

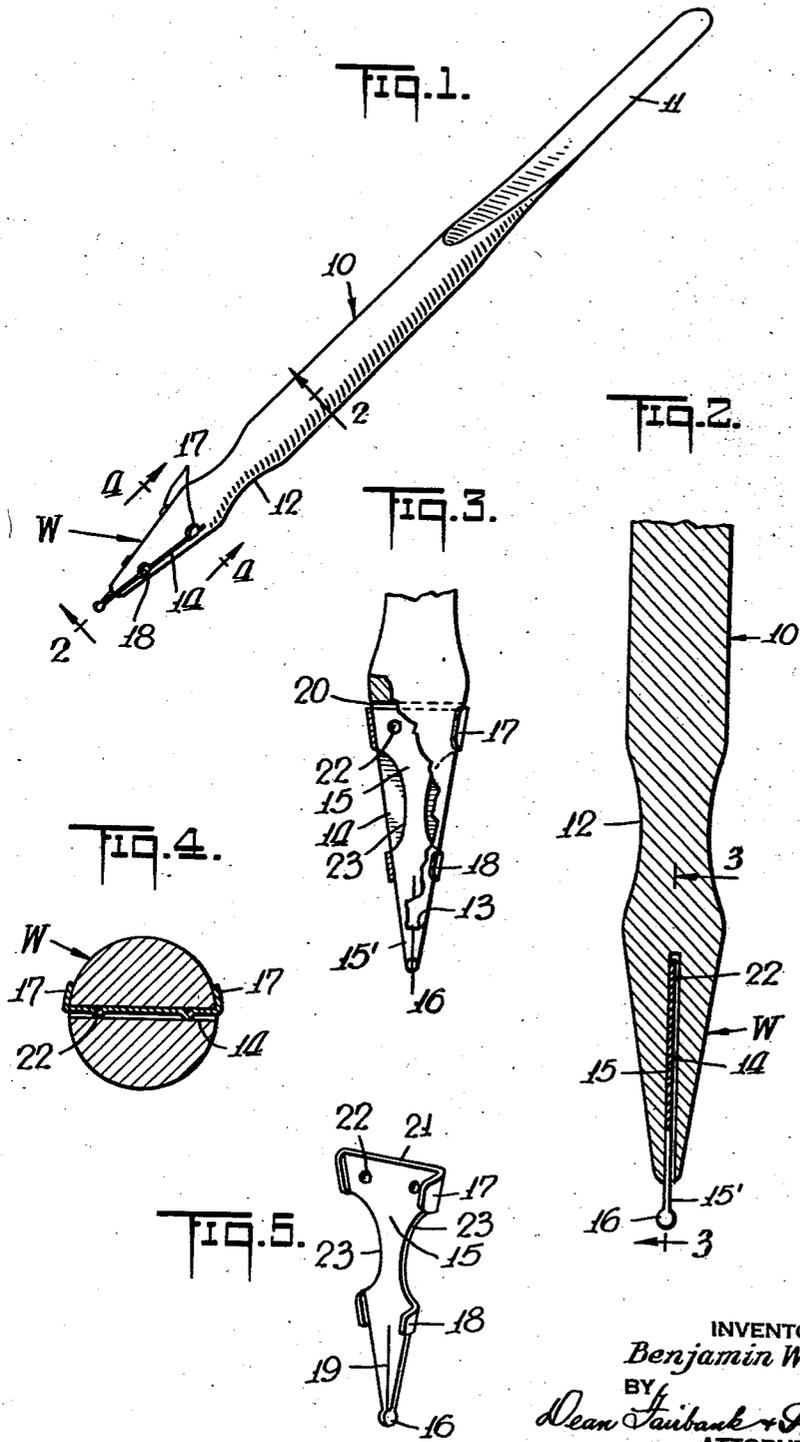
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WRITING PEN

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WRITING PEN

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The present invention relates to dip pens and has more particular application to such as are capable of writing a page or more on a single dip.

Where a pen nib is made with an auxiliary nib reservoir, its manufacture inherently adds to the number of operations and the amount of metal needed and its cost is further increased by reason of the skill and care required in incorporating the ink reservoir in the nib, without at the same time causing deviations from its predetermined flexibility and other writing characteristics.

Where on the other hand, the auxiliary ink capacity is incorporated in the holder, the latter becomes expensive in construction in that it partakes of many of the complications of a fountain pen and greater difficulty is entailed in the regulation and control of ink in the writing operation.

It is among the objects of the invention to provide a dip pen which is devoid of an ink vessel, either on the nib or in the holder, but which yet holds a volume of ink on a single dip, sufficient for the writing of a page or more, which it releases at desired rate in writing.

Among other objects are to provide a dip pen of the above character, in which the holder may be fashioned of a single unitary integral piece without auxiliary nib holding clamps, the construction of which involves no added weight or loss of balance or deviation from the weight of stroke made by a nib of given hardness or softness, and from which the wet nib may be removed by the bare hand without soiling the fingers.

