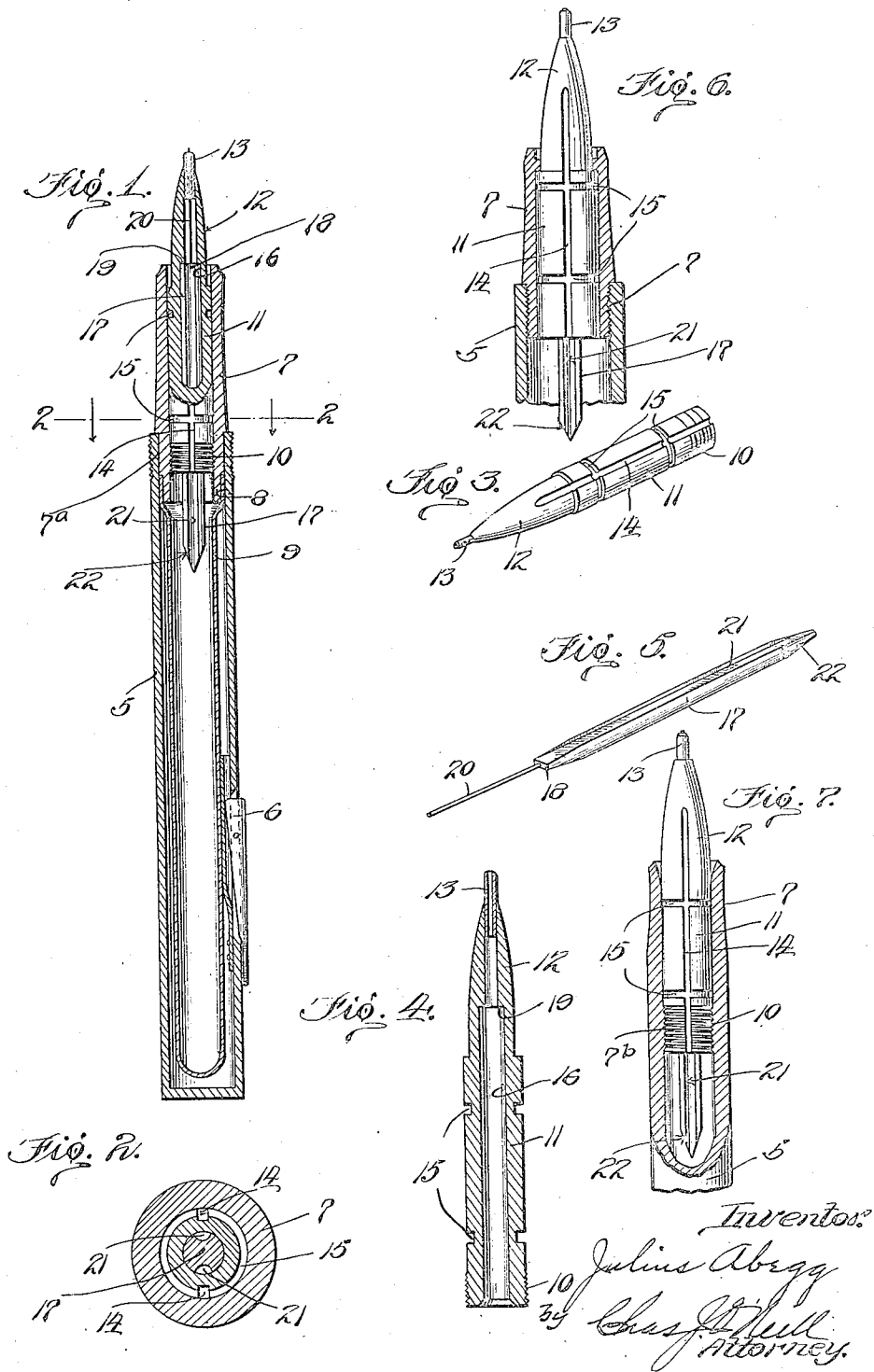


J. ABEGG.
 STYLOGRAPHIC PEN.
 APPLICATION FILED APR. 19, 1920.

1,379,602.

Patented May 31, 1921.



UNITED STATES PATENT OFFICE.

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STYLOGRAPHIC PEN.

1,379,602.

Specification of Letters Patent.

Patented May 31, 1921.

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To all whom it may concern:

Be it known that I, JULIUS ABEGG, a citizen of the United States, residing at 101 Palisade avenue, West Hoboken, county of Hudson, State of New Jersey, have invented certain new and useful Improvements in Stylographic Pens; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in stylographic pens of both the self-filling and non-self-filling type.

