

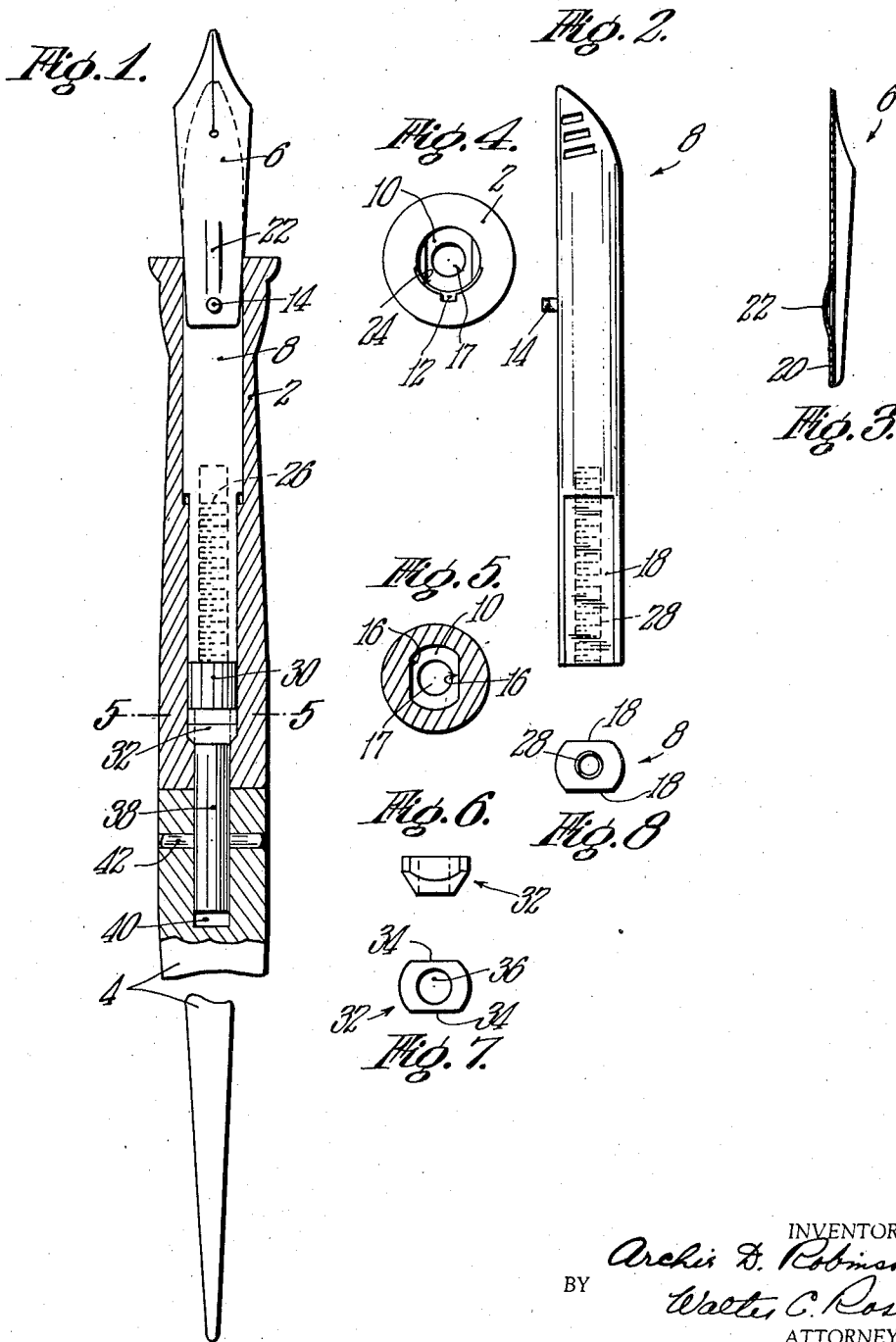
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This invention relates to improvements in writing implements and is directed more particularly to improvements in pens.

The principal objects of the invention are directed to a writing pen which is characterized by novel means to facilitate not only the ready and easy removal of the pen point for cleaning or replacement but the accurate positioning of the pen point and feed member relative to one another and relative to the holder. The novel features of the invention are adapted for use in connection with pens of various types such as fountain pens and the like.

