

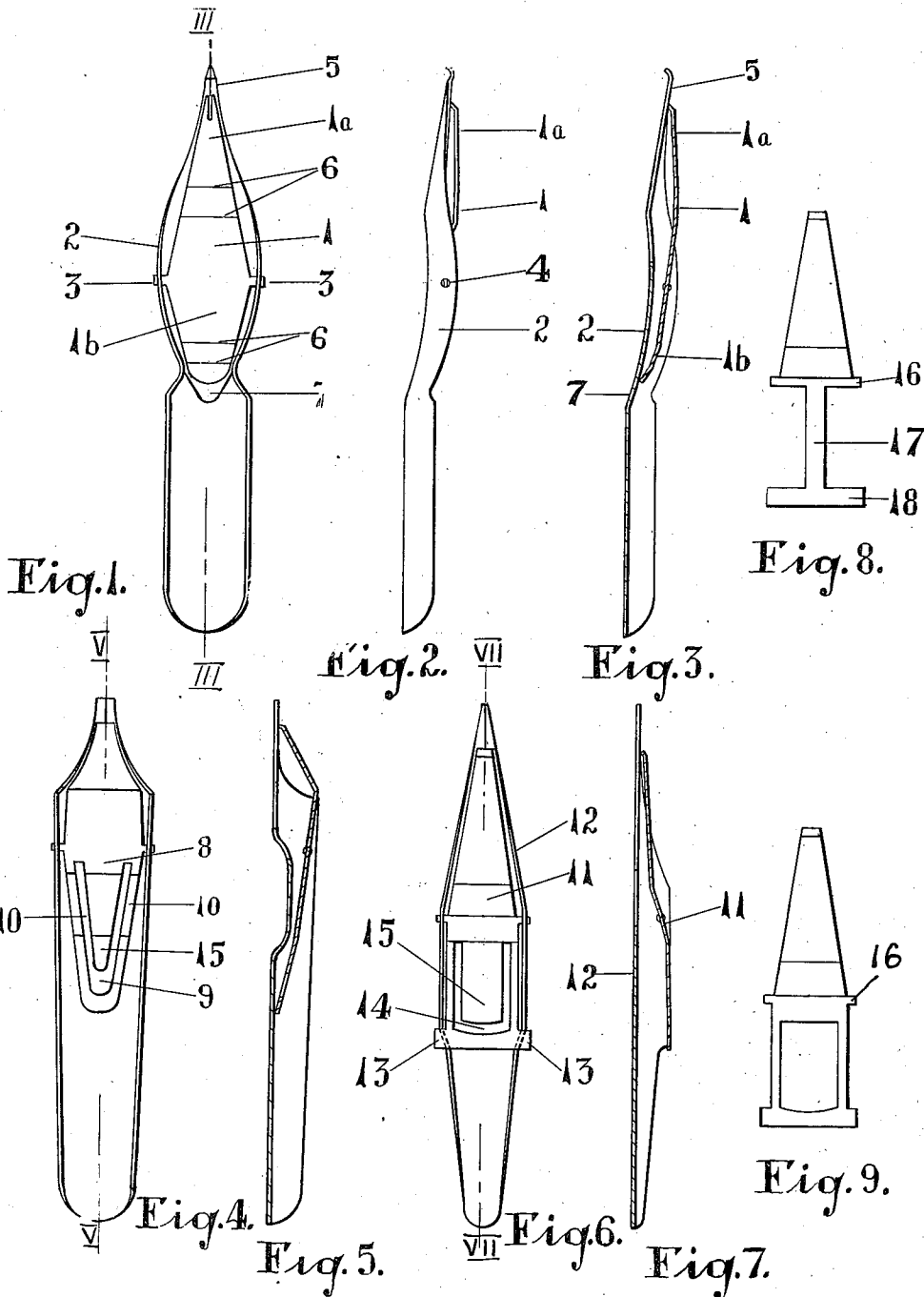
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PEN NIB

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PEN NIB

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4 Claims. (Cl. 120—114)