15 The prime object of the invention is to provide a stylographic pen simple and cheap to manufacture, possessing very few parts with said parts so constructed and assembled that no adjustments will be necessary after the pen has once been assembled, but at the same time providing a very simple and ready means of cleaning the pen whenever it may be found necessary.

Another object of the invention is to provide a means of establishing air communications between the different parts and the ink reservoir which will admit the necessary air for the even feeding of the ink, yet at the same time prevent any ink from leaking through these communications.

30 A further object will be apparent upon noting that the stylus or needle holder is definitely positioned with respect to the supplemental or writing point section, which will result in both the needle and writing point having always a uniform position relative to each other, and any wearing of these parts during the operation of the pen, will likewise be uniform.

40 Briefly stated, the improved pen comprises a main point section provided with an axial cylindrical bore having positioned therein a supplemental or writing point section carrying at its outer end the writing point, said supplemental or writing point section also being provided with an axial cylindrical bore in which a stylus or needle holder is adapted to be definitely positioned, preferably by a frictional fit. The supplemental or writing point section is provided with a diametrically enlarged portion and a correspondingly reduced portion, the reduced portion carrying the writing point and the enlarged portion wholly positioned within the main point section. This en-

larged portion is provided with longitudinal channels, and circumferential grooves intersecting the longitudinal channels. The longitudinal channels also extend up and for a short distance into the reduced portion, so that when the supplemental or writing point section is positioned in the main point section an air communication will be had between the sections. The needle holder is also provided with longitudinal grooves forming ink feeding channels, and it will be noted that the inner end of the needle holder, when the same is in position, will project some distance from the inner end of the supplemental or writing point section. The channels in the supplemental or writing point section not only provide air vents, but by reason of the circumferential grooves, any tendency of the ink to flow or leak out through the longitudinal air grooves will be stopped or checked by the circumferential grooves.

In the drawings:—

Figure 1 is a view, partly in section and partly in elevation, of the complete pen shown in connection with a self-filler;

Fig. 2 is a section on a line 2—2 of Fig. 1;

Fig. 3 is a perspective view illustrating the construction of the supplemental point section;

Fig. 4 is a cross sectional view of said supplemental section;

Fig. 5 is a perspective view of the stylus or needle holder;

Fig. 6 shows a modification illustrating another means of securing the supplemental or writing point section within the main point section; and

Fig. 7 illustrates another modification in which the main point section is formed integral with the end of the pen holder.

Referring to the drawings in detail, the pen holder 5 which is provided with the usual self-filling attachment 6, has positioned in the end thereof a main point section 7. This main point section is constructed with a reduced portion 8 for the reception of the conventional rubber ink receptacle 9. The main point section 7 has an axial cylindrical bore provided at the inner end thereof with screw threads 10. Positioned within the bore of the main section 7, is a supplemental or writing point section 11, this section likewise being provided with threads at its inner end for engagement

with the threads 10 of the section 7. The section 11 is constructed with a reduced portion 12, projecting outwardly from the end of the main point section 7 and provided at its extreme outer end with a writing point 13. Longitudinally of the supplemental or writing point section 11 are arranged diametrically disposed grooves or channels 14, formed in that portion of the supplemental section 11 contained within the main point section 7. A continuation of these grooves 14, however, is formed on the reduced portion 12, so that air communication is assured between these two sections 7 and 11 when assembled. The portion of the supplemental or writing point section 11 contained within the main point section is also provided with circumferential grooves 15, intersecting and in communication with the longitudinal channels 14, as clearly shown in Fig. 3.

The supplemental or writing section 11 is also provided with an axial cylindrical bore 16, in which a stylus or needle holder 17 is definitely positioned, preferably by a frictional fit, said needle holder provided with a square shoulder 18, adapted to engage an annular shoulder 19, formed in the axial cylindrical bore 16 of the supplemental or writing point section 11 which will limit the outward movement of the needle holder 17 and form a definite and accurate positioning of the needle 20, with respect to the writing point 13. The needle holder 17 is constructed with longitudinal ink feeding grooves 21, and in the preferred construction has a tapered portion 22, formed on its inner end.

In the foregoing description the supplemental or writing point section 11 has been described as being secured in the main point section by the use of screw threads but if preferred the positioning of these two parts may be accomplished by providing a frictional fit therebetween, as illustrated in the modification shown in Fig. 6. Likewise, the main point section may be screw threaded as at 7^b, Fig. 6 into the pen holder 5 as distinguished from the construction illustrated in Fig. 1, wherein the main point section is frictionally secured as at 7' to the pen holder.

