

## PATENT SPECIFICATION



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## PROVISIONAL SPECIFICATION

## Improvements in or relating to Fountain or Reservoir Pens

I, ANDREW STUART HORN, B.Eng., (British Nationality), of 60, Osmaston Road, Prenton, Birkenhead, in the County of Chester, do hereby declare the nature of this invention to be as follows:—

This invention relates to fountain or reservoir pens, and has for its object to provide improvements in connection with the feeds or feed bars thereof, whereby the supply or delivery of ink to the nib may be improved and an even flow therefrom ensured, and this—as far as practicable—only as and from the commencement of the writing operation.

As is well known, fountain or reservoir pens in general (wherein the ink conduit of the feed is continuous from the reservoir end to the end in association with the nib) are apt to possess a defect known as "bleeding", i.e. the formation of a blob of ink on the tip of the nib on the pen being held in a vertical position without being used, particularly when the reservoir is nearly empty.

My invention seeks to obviate this defect and, as before stated, render the ink flow in the writing operation even and regular.

According to my invention, I so construct a feed or feed bar that the ink in its passage to the nib is compelled to take a more or less tortuous course through a passage or passages of unvarying or equal size or cross-sectional area, and I find, in experimental practice, (particularly in the application of my invention to reservoir pens of vacuum type, i.e. of the kind in which an air tube extends into the ink reservoir) that the desired improvement

is attained by the formation of a longitudinal ink slot or channel in the underside of the feed bar and a lateral slot or channel leading from said first-mentioned channel to a second longitudinal slot or channel provided in the front or face of the feed or feed bar and whereby the ink is conducted to the nib—all of said slots being similar in cross-sectional area. Said communicating channel which may be at right angles to the longitudinal channel or at a suitable inclination thereto, has the effect of checking or regularising the flow of ink to the nib, but at the same time maintains the ink supply adequate and free for the purpose of writing.

Said first mentioned longitudinal channel, however, may be located in any suitable position in the feed bar relative to the channel which actually delivers the ink to the nib, and the lateral channel referred to may, in effect, be formed by a spiral or helical configuration of the first mentioned longitudinal channel.

In an alternative arrangement, the desired breakwater effect may be obtained by the creation in the feed or feed bar of a transverse annular groove whereby ink communication is effected with the longitudinally slotted portions of the feed bar.

My invention is applicable to feeds or feed bars of varying types, as for examples, of ladder, herringbone, side-pocket and spoon patterns.

Dated this 19th day of May, 1934.

JOHN HINDLEY WALKER,  
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125, High Holborn, London, W.C.1,  
Agent for the Applicant.

## COMPLETE SPECIFICATION

## Improvements in or relating to Fountain or Reservoir Pens

I, ANDREW STUART HORN, B.Eng., (British Nationality), of 60, Osmaston Road, Prenton, Birkenhead, in the County of Chester, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in

and by the following statement:—

This invention relates to fountain or reservoir pens, and has for its object to provide improvements in connection with the feeds or feed bars thereof, whereby the supply or delivery of ink to the nib may be improved and an even flow there-

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from ensured, and this—as far as practicable—only as and from the commencement of the writing operation.

As is well known, fountain or reservoir pens in general (wherein the ink conduit of the feed is continuous from the reservoir end to the end in association with the nib) are apt to possess a defect known as “bleeding”, i.e. the formation of a blob of ink at the tip of the nib on the pen being held in a vertical position without being used, particularly when the reservoir is nearly empty.

My invention seeks to obviate this defect and, as before stated, render the ink flow in the writing operation even and regular.

According to my invention, I so construct a feed or feed bar that ink in its travel from the reservoir to the nib is compelled to take a more or less tortuous course through a passage or passages of unvarying or equal size or cross-sectional area, and I find in experimental practice (particularly in the application of my invention to reservoir pens of vacuum type, i.e. of the kind in which an air tube extends into the ink reservoir) that the desired improvement is attained by means of a longitudinal ink slot or channel formed in the underside of the feed bar and in communication with the ink reservoir, a second longitudinal slot or channel out of direct communication with the ink reservoir, and provided in the front or face of the feed bar and whereby ink is conducted to the nib, and a slot or channel connecting said longitudinal channels; all of said channels being similar in cross-sectional area. Said communicating channel—which may be at right angles to the longitudinal channels or at a suitable inclination thereto—has the effect of checking or regularising the flow of ink to the nib, but at the same time maintains the ink supply adequate and free for the purpose of writing.

Said first mentioned longitudinal channel, however, may be located in any suitable position in the feed bar relative to the frontal channel which actually conveys the ink to the nib; and the lateral channel referred to may, in effect, be formed by a curved or helical configuration or extension of the first mentioned longitudinal channel.

In an alternative arrangement, the desired breakwater effect may be obtained by the creation in the feed or feed bar of a transverse annular groove whereby ink communication is effected with said longitudinally channelled portions of the feed bar.

I will further describe my invention with the aid of the accompanying sheet

of explanatory drawings which illustrates by way of examples only, two modes of embodying same.

Front, side, and rear views of each feed bar are shown.

In the several views like characters of reference denote like or equivalent parts.

Referring generally to the drawings which depict feeds or feed particularly suitable for use in a reservoir pen of vacuum type, *a* denotes the feed bar, *b* an air tube which is adapted to extend into the ink reservoir and *c* an air opening formed in the feed bar and communicating with the base of said tube *b*.

In each of the examples illustrated, there is provided on the underside of the feed bar *a* a longitudinal channel *d* the rear end whereof is adapted for direct communication with the ink reservoir of the pen, a channel *e* in the front of the feed bar and which conducts ink to the nib, said channel *e* being closed at its rear end so that it is out of direct communication with the reservoir, and a channel *f* connecting said channels *d* and *e*. All of said channels *d*, *e*, *f*, are of the same cross-sectional area.

In the feed bar construction shown in Figs. 1, 2 and 3, the communicating channel *f* is substantially at right angles with the longitudinal slots, whereas in the construction illustrated in Figs. 4, 5, and 6 channel *f* is cut at an inclination.

In use, the bar being assembled with the nib section of a pen, ink flows from the reservoir to the nib by way of channels *d*, *e*, *f*, and being thus compelled to take a tortuous course, the flow checked or regularised for the purpose of writing whilst the defect of “bleeding” is largely or wholly obviated.

My invention is, of course, applicable to feeds or feed bars of varying types, as, for examples, ladder, herringbone, side-pocket; and spoon patterns.

Having now particularly described and ascertained the nature of my said invention, and in what manner the same is to be performed, I declare that what I claim is:—

1. In a fountain or reservoir pen, a feed or feed bar provided with two communicating slots or channels one of which is in direct communication with the ink reservoir whilst the other channel is out of direct communication with the ink reservoir and is in the front or face of the feed or feed bar and adapted to conduct ink to the pen nib, and said channels being of unvarying or equal size or cross-sectional area.

2. In a fountain or reservoir pen, a feed or feed bar having a longitudinal slot or channel in direct communication with the

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ink reservoir, a longitudinal slot out  
of direct communication with the ink  
reservoir and adapted to conduct the ink  
to the pen nib, and a lateral slot connect-  
5 ing said longitudinal slots; all of said slots  
being of unvarying or equal size or cross-  
sectional area.

3. A fountain or reservoir pen provided  
with a feed or feed bar substantially as

hereinbefore described and illustrated in 10  
Figs. 1 to 3, or Figs. 4 to 6, of the accom-  
panying drawings.

Dated this 22nd day of May, 1935.  
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[This Drawing is a reproduction of the Original on a reduced scale.]

