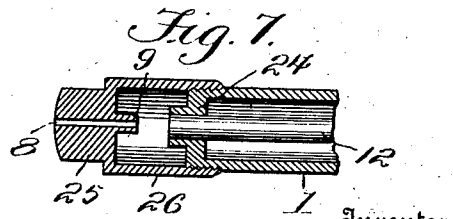
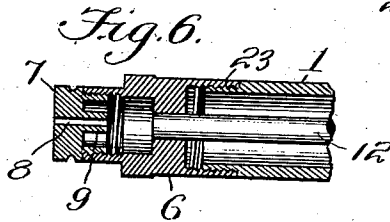
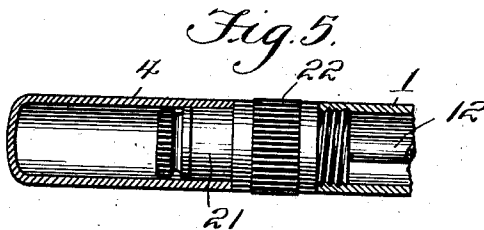
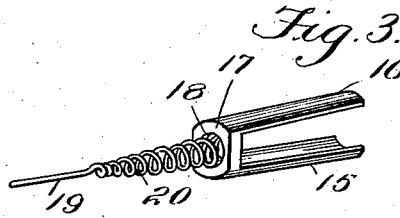
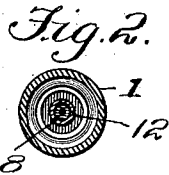
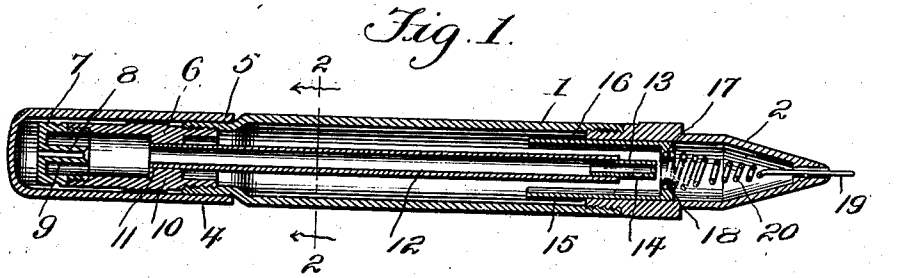


J. WALLACE.
INK PENCIL.

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1,085,714.

Patented Feb. 3, 1914.



Witnesses
J. T. L. Wright
D. W. Gould.

Inventor
Joseph Wallace
By Victor J. Evans,
Attorney

UNITED STATES PATENT OFFICE.

JOSEPH WALLACE, OF CHICAGO, ILLINOIS.

INK-PENCIL.

1,085,714.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, JOSEPH WALLACE, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Ink Pencils, of which the following is a specification.

The invention relates to an improvement in ink pencils, being more particularly directed to a means whereby the air supply to induce the ready flow of the writing fluid may be rendered more certain, and the various parts arranged to provide for such air supply or vent readily separable to permit their convenient cleaning.

The main object of the present invention is the provision of means for venting or supplying air to the interior of the pencil to induce a proper flow of the writing fluid, said means being so constructed as to be readily separable for cleaning and so arranged in the completed structure as to afford an even, steady flow of the fluid when the pencil is in use, and adapting the closing cap for direct engagement with the barrel and wholly free of contact with the connection for the venting means whereby to avoid accidental disconnection of such means in the operation of the cap.

The invention in its preferred details of construction will be described in the following specification, reference being had particularly to the accompanying drawings, in which:—

Figure 1 is a longitudinal section through an ink pencil constructed in accordance with my invention. Fig. 2 is a transverse section on the line 2—2 of Fig. 1. Fig. 3 is a perspective view of the pin carrier and pin. Fig. 4 is a view in elevation, partly in section, of the completed pen. Fig. 5 is a fragmentary section, partly in elevation, of the upper or handle end of the pen. Fig. 6 is a fragmentary longitudinal section, partly in elevation, illustrating a modified construction of the air supply means. Fig. 7 is a similar view showing a different form.

Referring particularly to the accompanying drawing, the improved ink pencil or stylographic pen comprises a barrel 1 interiorly threaded at one end for the reception of the point piece or member 2, which point piece is of the usual construction hav-

ing a section arranged for threaded connection with the barrel and being beyond said section circumferentially enlarged to correspond with the exterior diameter of the barrel, the enlargement being roughened, as at 3; for convenience in connecting or disconnecting the parts. Beyond the roughened portion the point piece is circumferentially reduced to provide for the reception of a closing cap 4, and beyond the reduced portion tapers to the usual writing point. The opposing end of the barrel is, in the form illustrated in Figs. 1 and 4, circumferentially reduced to provide an extension 5 for the reception of the cap while the pen is in use. The extension 5 is interiorly threaded to receive the exteriorly threaded end of a holding sleeve 6. The opposite end of the sleeve 6 is interiorly threaded to receive a vent cap 7, which cap is centrally formed with an inwardly extending tube-like section 8, the bore of which opens through the cap to provide for the entrance of air to the interior. The section 8 has a diameter materially less than the interior diameter of the cap, thereby providing an annular chamber 9 in the cap and surrounding the tube section 8 for a purpose which will presently appear. Immediately adjacent its juncture with the extension 5 on the barrel the sleeve member 6 is formed with a transverse partition 10 having a central opening 11 in direct alinement with and corresponding to the opening of the tube section 8.