According to the invention, the pen holder has a bifurcation across the tapering width of its writing end, preferably a plane bifurcation, within which is releasably accommodated the correspondingly shaped pen nib of a single unitary stamping so conformed relative to the holder as inherently to center itself as it is introduced therein, to be securely held in such centered position, and to afford adequate capillary ink retaining space with respect to the holder.

In the accompanying drawings in which is shown one of various possible embodiments of the several features of the invention,

Fig. 1 is a perspective view of the writing pen,

Fig. 2 is a fragmentary view in longitudinal cross-section and on a larger scale, taken on line 2—2 of Fig. 1,

Fig. 3 is a fragmentary view in cross-section on like scale and taken on line 3—3 of Fig. 2,

Fig. 4 is a transverse sectional view on an

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enlarged scale taken on line 4—4 of Fig. 1, and Fig. 5 is a perspective view of the pen nib.

Referring now to the drawings, the pen holder 10 may be a single unitary piece of appropriate material, such as plastic, metal, impregnated wood, or the like. It is illustratively shown with a flattened letter opening upper end 11 and a peripherally reduced grip portion 12 near its writing end, which latter end is tapered laterally as best shown in Fig. 3 to a narrow rounded end 13. As shown, the pen holder has a longitudinal slot or bifurcation preferably a plane slot 14 across the entire width of the tapered writing end thereof. That bifurcation is desirably of length in the order of $\frac{1}{8}$ inch and affords a gap of thickness in the order of .020 inch. In a preferred embodiment, the writing end W of the pen is conical as shown, that is, it is uniformly tapered in every longitudinal plane as shown. If desired, the otherwise conical conformation could be flattened, cutaway or otherwise formed at opposite sides of the bifurcation, without interference with the functional relationship of this bifurcation of the holder to the pen nib, to be described below.

The pen nib best shown in Fig. 5 is preferably a unitary stamping having a flat body 15, generally triangular in contour and of length preferably slightly greater than that of the bifurcation in the holder, so that nearly the entire length of said nib may be accommodated within the bifurcation for its narrow writing end 16 only, which is desirably equipped with an iridium point 16 to protrude beyond the pen holder as shown.

Desirably the pen nib is so conformed that it may readily be introduced into the holder, without the possibility of entering into skew or off-center relation, that it will inherently be frictionally held in place in the holder, and that it will afford an open capillary space with respect to the bifurcation for holding a volume of ink sufficient for sustained writing of a page or more in one dip. To this end, the pen nib is formed with symmetrical guide conformations relative to the holder, which conformations also exert friction against the holder to assist in maintaining the nib in place.

In the specific embodiment shown, the pen nib is provided with one or more pairs of clamp jaws integral therewith, desirably two pairs, one pair 17 being near the root or base end of the nib, and the second pair 18 at a substantial distance therefrom as shown, and slightly beyond the longitudinal slit 19 at the writing end of the nib.

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The clamp jaws 17 and 18 are preferably turned as shown and their roots extend obliquely as shown, along the tapering sides of the generally triangular flat area 15 of the nib. Desirably the maximum width of the bifurcation 14, that is the width at its inner end 20, is slightly greater than the distance between the pair of jaws 17. Accordingly, when the base of the pen nib is introduced to enter the pointed end of the bifurcation, and is moved longitudinally inward, the jaw pairs 17 and 18 protruding laterally from the bifurcation will inherently embrace and clasp the writing end of the holder adjacent the lateral edges of the bifurcation, with the root end 21 of the nib spaced slightly from the end 20 of the bifurcation. The jaws are preferably slightly curved inward and toward grip 12 and are conformed for snug accommodation of their inner faces against the face of the holder, as shown. The pen nib thus becomes automatically centered in the bifurcation and the jaw pairs 17 and 18 in frictionally grasping the holder help to retain the nib in place.

While the jaws 17 and 18 could be so conformed as in themselves to provide substantial friction, it is preferred to provide one or more embossments 22, desirably near the root end of the nib which afford enhanced frictional hold with respect to the wall of the bifurcation 14 in the holder, thereby to avoid any inadvertent or undesired displacement of the pen nib during use.

Preferably, the thickness of the pen nib is but half or less than half the thickness of the bifurcation 14, so that adequate capillary space is left between the walls of the bifurcation and the faces of the pen nib. Further to enhance the capillary ink space, the pen nib may be laterally cut away as at 23 between the pairs of clamp jaws 17 and 18.

In a preferred embodiment shown, substantially the entire body of the pen nib is retained within the pen holder and only the short pointed end 15', preferably only a length of between $\frac{1}{8}$ and $\frac{1}{4}$ inch protruding. Accordingly the writing point receives adequate face support in use.

