

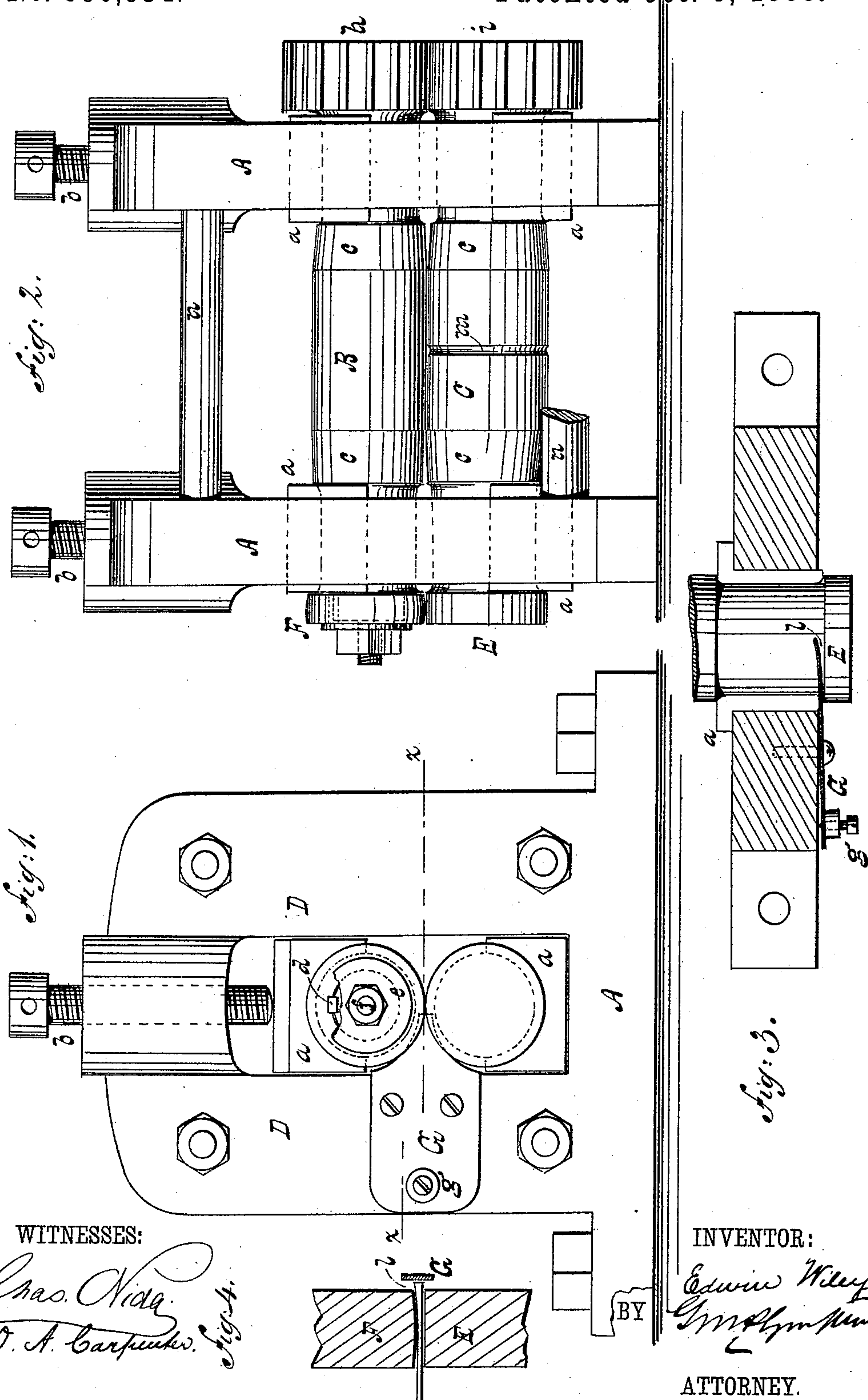
(No Model.)

E. WILEY.

MACHINE FOR CROSS ROLLING THE NIBS OF GOLD PEN BLANKS.

No. 390,934.

Patented Oct. 9, 1888.



WITNESSES:

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EDWIN WILEY, OF BROOKLYN, NEW YORK.

MACHINE FOR CROSS-ROLLING THE NIBS OF GOLD-PEN BLANKS.

SPECIFICATION forming part of Letters Patent No. 390,934, dated October 9, 1888.

Application filed March 2, 1888. Serial No. 265,944. (No model.)

To all whom it may concern:

Be it known that I, EDWIN WILEY, of Brooklyn, county of Kings, State of New York, have invented a certain new and useful Machine for Cross-Rolling the Nibs of Gold-Pen Blanks, of which I declare the following to be a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

10 This invention relates to improvements in the manufacture of gold pens; and the invention consists of a machine, constructed substantially as herein set forth, for cross rolling the nibs of the pen-blanks in the particular manner and for the purpose described.

5 In the accompanying sheet of drawings, Figure 1 is an end view of the rollers and frame of the machine; Fig. 2, a side view of the same; Fig. 3, a section in the planes xx , Fig. 1, showing the bearing and journal of the lower roller. Fig. 4 is a detail side view showing portions of the rolls in section and the nib of a pen-blank being cross-rolled by them.

25 Similar letters of reference indicate like parts in the several views.

This invention is designed to obviate the necessity of planishing the nibs of gold-pen blanks, which operation has long formed a step in the process of the manufacture of such pens, and, inasmuch as it can only be successfully performed by hand and by a highly-skilled workman, is a slow, laborious, difficult, and expensive part of that process. The well-known object of the planishing is to impart to the nibs the proper degree of stiffness and elasticity. This can be satisfactorily done at a great saving of time, labor, and expense by means of the machine of which the following is a description.