Numerous and various other novel features and advantages of the invention will be hereinafter more fully referred to in connection with the accompanying description of the preferred form of the invention, reference being had to the accompanying drawing, wherein:

Fig. 1 is a side longitudinal elevational view through a pen embodying the novel features of the invention;

Fig. 2 is an elevational view of the feed member of the pen shown in Fig. 1;

Fig. 3 is a longitudinal sectional view through the pen point of the pen shown in Fig. 1;

Fig. 4 is a plan view of the holder of the pen shown in Fig. 1 with the pen point removed.

Fig. 5 is a sectional plan view on the line 5—5 of Fig. 1 with the propeller omitted;

Figs. 6 and 7 are elevational and plan views respectively of the thrust washer of the pen shown in Fig. 1; and

Fig. 8 is an inverted plan view of the feed member shown in Fig. 2.

Referring now to the drawing more in detail, the invention will be fully described.

In a general way the pen has relatively rotatable parts such as a holder 2, a holder extension member 4, pen point 6 and feed member 8 which is reciprocable in one of the members by relative rotation thereof to facilitate separation of the pen point and feed member or to secure the pen point to the pen. The feed member co-operates with the pen point to hold a supply of ink and in the case of a fountain pen the feed member may supply the pen with ink in the well-known manner.

The holder 2 preferably shaped for gripping between the fingers has a longitudinal bore therethrough in which the feed member 8 is reciprocable. The bore and feed member 8 are generally round in cross section except for means associated therewith to prevent rotation of the

feed member 8 in the bore as will be later explained.

The upper end of the bore of the member 2 is provided with a longitudinal spline such as 12 to slidably receive a pin 14 on the feed member 8. The lower part of the bore is provided with a flat surface or surfaces such as 16 (see Fig. 5) which correspond to flat sides 18 at the lower end of the feed member 8 (see Figs. 2 and 8).

These angularly disposed sides prevent rotation of the feed member 8 within the bore of the holder and yet allow the desired reciprocation of the feed member 8 but other means may be provided to accomplish the same purpose if desired. The lowermost part of the bore in the holder is preferably round as shown at 17 in Fig. 5.

The pen point 6 has an opening 20 adjacent its lower end adapted to receive the pin 14 of the feed member 8 and a portion 22 of the pen point is offset from the main body thereof to have a projection as shown. This may be accomplished by merely upsetting the metal of the pen point or providing splits between which the pen body is struck up.

The projection or ridge 22 is adapted to co-operate with the spline 12 of the bore of the holder to position the pen point relative thereto and steady it. As will be seen, the upper part of the bore of the holder may be enlarged as at 24 to receive the lower end of the pen point 6 when the feed member 8 is positioned in the holder in writing position, shown in Fig. 1.

A propeller in the form of a screw member 26 is in threaded engagement with a threaded socket 28 in the lower end of the feed member and it has associated therewith a collar 30 which is small enough in diameter to rotate freely in that part of the bore which is provided with the flat sides.

A thrust washer 32 is disposed in the bore of the holder 2 below the collar 30. As shown in Figs. 6 and 7, this washer preferably has flat sides 34 engageable with the flat sides 16 of the bore and is provided with an opening 36 therethrough to rotatably receive a stem or spindle 38 which extends downwardly from the collar 30 of the propeller.

The member 4 is preferably formed as a handle or extension of the holder and has a socket 40 to receive the lower end of the spindle 38. A pin 42 may extend through the spindle and extension 4 so that the outer extension or handle of the pen will upon rotation rotate the spindle 38

and collar 30 and threaded parts 36 thereof. The parts are so made that the parts 2 and 4 are held against separation but may rotate relative to one another but other means than that shown
5 may be employed for that purpose.

As has been stated, the feed member 8 is reciprocable in the holder 2 and is prevented from rotation relative thereto by such means as the flat surfaces at the lower end thereof which co-
10 operate with the flat sides of the holder member 2.

By rotating the holder extension or handle 4 in one direction or the other the propeller screw member 26 is rotated so that its screw part acts
15 on the feed member 8 to raise or lower it relative to the member 2. In Fig. 1 the feed member 8 is shown in its lower writing position with the pen point 6 thereon and having its lower end within the bore of the holder 2 and in writing
20 position.

