Instead of flattening or cutting away the sides of the vent-plug at 9, 9, in order to form the air-ducts, the interior walls of the vent-tube may be cut away or grooved and the vent-plug in
80 such case may be cylindrical, thereby accomplishing the same results. The vent-plug may be adjusted length-wise in the tube in order to regulate the amount of protrusion of the stylus from the nozzle. The vent-plug
85 may also be turned on its axis within the tube when the ink becomes clogged in the air-ducts. Such movement of the plug serves to dislodge the ink and clean the air-passages. For the purpose of the invention, it is not
90 necessary to have the extreme outer end of the vent-plug flattened or grooved in the same manner as the part within the air-tube, if for any reason it should be desired to have the outer end shaped otherwise, since the purpose of flattening or grooving the plug is to
95 obtain an air-vent from the tube.

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

1. In a stylographic pen, the combination of an ink reservoir, a nozzle, a needle or stylus

projecting through said nozzle, an air-tube for admitting air to the reservoir, and a vent-plug inserted in the inner end of the said air-tube and having an air-duct or ducts intermediate the plug and the interior of the air-tube, substantially as and for the purpose set forth.

2. In a stylographic pen, the combination of an ink reservoir, a nozzle, an air-tube for admitting air to the reservoir, a vent-plug inserted in the inner end of said air-tube and provided with a needle or stylus, and an air-duct or ducts formed intermediate the plug and the interior of the air-tube, substantially as and for the purpose set forth.

3. In a stylographic pen, the combination of an ink reservoir, a nozzle, a needle or stylus projecting through said nozzle, an air-tube for admitting air to the reservoir, and a vent-plug formed with one or more flattened or cut-away sides and inserted in the inner end of said air-tube, substantially as and for the purpose set forth.

In testimony whereof I have hereunto set my hand, this 13th day of June, 1893, in the presence of two subscribing witnesses.

DAVID W. BEAUMEL.

Witnesses:

A. M. HAYES,
WILLIS FOWLER.