40 In suitable frame-work consisting of two standards, A, bolted together and to a table or other support, is mounted a pair of steel rollers, B and C. The journals of the rollers rest in bearing-blocks a , which are fitted in spaces between the upright sides D of the standards and adapted to slide freely in and be conveniently removed from these spaces. Through the top of each standard passes vertically a set-screw, b , which meets the upper bearing-block, a , and limits the extent to which the rollers can be separated. The rollers are tapered slightly for a short distance from the

journals toward the center, as shown at c , Fig. 2. This is for purposes of adjustment, to be explained hereinafter.

55 At one end of the lower roller, C, and outside of the journal, is formed a short roll or collar, E, which may or may not be integral with the rest of the roller. The lateral surface of this collar is cylindrical. To the corresponding end of the upper roller, B, is also secured a short roll or collar, F. This collar is preferably attached to the shaft of the main roller in such a manner that it can be readily removed and another of different form substituted for it when desirable. In the drawings it is shown keyed to the shaft, while the key d is kept from working out of place by the washer e and the nut f . The lateral surface of the collar F is curved from one edge of the collar to the other, or in the direction of its length, as appears in Figs. 2 and 4, so that when the main rollers are in contact the two collars touch each other at only a single point. To one of the upright sides D is screwed a guide-plate, G. This plate is shaped as represented in the drawings, and extends between the rollers and behind the collars E and F, and is provided near its outer end with a set-screw, g , whereby the distance of the inner end of the plate from the collars E and F may be varied, as indicated in Fig. 3. The rollers are provided with gears h and i , through which they are connected with the machinery that drives them.

85 When the pen-blank has been supplied with its iridium point in the ordinary manner and afterward reduced by rolling to the proper thickness, it is submitted to the action of the machine above described, instead of to the planishing operation, as is commonly the practice. The rollers being properly adjusted and set in motion, the pen-blank is held in a horizontal position substantially at right angles to and with its point in contact with the guide-plate G, and is passed, steadied by the hand of the operator, between the collars E and F, as indicated in Fig. 4. The material composing the part of the blank which becomes the nib of the pen is thus compressed by the action upon it of these collars or short rolls, and it is rendered particularly dense along a transverse line whose location is determined by the curvature of the surface of the upper collar.

By means, therefore, of several such collars having differently-curved surfaces and adapted to be substituted for the one shown in the drawings, this line of greatest density may be conveniently located anywhere in the nib, so that the nib may be made most elastic either close to the point or just as far back from the point as may be desirable. There should of course be a sufficient space, *l*, between the inner end of the guide *G* and the edges of the collars to receive the point of the blank, where the iridium is contained, in order that this part may not be crushed by the rolling operation. The position of the line of greatest density above mentioned may be varied within certain limits, even without substituting another collar for the collar *F*. By loosening one of the set-screws *b* and correspondingly tightening the other the collar *F* may be slightly tilted and made to approach the collar *E* either on one side or the other of the point which is nearest to the collar *E* when the rollers are in a horizontal position. It is to extend the scope of this adjustment as much as possible that the rollers *B* and *C* are tapered at *c* in the manner above described. Moreover, the collar *F* may be caused to occupy different positions on the shaft by inserting washers between the collar and the shoulder against which it is clamped.

The lower roller, *C*, may have a plain cylindrical surface, the same as the upper roller, *B*; or it may be provided with a groove, *m*, whereby a bead or rib may be raised along the strip passed between the rolls, and a guide of any suitable form may be attached to one of the cross rods or bolts *n* to guide the strip; but this portion of the machine is not claimed as part of the invention.

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

1. A machine for cross-rolling the nibs of gold-pen blanks, consisting of two rolls or collars and having its surface convexly curved in the direction of its length, said rolls being suitably mounted and connected with driving mechanism, and so constructed and arranged that the point of the pen-blank is allowed to extend beyond the edges of the rolls when the nib is passed crosswise between and condensed by the rolls, substantially as and for the purpose described.

2. In a machine for cross rolling the nibs of gold-pen blanks, the combination of two rolls or collars, one having its surface convexly curved in the direction of its length, and a guide, *G*, extending behind the shoulders of the rolls, between which and the guide is left a space, *l*, substantially as and for the purpose described.

3. A machine for cross-rolling the nibs of gold-pen blanks, consisting of the combination of the rolls *B* and *C*, tapered as at *c*, the collars *E* and *F*, the collar *F* being removable from its shaft and having its surface convexly curved in the direction of its length, and the guide *G*, so constructed and arranged as to leave the space *l*, wherein the point of the pen-blank is received, substantially as and for the purpose described.

EDWIN WILEY.

In presence of—

D. A. CARPENTER,
GEO. M. FIELD.

It is hereby certified that in Letters Patent No. 390,934, granted October 9, 1888, upon the application of Edwin Wiley, of Brooklyn, New York, for an improvement in "Machines for Cross-Rolling the Nibs of Gold-Pen Blanks," errors appear in the printed specification requiring the following corrections: In lines 44-45, page 2, a comma should be inserted after the word "collars" and the following word "and" should be stricken out and the word *one* inserted instead; and that the said Letters Patent should be read with these corrections therein that the same may conform to the record of the case in the Patent Office.

Signed, countersigned, and sealed this 23d day of October, A. D. 1888.

[SEAL.]

D. L. HAWKINS,
Assistant Secretary of the Interior.

Countersigned:

BENTON J. HALL,
Commissioner of Patents.