This invention relates to reservoir nibs of the type in which a plate or member is pivoted to the nib so that the front of the plate bears on the pointed end of the nib, on the underside, with spring pressure. In one previous construction, the rear portion of the plate or member, immediately behind the pivot anchorage to the nib, is curved upwardly and then downwardly so that tip of this curled spring tail piece bears on the nib only a short distance behind the pivot anchorage. The leverage of the spring pressure of this tail portion is very small, whilst the reaction to any slight movement of the front portion of the plate will not produce an even deflection of the tail portion of the spring throughout the length of its curved portion. Moreover the difficulty of producing a curled spring to an exact shape would prevent any reliability of getting the required predetermined delicate pressure on the pointed end of the nib throughout the range of the flexing movement of the pointed end of the nib whilst writing. In a further previously proposed construction, the plate or member has an arm in front of the pivot anchorage which bears with spring pressure on the pointed end of the nib and a portion at the rear of the anchorage bearing on an abutment to apply the said spring pressure, but this rear portion is of such a short length that it does not form a spring arm and the pressure on the abutment would be considerably reduced or increased by pivotal movement of the front spring arm. In these prior constructions, the main purpose of the pivot anchorage is to permit of the reservoir plate or member to open away from the nib. Moreover in all the above-mentioned constructions the mechanisms block the way for the insertion of the feedbar of a fountain pen.

This invention has for its object a reservoir plate or member the tail piece of which is so constructed that the front end contacts with the pointed end of the nib with a light and sensitive pressure and so that it will maintain this contact with a light pressure throughout the flexing movement of the nib during writing. A further object is to provide a spring construction whereby by any convenient modification of the point of support of the tail piece, the feedbar of a fountain pen can be inserted thereunder. A still further object is to construct and apply the plate or member so that it is a practical form of manufacture which ensures that the plate or member will be applied with the required spring pressure.

According to the present invention, the plate

or member is in the form of a leaf spring having a rocking anchorage intermediate its ends and the rear arm of the spring is evenly flexed throughout its length and thus enables a substantially unvarying pressure to be obtained throughout the flexing movement of the nib. Furthermore as the shape of the spring can be manufactured to have a uniform shape and as it is flexed a predetermined extent when applied to the pen, it is quite practical to obtain the required pressure of contact and in such a manner that the delicate contact pressure is obtained throughout the flexing movement of the nib. The rear arm of the spring extending throughout its length in the direction of the nib gives a considerable leverage between the point of anchorage and the end of the arm bearing on the nib or abutment and therefore enables the spring control to be readily arranged with the required sensitiveness and within the required limits of pressure.

Referring to the drawing Figure 1 is a face view of a pen nib constructed according to this invention.

Figure 2 is a side elevation of Figure 1.

Figure 3 is a section on line III—III of Figure 1,

Figure 4 is a face view of a modified form of pen nib,

Figure 5 is a section on line V—V of Figure 4.

Figure 6 is a face view of a pen nib for use with a fountain pen.

Figure 7 is a section on line VII—VII of Figure 6.

Figure 8 is a face view of a modified form of spring plate, and

Figure 9 is a face view of a still further modified form of spring plate.

According to a convenient embodiment of this invention, as shown by Figures 1 to 3, a plate or member 1 is fixed to the underside of the nib 2, the plate, intermediate its length, having tongues 3 which form trunnions engaging perforations 4 in the sides of the nib. A forwardly projecting arm 1a and a rearwardly projecting arm 1b are thereby formed, the ends of which respectively bear on the front pointed end 5 of the nib and on the heel of the nib. The plate 1 is bow shaped longitudinally and conveniently the plate is bent locally along the lines 6 at intervals along its length. The rear end of the arm 1b, in the particular construction of nib shown, bears on the substantially flat portion 7 in the channel of the nib.

The plate 1 is thus not rigidly anchored to the nib but is free to pivot locally on the tongues 3.

The fixing of the spring to the nib therefore does not bind the spring nor interfere with its flexing freedom and consequently the plate 1 can be readily manufactured and assembled. The spring pressure on the pointed end of the nib is controlled by the resiliency of the full length of the spring and consequently the spring can be flexed through a comparatively wide angle without undue pressure. The light pressure which is applied does not force apart the split end of the nib and the plate will follow the movement of the pointed end of the nib when flexed in writing, thereby making effective contact with the nib under all working conditions.

Any flexing of the arm 1a will also flex the arm 1b as the plate is free to move at its point of anchorage.

The pen nib may be of any design and the plate 1 can contact with the pointed end portion of the nib in accordance with the design of the reservoir nib. The plate 1 may be perforated and of any suitable shape, and as shown by Figure 1, may be bifurcated at the front end, so that a separate contact is made on each side of the split in the nib. The mounted end of the plate will therefore not catch in the split.

