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PROCESS FOR MANUFACTURING PEN NIBS

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2 Claims. (Cl. 113—32)

My invention relates to improvements in nibs primarily for use in connection with fountain pens.

The process hereinafter described and claimed is directed towards the method of fabrication of a so-called tubular nib such as is shown and described in my co-pending application, Serial No. 249,617, now matured into Patent No. 2,223,541, granted December 3, 1940.

In the manufacture of a standard fountain pen nib the usual practice is to blank out a nib from gold stock, raise and form it as to have the required thickness at heel and tip and the required radius throughout its length, weld an iridium tip on the pointed end of the nib, then slit the iridium and the pointed end of the nib to form nib fingers. Some pregrinding is done before the slitting operation but the essential grinding is done thereafter and it is necessary to grind each iridium tip individually to produce a smooth writing point. Due to the fact that said tips are so close together it is an exceedingly tedious and awkward job to grind each iridium point accurately and to clean out the slit formed by the sawing of the iridium as to make the finished nib a smooth writing instrument. Grinding the inside of the slit is accomplished by distorting the fingers necessitating the use of pliers or some other instrument to perfectly aline the two nib points after the grinding has been accomplished. This distorting of the gold nib after the grinding and polishing destroys the set of the nib and oftentimes sets up stresses and strains in the gold at the point of bending which weakens said nib.

The primary object of my invention is to so form a nib blank as to permit ready accessibility to the iridium on the individual fingers thereof by so forming the blank as to have the said fingers separated one from the other by considerable space, thus permitting the individual finishing of the iridium tipped fingers without the necessity of distorting one or the other and after said finishing forming the nib as to bring the two finished fingers together.

Another object of my invention is to provide a nib so designed as to eliminate the necessity of the slitting operation to form the writing fingers.

Still another object of my invention is to provide means to prevent lateral displacement of the nib fingers after the nib is finally formed.

To fully understand my invention reference should be had to the accompanying drawing in which:

Figure 1 is a top elevation of my nib as it is

blanked out and after the iridium has been attached to the individual fingers;

Figure 2 is a top elevation of the nib rolled into final tubular form;

Figure 3 is a side elevation of the completed nib;

Figure 4 is a bottom elevation of a completed nib; and

Figure 5 is a front elevation looking through the formed tubular nib from the iridium tipped end thereof.

In the drawing the numeral 10 will be used generally to indicate a nib blank having one end thereof blanked out as at 11 to form an approximate V notch providing extending and separated tips 12—12. The outer side edges of the blank are so formed in the die as to provide locking lugs 13—13 which engage corresponding locking notches 14—14 on the adjacent side of the nib to provide against lateral displacement of the individual nib tips after the nib has been rolled to tubular form and lugs 13—13 are forced into engagement with the locking notches 14—14. The heel or rear end of the nib blank is provided with cut out portions 15—15 so that upon the rolling and forming of the nib into its final state a notch 15 is provided which notch is utilized to lock the nib within the pen against rotation therein. In the blanking operation an axial located aperture 16 is punched out which aperture is provided as a breather hole to permit ready passage of air from and into the pen barrel into which the nib is assembled.

The steps of production of the nib are as follows: The blank comes from the die in the form as shown in Fig. 1, minus the iridium tips. It is perfectly flat and because of this fact the fingers are widely separated one from the other. Pellets of iridium are welded to the fingers and are ground and polished individually, and as the fingers are widely separated it can readily be perceived that the individual points can be easily and effectively ground and polished without distortion of the nib fingers. Upon completion of the grinding and polishing of the nib points the nib is formed in tubular shape, the locking lugs 13—13 engaging notches 14—14, thus preventing lateral distortion of the fingers. Due to the approximate V shaped cut in the fore part of the blank the forming of the blank into tubular shape brings the two nib fingers and iridium points together which provides a writing point. Obviously it is unnecessary to slit the formed nib due to the fact that the jointure of the opposed edges pro-

vides the necessary slit down which ink flows to the iridium point.

Some adjustment of the tips and slit is necessary but said adjustment is of such minor nature as to positively eliminate any possibility of distortion of the nib fingers.

Obviously other means can be utilized to lock the opposed edges of the nib together when the blank is formed into a tube than that disclosed. Such other forms may be utilized without departing from the scope of the invention as disclosed herein and hereinafter defined in the claims.

I claim:

1. The process for forming a fountain pen nib comprising the blanking out of a substantially rectangular flat piece notched at one end to provide widely separated projecting fingers, securing a hard metal tip to each of the ends of the sepa-

rated fingers, grinding and polishing the individual hard tips of the fingers while in separated position to provide hard smooth writing points and forming said blank into a cylinder whereby the longitudinal edges of the blanks and the projecting writing points are brought into alignment and approximate contact.

2. The process for forming a fountain pen nib comprising the blanking out of a substantially rectangular flat piece notched at one end to provide widely separated projected fingers, securing a hard metal tip to each of the ends of the separated fingers, grinding and polishing the individual hard tips of the fingers while in separated position, and bending said blank to bring the separated points into alignment and approximate contact to provide a hard smooth writing point.

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