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C. J. FUNK

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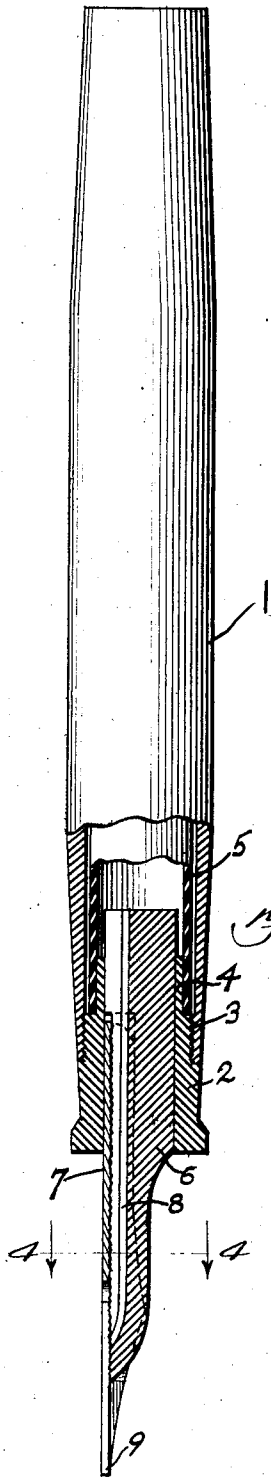


Fig. 2.

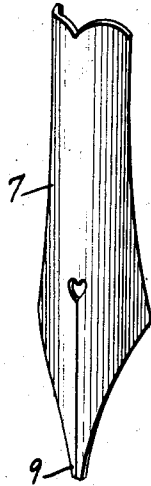


Fig. 3.

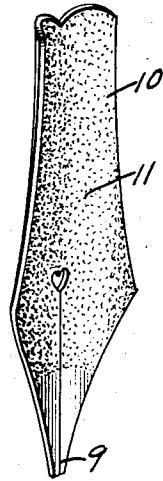


Fig. 1.

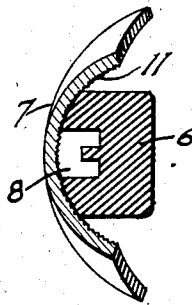


Fig. 4.

Inventor:
CHARLES J. FUNK.
By Wallace R. Lane.
Atty.

UNITED STATES PATENT OFFICE.

CHARLES J. FUNK, OF CHICAGO, ILLINOIS, ASSIGNOR TO THE WAHL COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF DELAWARE.

PEN.

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The present invention relates to the manufacture of pens and the nibs thereof.

In pens having nibs provided with smooth ink adhering or clinging surfaces the amount of ink adhering or clinging to the nibs is limited if the disadvantage of drops of the ink falling from the nib is to be avoided. Frequently when a pen is resting on its side the ink on the nib will flow to the lower edge of the nib and drop off, the ink not remaining distributed over the ink holding surface of the nib. If the flow of the ink to the nib be too free, the ink will flow to the point at a greater rate than demanded by the speed of writing and the ink will drop from the nib and form blots. When the flow is regulated to prevent this, then, the flow will be too slow for rapid writing. These, then, require careful fitting and adjustment of the nib in the holder.

The present invention eliminates these disadvantages and has among its objects the provision of a nib with a surface capable of holding a larger quantity of ink in more or less distributed extent whereby the ink will not readily drop from the nib; to provide such nib with preferably a roughened ink holding or clinging surface, preferably on the inner surface of the body portion of the nib whereby a greater quantity of ink may be held upon the nib without the danger of the same becoming detached from the nib and forming blots; to provide a pen with such a nib and a feed, engaging the nib whereby the relation of the nib and the feed may be maintained; to provide a feed with or without a roughened surface which may engage more or less intimately with the inner surface of the nib, whether or not the latter be roughened; to provide for a novel process of making a nib, as by roughening the ink holding surface thereof, preferably by sand blasting or the like; to provide for treating, preferably by heating, the nib and the feed, for preferably causing the same to intimately fit together, particularly parts of the feed fitting with and into the irregularities or inequalities of the roughened surface of the nib; to provide, whether or not using a roughened nib, for roughening the feed, if desired, for aiding in distributing and holding the ink; and, such other and further objects, advantages and capabilities as will later more fully appear and are inherently possessed by the invention.