To remove or release the pen point 6 from the member 8, the part 4 is rotated in such a direction relative to the part 2 as to elevate the feed
25 member 8 until the lower end of the pen point 4 is above the upper end of the part 2. In such a position the pen point 6 may be readily removed from the feed member 8 to facilitate the substitution of a new pen or the pen point, or to aid the cleaning of the parts.

When it is desired to affix the pen point to the pen it is positioned on the end of the member 8 with the pin 14 thereof in the opening 20 of the pen point. Then the part 4 is rotated in such a
30 direction as to cause the feed member 8 to be moved downwardly of the part 2 drawing the lower end of the pen point into the bore of the holder.

The projection 22 in co-operation with a longitudinal slot 12 in the bore of the holder tends to prevent the pen point from shifting and there-
40 fore the pen point is held rigidly against movements relative to the holder and feed member.

From the foregoing it will be observed that the member 8 called the feed member is reciprocable
45 by relative rotation of the parts 2 and 4 thus making it possible to easily and readily secure the pen point in place or release it for renewal or other purposes.

While I have described the invention in great detail and with respect to a preferred form there-
50 of, it is not desired to be limited thereto since many changes and modifications may be made therein without departing from the spirit and scope of the invention. What it is desired to
55 claim and secure by Letters Patent of the United States is:

1. A pen comprising in combination, a holder having a bore, a feeder reciprocable therein between writing and non-writing positions and hav-
60 ing a forward feeding end projecting from the forward end of the holder, an extension at the rear end of the holder rotatable relative thereto, means associated with the extension and feeder whereby the latter is reciprocated by relative ro-
65 tation of said holder and extension, a pen point, and engaging means associated with the feeder and pen point including a projection in the feeder and an aperture in the pen point disposed so as to be located in the holder when the feeder is in
70 writing position, all adapted and arranged whereby the pen-point may be held in writing position by the holder and feeder when the feeder is in

writing position and released when the said feeder is in non-writing position, the said holder having a longitudinal spline in its bore and the said pen-point having a projecting part receivable in said spline for holding the pen point against sideways
5 shifting movements when in writing position.

2. A pen comprising in combination, a holder having a bore with a feeder in said bore having an end part projecting beyond the forward end of the holder and slidable in the bore between
10 writing and non-writing positions, means associated with said bore and feeder preventing rotation of the feeder relative to said bore, an extension at the rear end of the holder rotatable relative thereto, connections between said extension
15 and feeder whereby the latter is moved between writing and non-writing positions accordingly as the extension is rotated relative to the holder, a pin on the forward end of the feeder, a pen point provided with an aperture in which said pin is
20 receivable whereby the pen point may be drawn into writing position by the feeder, the bore of the holder being provided with a longitudinal spline, and the said pen point having an outwardly extending offset portion receivable in said
25 spline for holding the pen point against shifting movements when in writing position.

3. A pen comprising in combination, a holder having a longitudinal bore therethrough, a feeder reciprocable in the upper end of the bore, means
30 associated with the feeder and bore preventing rotation of the feeder relative to the bore, an extension at the lower end of the holder rotatable relative thereto, screw means associated with the extension and feeder whereby the feeder is moved
35 between writing and non-writing positions relative to the holder as the extension is rotated, and means to hold the holder and extension against separation including a restricted portion of the bore at the lower end of the holder and a part
40 on said screw means in the said bore above said restricted part.

4. A pen comprising in combination, a holder having a longitudinal bore therethrough which is restricted at the lower part thereof and has a flat
45 surface in the part thereabove and a spline extending downwardly from its upper end, a feeder reciprocable in the bore above the restricted part thereof between writing and non-writing positions having a pin on its upper portion, a pen
50 point having an aperture in which said pin is receivable and an outwardly projecting part receivable and slidable in the spline of the bore to prevent sideways shifting of the pen point on said feeder, the said feeder having a flat surface
55 engaging the flat surface of the bore whereby the feeder is limited to reciprocating movements relative to the holder whereby the projection of the pen point is maintained in alignment with said spline when the pen point is located on the feeder
60 by said pin, an extension at the lower end of the holder rotatable relative thereto, a screw member fixed to the upper end of the extension rotatable in the restricted part of the bore threadedly engaging the lower end of the feeder, and a collar
65 on the screw member above the restricted part of the bore holding the holder and extension against relative axial movements whereby as they are relatively rotated the feeder is reciprocated
70 relative to the holder.

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