Fig. 7 illustrates another modification in which the main point section is formed as an integral part of the pen holder 5, the end of said pen holder being constructed to receive the supplemental or writing point section 11 in a manner identical with the construction shown in Fig. 1, wherein the main point section 7 is formed as an additional part. These two modifications, as illustrated in Figs. 6 and 7, are intended primarily for pens of the non-self-filling type, where it is necessary to unscrew the main point section 7 of Fig. 6 or

the supplemental or writing point section 11 of Fig. 7 for filling. It will be important to note, however, that except for the absence of connecting screw threads in Fig. 6, the construction of the supplemental or writing point section 11 and the needle holder, and the relation of the needle holder with respect to the supplemental or writing point section, is identical in all of the modifications.

With a pen of this type, as above described, absolutely no adjustments are necessary after the various parts have been assembled, as each part has a definite and specific relation to its cooperating parts, thereby reducing to a minimum, liability of any disarrangement of the various parts during the use of the pen. By reason of the circumferential grooves or air vents 15 in the supplemental or writing point section 11, the possibility of leakage has been substantially eliminated as the said grooves or air vents will check and trap the ink therein if there is any tendency of the same to flow out through the longitudinal air vents or channels 14. In order to clean the writing point 13 of the pen, it is only necessary to remove the supplemental or writing point section 11 from the main point section 7 and work the needle holder back and forth within the member 11, which will quickly and efficiently remove any obstructions that might have lodged within the writing point 13.

What I claim is:—

1. In a stylographic pen, the combination with a pen holder of a writing point section, a stylus holder definitely positioned in said writing point section and air vent communications between said section and stylus holder.
2. In a stylographic pen, the combination with a pen holder, of a writing point section, a stylus holder frictionally and definitely positioned in said writing point section and air vents in the writing point section communicating with said stylus holder.
3. In a stylographic pen, the combination with a pen holder of a writing point section provided with an axial cylindrical bore, a stylus holder provided with ink feeding grooves adapted to be frictionally and definitely positioned in the bore of said writing point section and air vents in the writing point section communicating with said stylus holder.
4. In a stylographic pen, the combination with a pen holder, of a main point section, a supplemental point section fitted within said main point section and projecting therefrom, a stylus holder provided with ink feeding grooves, fitted within and carried by the supplemental point section, and air vent communications between all of said sections.
5. In a stylographic pen, the combination with a pen holder of a main point section, a

supplemental point section, fitted within said main point section and projecting therefrom, a stylus holder provided with ink feeding grooves, carried by and definitely positioned within the supplemental point section, and air vent communications between all of said sections.

6. In a stylographic pen, the combination with a pen holder, of a main point section, a supplemental point section, fitted within said main point section and projecting therefrom, a stylus holder provided with ink feeding grooves, carried by and definitely positioned and frictionally fitted within the supplemental point section and air vent communications between all of said sections.

7. In a stylographic pen, the combination with a pen holder of a main point section, a supplemental point section having a diametrically enlarged portion and a correspondingly reduced portion, said enlarged portion adapted to be supported wholly within the main point section, a stylus holder provided with ink feeding grooves frictionally positioned within the supplemental point section and air vent communications between all of said sections.

8. In a stylographic pen, the combination with a pen holder of a main point section provided with an axial cylindrical bore, a supplemental point section also provided with an axial cylindrical bore and adapted to be secured within said main point sec-

tion, a stylus holder having ink feeding grooves frictionally secured within said supplemental section and definitely positioned with respect thereto and air vent communications between all of said sections.

9. In a stylographic pen, the combination with a pen holder of a main point section provided with an axial cylindrical bore, a supplemental point section provided with longitudinal channels and intersecting circumferential grooves and an axial cylindrical bore, said supplemental section adapted to be secured within said main point section and a stylus holder having ink feeding grooves frictionally and definitely positioned within the bore of the supplemental section, said channels providing air communications between all of said sections.

10. In a stylographic pen, the combination with a pen holder, the end of which is adapted to form a main point section provided with an axial cylindrical bore, a supplemental point section also provided with an axial cylindrical bore adapted to be secured within said main point section, a stylus holder having ink feeding grooves frictionally secured within said supplemental section and definitely positioned with respect thereto and air vent communications between all of said sections.

In testimony whereof I affix my signature.

JULIUS ABEGG.