An air tube 12 is provided comprising a suitable length of a tube-like section having an exterior diameter corresponding to the interior diameter of the opening 11 in the partition 10, whereby said air tube may be frictionally held within said opening, and thus in alinement with though spaced from the tube section 8 of the vent cap. That end of the air tube remote from the sleeve 6 is provided with a removable closing section 13, also a tube-like member having an exterior diameter corresponding to the interior diameter of the air tube 12, so that the closing section may be removably inserted within the end of the air tube and frictionally held therein against displacement during use. The outer or free end of the section 13 is closed, the circular wall of said section, preferably adjacent the closed

end, is formed with one or more vent openings 14.

Slidably mounted within the point piece 2 is what I term a pin carrier, comprising spaced sections 15 and 16 conforming on their outer surfaces to the curvature of the upper end of the point piece. At their lower ends the sections 15 and 16 of the carrier are connected by a transverse bridge plate 17 centrally formed with an opening 18 having a diameter exceeding that of the air tube. The usual closing pin 19 is provided, forming the terminal of a spring section 20 preferably constructed of convolutions having gradually decreasing diameters toward the pin. The spring section, at its upper end, is secured within the opening 18 of the carrier, whereby the life of this part of the pen is materially increased through the manner of connecting the spring and carrier, while at the same time the flow of ink from the barrel is, through the carrier, in a direct line with the writing point, whereby the feed is of the direct gravity type throughout the length of the carrier throughout the length of the spring.

With the parts assembled for use it will be noted that the free end of the closing section of the air tube terminates immediately above the opening 18 of the carrier, whereby all interference with the flow of ink through the opening 18 and through the spring is avoided. Furthermore, there is formed between the upper end of air tube and the lower end of the tube section 8 of the vent cap a chamber into which any ink which may find its way into the air tube on the inversion of the pencil will be caught. This will tend in a measure to free the air tube and tube section 8 of the vent cap of any possibility of clogging. The important feature, however, in connection with the invention is the arrangement of parts for convenient separation to permit their ready cleansing in the event of clogging. For example, the removal of the vent cap 7 provides complete access to the interior of the sleeve 6, and the separation of this sleeve from the valve drawing with it the air tube 12 provides access to these parts. Upon the removal of the closing section 13 of the air tube an unrestricted passage is provided which may be readily and conveniently cleansed in a simple and expeditious manner, as for example by forcing water through the same. It being appreciated that it is through the clogging of the air supply that stylographic pens and similar automatic ink feeding writers are rendered inoperative, the importance of arranging the parts so that any one without the use of tools, or without requiring skill or experience, can readily and conveniently separate the parts and expeditiously and simply cleanse them to remove every atom of obstruction, will be

apparent. This object is readily attained by the construction described and in a manner to avoid complication and without increasing the cost of construction. It will be further noted that the closing cap 4 directly engages the barrel while at the same time enclosing the holding sleeve 6 and vent cap 7, the closing cap being wholly free of connection with the holding sleeve and vent cap to avoid accidental movement of these parts in the separation of the cap from the barrel.

In Fig. 5, I have shown a construction identical with that described in connection with Fig. 1 except that in this instance the upper end of the sleeve section 6 is circumferentially reduced, as at 21, to receive the cap 4, and that portion of the sleeve intermediate the cap and barrel is peripherally roughened, as at 22, for convenience in connecting or separating the parts.

Fig. 6 discloses a construction identical with that in Fig. 5 except that the sleeve section 6 is arranged for exterior connection with the barrel, as at 23, instead of having interior connection therewith, as in the preferred form.

In Fig. 7, I have shown the air tube holding partition, as 24, corresponding to the partition 10 in the preferred form as integral with the barrel, and formed to prevent the cap 25 integral with and as a part of a sleeve member 26 arranged for exterior threaded connection with the barrel immediately adjacent the partition 24.

In all these forms provision is made beyond the air tube, as by an enlarged chamber or the like for the reception of any ink which may find its way into the air tube, which chamber is, of course, closed against the ink receiving space of the barrel except through the air tube. Furthermore, in all the forms the vent cap is separable from the barrel or from the contiguous part of the pen and the air tube separable from the barrel and the latter is provided with a removable closing section, so that all parts which may possibly be clogged with the ink, and which through such clogging would render the pen inoperative, may be conveniently reached for cleansing. It will be further noted that the carrier is freely slidable lengthwise the point piece, whereby said carrier may be operated to project the pin a greater or less distance beyond the writing end of the point piece in order to clear the pin of any fiber or the like taken up in writing, or to adjust said pin to compensate for wear thereon.

Having thus described the invention, what I claim as new is:—

A stylographic pen including a barrel, a point piece connected therewith at one end of the barrel, a holding sleeve removably connected in the opposite end of the valve, an air tube removably secured in the holding

sleeve and extending lengthwise the barrel,
a vent cap secured to the holding sleeve, said
sleeve being formed with a chamber closed
by the vent cap, and a pen closing cap de-
signed to inclose but free of contact with the
5 holding sleeve and vent cap, said closing cap
directly engaging the barrel.

In testimony whereof I affix my signature
in presence of two witnesses.

JOSEPH WALLACE.

Witnesses:

D. W. GOULD,
BENNETT S. JONES.