In the construction shown by Figures 4 and 5, the portion of the spring plate 8 rearwardly of the pivot anchorage is further weakened to increase the flexibility of the plate, and for this purpose a slit 9 is cut in the plate so that the strength of the side strips 10 form the strength of the rear portion of the spring plate 8. In the form of pen shown by Figures 4 and 5, the movement of the front end of the spring plate will be greater than the movement of the front of the plate in the construction of pen shown by Figure 1. As the spring plate 8 (Figure 4) is weakened it will be capable of a greater range of movement whilst at the same time maintaining a light pressure on the pointed end of the nib throughout its flexing movement, when making thin and thick strokes during the normal writing process.

According to the construction shown by Figures 6 and 7, the rear end of the spring plate 11 is adapted to be supported in such a manner that the ink feed bar of a fountain pen can pass thereunder to project into the space between the plate 11 and the nib 12. For this purpose the end of the plate rearwardly of the pivot anchorage is provided with projections 13 which are adapted to bear on the edges on each side of the nib. Alternatively the rear end of the spring plate 11 could rest on the feed bar itself. In this construction a portion of the spring plate rearwardly of the pivot anchorage is weakened by a U-shaped slot 14, the width of the slot being as small as can conveniently be made by a piercing process. By thus weakening the rear portion of the spring, a balanced effect is obtained as both arms are in tension on each side of the plate. The tongues of metal 15 (Figures 4 and 6) also form an effective cover for the space between the plate and the nib. According to a modified form shown by Figure 8, the rear portion of the spring plate behind the pivots 16 is weakened by forming such rear portion as a narrow strip 17, the end of this strip terminating in a cross piece 18 for bearing on the side edges of the pen at the heel thereof. Figure 9 shows a spring plate similar in construction to the spring plate shown by Figure 6, but the centre portion at the rear of the plate and behind the pivots is entirely removed.

I claim:

1. A pen nib, having a metal plate or member pivotally mounted on the nib so that its forward end presses on the underside of the pointed end of the nib and its rear end presses on the side edges of the nib rearwardly of the pivot anchorage so as to form flexible spring arms extending rearwardly and forwardly of the anchorage, which anchorage is such that the two arms are interdependently flexible to form a single spring member, so that the front end of the plate bears with light pressure on the nib and at the same time follows the flexing movement of the nib and maintains a light pressure thereon, a space being formed between the plate and the underside of the nib into which the ink feeder bar of a fountain pen can be inserted.

2. A reservoir pen nib, having a metal plate or member rockably mounted on the nib so that it is permanently fixed with its forward end spring pressing on the underside of the pointed end of the nib and its rear end pressing on an abutment rearwardly of the rocking anchorage and permitting an ink feed bar to be positioned between the metal plate and the underside of the nib so as to form an arm extending forwardly of the anchorage and a spring arm forming a leaf spring extending rearwardly of the anchorage and so that the full length extends longitudinally of the nib, which anchorage is such that the two arms are interdependently flexible to form a single spring member, whereby the front end of the plate bears with light pressure on the nib and at the same time follows the flexing movement of the nib and maintains a light pressure thereon throughout the flexing movement of the nib.

3. A reservoir pen nib, having a metal plate or member rockably mounted on the nib so that it is permanently fixed with its forward end pressing on the underside of the pointed end of the nib and its rear end pressing on an abutment rearwardly of the pivot so as to form a flexible spring arm extending forwardly of the anchorage and a spring arm forming a leaf spring extending rearwardly of the anchorage and so that the full length extends longitudinally of the nib, which anchorage is such that the two arms are interdependently flexible to form a single spring member, the part of the plate rearwardly of the pivot anchorage having a U-slot therein to increase the flexibility of the plate.

4. A reservoir pen nib, having a metal plate or member rockably mounted on the nib so that it is permanently fixed with its forward end pressing on the underside of the pointed end of the nib and its rear end pressing on an abutment rearwardly of the rocking anchorage and permitting an ink feed bar to be positioned between the metal plate and the underside of the nib so as to form a flexible spring arm extending forwardly of the anchorage and a spring arm forming a leaf spring extending rearwardly of the anchorage of weaker strength than the arm extending forwardly of the anchorage and so that the full length extends longitudinally of the nib, which anchorage is such that the two arms are interdependently flexible to form a single spring member, whereby the front end of the plate bears with light pressure on the nib and at the same time follows the flexing movement of the nib and maintains a light pressure thereon throughout the flexing movement of the nib.

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