Referring to the drawing illustrating the invention, Fig. 1 is a view partly in section of a pen embodying the invention; Figs. 2 and 3 are views of the opposite sides of the nib; and, Fig. 4 is a view in transverse section taken on line 4-4 of Fig. 1.

Referring now more particularly to the drawing, Fig. 1 shows a pen having a barrel 1 to an end of which is secured a section 2, preferably by screw threads 3. The section has an inner extension 4 to which is secured, in any suitable manner, an end of the ink sac 5. The section is provided with a suitable bore in which fits a feed 6 and a nib 7, the feed being provided with an ink flow channel 8 of suitable form.

The nib 7 has a writing point 9 and a body portion 10, the inner surface of which is preferably roughened as by a sand blast or other suitable means to provide irregularities or inequalities 11 as clearly shown in Fig. 3 of the drawing.

The nib and the feed are placed together in given relation and inserted in the bore of the section as shown in Fig. 1 of the drawing. When it is desired that the feed fit closely or intimately with the nib so as to prevent relative movement of one with respect to the other, the nib and the feed may be treated, as by heating, so that the contacting portions of the feed with the nib will set with the irregularities or inequalities of the roughened surface 11 of the nib. It will thus be apparent that the two members then will be held closely together so that the nib will not slide with respect to the feed. Whether or not the nib be roughened, the feed may be roughened on the surface engaging with the nib so as to aid in holding and distributing the ink and the engagement of the feed and the nib may be such as to provide a more or less ink holding space.

By roughening the inside surface 11 of the nib or the feed, or both, a greater quantity of ink may be held without danger of the ink dropping from the nib, or even the feed, and causing blots. If the pen be rested on its side, the ink will not flow to the lower edge of the nib and fall upon the paper and make blots. The roughened surface or surfaces has or have the faculty of distributing, or holding the ink distributed, over an extensive area. Great care in adjusting and manufacturing the feed is not required since

the roughened surface of the nib or the feed or both readily compensates for variations in manufacture and assembly by causing the ink to cling or adhere to the nib, or feed or both, more efficiently than upon such having a smooth surface or surfaces. In this way a large channel 8 may be used when a rapid flow is required as a result of rapid writing without the danger of the ink flowing from the point upon the paper and forming blots.

While I have herein described an embodiment and process of making such pen and nib, it is to be understood that the invention is not limited to the particular construction, arrangement of parts and details, or the steps described and shown, but that it comprehends other constructions, arrangements of parts details and steps without departing from the spirit thereof.

Having thus described my invention, I claim:

1. In a pen, a feed bar and a pen having a roughened inner surface, a portion of said surface being intimately engaged with said bar, and that portion of the inner surface of the pen near the nib being smooth.

2. In a pen, a feed bar and a pen having a roughened surface, a portion of said sur-

face being intimately engaged with said feed bar.

3. In a pen, a feed bar, a feed channel in said bar, a pen having a roughened surface, a portion of said surface being positioned opposite said channel, and a portion of said surface being intimately engaged with said bar.

4. In a pen, a feed bar, a feed channel in said bar, a pen having a roughened surface, a portion of said surface being intimately engaged with said bar, the inner surface of said pen adjacent the nib being smooth.

5. The method of assembling on a feed bar a pen having a roughened inner surface which consists of heating the feed bar and pressing said pen against said bar to cause the intimate engagement of said bar with said pen.

6. The method of assembling on a feed bar a pen having a roughened inner surface which consists of softening a surface of said feed bar and pressing said pen against said bar to cause the intimate engagement of said bar with said pen.

In witness whereof, I hereunto subscribe my name to this specification.

CHARLES J. FUNK.