On a single dip, desirably to a level near the upper pair of clamps 17, ink will be retained not only in the flat space between the bifurcation walls 14 and the faces of the nib, but also in the segment shaped openings 23 between the faces of the nib. All of these spaces are capillary in character, but conjointly they retain sufficient ink to permit writing of a page or more on a single dip. The capillary space effectively holds the ink against overfeed or blotting, yet readily releases the ink in the writing operation, at that rate appropriate to the hardness of the pen nib.

The pen nib even when wet with ink may be withdrawn without soiling the fingers by pushing the finger nail against the extreme edge of a clamp jaw 17 to loosen it and by then grasping said dry outer clamp jaws 17 for removal of the nib.

As many changes could be made in the above construction and many apparently widely different embodiments of this invention could be made without departing from the scope of the claims, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent of the United States is:

1. A writing pen, comprising a unitary holder having a tapered writing end longitudinally bi-

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furcated, a generally triangular pen nib fitted in said bifurcation and extending substantially the length thereof, with the pointed end only thereof protruding, said bifurcation being of proper width to afford an open capillary space with respect to said nib, said nib having means unitary therewith frictionally, but releasably retaining the same in position.

2. A writing pen, comprising a holder having an integral tapered writing end with a slot longitudinally and symmetrically thereof, a generally triangular pen nib of length slightly greater than said slot to extend substantially the entire length thereof and to protrude therefrom only at its writing point, said slot being of proper width to afford an open capillary space with respect to said pen nib, said nib having means unitary therewith, coacting with said holder to center the same for alignment of its length midway between the lateral edges of the slot and holding the same in writing position.

3. A writing pen, comprising a holder having a conical writing end with a slot longitudinally and symmetrically thereof, a generally triangular pen nib of length somewhat greater than said slot to extend the entire length thereof and to protrude therefrom only at its writing point, said slot being of proper width to afford an open capillary space with respect to said pen nib, said nib having a guiding conformation unitary therewith, frictionally coacting with said holder to center the same for alignment of its length midway between the lateral edges of the slot and holding the same in writing position.

4. A writing pen, comprising a holder having a conical writing end with a longitudinally symmetrical bifurcation therein and a pen nib of length somewhat greater than that of said bifurcation, of area to be accommodated in said bifurcation with the point thereof protruding, said pen nib being spaced from said holder to define an ink reservoir therebetween, said nib having conformations integral therewith for frictional and guiding coaction with said bifurcated holder.

5. A writing pen, comprising a holder having a tapered writing end symmetrically and longitudinally bifurcated, a flat generally triangular pen nib fitted therein and of length greater than said bifurcation with its writing end only protruding therefrom, said pen nib being spaced from said holder to define an ink reservoir therebetween, said nib having guide means coacting with said holder automatically to position the same in symmetrical relationship when inserted and having a further conformation coacting with the bifurcation wall for enhancing the frictional engagement of the nib in the holder.

6. A writing pen, comprising a holder with a conical end longitudinally bifurcated symmetrically thereof, a flat pen nib of length greater than said bifurcation extending nearly to the base thereof with its pointed end only protruding therefrom, said pen nib being spaced from said holder to define an ink reservoir therebetween, said nib having lateral means unitary with its opposite edges, embracing the corresponding edges of the holder at one side of the bifurcation and thereby centering and tending to hold the nib in place.

7. A writing pen, comprising a holder with a conical end longitudinally bifurcated symmetrically thereof, a flat pen nib of length greater than said bifurcation extending substantially to the base thereof with its pointed end only protruding, said pen nib being spaced from said holder to

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define an ink reservoir therebetween, said nib having lateral means unitary with its opposite edges, embracing the corresponding edges of the holder at one side of the bifurcation and thereby centering and tending to hold the nib in place, said nib also having embossments in the face thereof for frictional engagement with a bifurcation wall.

8. A pen nib, comprising a flat generally triangular metal stamping having two pairs of aligned nib centering and mounting clamping tongues extending obliquely inward from the lateral edges thereof, the pen nib being laterally cut away between said pairs of clamping tongues for enhanced accommodation of ink between said pairs of clamping tongues.

9. A flat generally triangular pen nib having a writing end, and a mounting end, said nib having unitary centering guide formations arranged symmetrically thereof and protruding from the plane thereof and serving also for frictional engagement in a holder for said nib, said nib also having one or more embossments in the face thereof to assist in the frictional hold thereof.

10. A pen nib, comprising a substantially flat plate of sheet metal having a writing point and a mounting end, said nib having two pairs of opposed nib centering and mounting clamping

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tongues extending inward from the lateral edges thereof, embossments protruding from a face of said pen nib, said pen nib being cut away and reduced in width along the length thereof between said pairs of clamping tongues for enhanced accommodation of ink between said pairs of clamping tongues.

11. A unitary pen holder having a conical writing end symmetrically bifurcated along the length of said taper for accommodating a pen nib therein, said bifurcation affording frictional hold for a nib and also forming an ink reservoir.

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