

# PATENT SPECIFICATION

307,227



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## PROVISIONAL SPECIFICATION.

### Improvements in and relating to Pencil Holders or Cases.

We, PERCY LEONARD BEDFORD, a British Subject, of 97, Rushmore Road, Lower Clapton, in the County of Middlesex, and S. MORDAN & COMPANY LIMITED, a British Company, of 41, City Road, London, E.C.1, do hereby declare the nature of this invention to be as follows:—

This invention relates to improvements in pencil holders or cases of the type which are known as "everpoint" or some other such similar name.

These pencil holders or cases may broadly be divided into two classes, one in which the lead is simply pushed forward by a suitable action but must be pushed back by outside pressure, and the other in which the lead is both pushed forward and retracted by a suitable action. It is to this latter class of pencil that the present invention relates and it has for its object to provide an improved instrument of this class.

According to this invention the instrument is in two parts and comprises an outer sheath or barrel and an inner member comprising the "action" and also, if desired, a holder for spare leads. The said inner member is adapted to fit friction tight within the said outer sheath.

The said inner member preferably comprises a tube which may be slotted to give a good spring frictional contact inside the outer sheath and also so that it can be adjusted when necessary to take up any wear. This also allows of easy clearance in the event of a lead being broken inside the pencil, it merely being necessary to remove the sheath when the broken portion of the lead will either fall out or will be easily removed by a slight tap. The said slotted tube is fitted with the usual pencil case "action" to advance and withdraw the lead which is fitted into a suitable socket at the end of the propeller rod so that it is caused to follow the movement of the said propeller rod.

The slotted tube is fixed to the stationary tube of the "action" by means of a tube of smaller diameter connecting the said slotted tube to the stationary tube. The usual threaded or spirally

slotted tube of the action is soldered or otherwise suitably secured to a reservoir barrel which is adapted to contain spare leads and which may be closed at its outer end by a plug-in cap which may be slotted to give a good frictional contact. The said reservoir barrel or a suitable knurled ring thereon is adapted to be rotated to propel and withdraw the lead.

The stationary tube and the connecting tube project beyond the end of the slotted tube. The outer sheath or barrel is of the usual form and may be made in a single piece and tapered off at its outer end to form a point, thereby enabling the use of the usual screwed on point to be dispensed with, as this screwed on point is liable to work loose and possibly fall off. The point is further provided internally with a series of stepped recesses forming a bearing for the projecting portions of the stationary and connecting tubes above referred to, the final recess at the point being formed with an internally straight wall which tightly encloses the lead and ensures a steady and central guide for the same and prevents wobbling of the lead when in use.

In order to insert the lead, the inner member is withdrawn from the outer sheath and the propeller rod is withdrawn to its fullest extent. The lead is then inserted in the stationary tube and given a slight push which will cause it to enter the socket at the end of the propeller rod. The stationary tube thus forms a guide and support for the lead and the lead is thus protected against breakage when the outer sheath is being replaced. When the said outer sheath has been replaced, the "action" may be advanced to propel the lead down to the best distance beyond the point for writing.

Dated this 19th day of March, 1928.

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{Price 1/-}

## COMPLETE SPECIFICATION.

## Improvements in and relating to Pencil Holders or Cases.

- We, PERCY LEONARD BEDFORD, a British Subject, of 97, Rushmore Road, Lower Clapton, in the County of Middlesex, and S. MORDAN & COMPANY LIMITED, a British Company, of 41, City Road, London, E.C.1, 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 improvements in pencil holders or cases of the type which are known as "everpoint" or some other such similar name.
- These pencil holders or cases may broadly be divided into two classes, one in which the lead is simply pushed forward by a suitable action but must be pushed back by outside pressure, and the other in which the lead is both pushed forward and retracted by a suitable action.
- It is to this latter class of pencil holder that the present invention relates and it has for its chief object to provide adequate support for the lead during use so that there is an entire absence of shake while writing. A further object of this invention is to provide means whereby the lead may be used down to the smallest possible portion and a still further object is to provide means for ejecting the lead when desired.
- It has heretofore been proposed in a propelling pencil holder only to form the device of two main parts, one an outer sheath and the other an inner member comprising the pencil action, the said inner member being held friction tight within the outer sheath. Pencil holders have also been heretofore provided with propelling, retracting and ejecting mechanism.
- According to this invention the instrument is in two parts and comprises an outer sheath or barrel and an inner member held friction tight within the outer sheath and provided with a lead gripping tube and with means for propelling and retracting the said lead gripping tube, the said inner member having at its end a tube which forms a continuation of the bore in the outer sheath or barrel and within which the lead is accommodated when fitting or removing the outer sheath thereby reducing the risk of breaking the lead during such operations to a minimum.
- The said inner member preferably comprises a tube which may be slotted to give an outer sheath and also so that it can be adjusted when necessary to take up any wear. This ready removal of the inner member also allows of easy clearance in the event of a lead being broken inside the pencil holder, it merely being necessary to remove the sheath when the broken portion of the lead will either fall out or will be easily removed by a slight tap. The said slotted tube is fitted with any suitable pencil case "action" to advance and withdraw the lead which is fitted into a suitable socket at the end of the propeller rod so that it is caused to follow the movement of the said propeller rod.
- In the case where means are provided for ejecting the lead, the lead holding tube is mounted friction tight on the propelling rod. Stops are provided for limiting the movement of the lead holding tube in both directions, the stop at the lower end being to allow the propelling rod to pass through the lead holding tube to eject the lead, while the stop at the upper end of the pencil is to allow the propelling rod to be retracted through the lead holding tube in order to leave the forward end of the same clear to receive a fresh lead.
- In order that this invention may be the more clearly understood and readily carried into effect, we will proceed to describe the same with reference to the accompanying drawings which illustrate by way of example and not of limitation one convenient embodiment of this invention on an enlarged scale and wherein
- Figure 1 is a central vertical section through the pencil holder in the writing position,
- Figure 2 is a similar section showing the lead ejected,
- Figure 3 is a section on line 3—3 of Figure 1.
- Figure 4 is an elevation of the pencil holder with the outer sheath or barrel removed.
- Figure 5 is an elevation showing the inner portion of the pencil holder with the slotted tube removed.
- Figure 6 is an elevation partly in section of the inner portion of Figure 5.
- Figure 7 is a similar view showing the parts in a different position and
- Figures 8 and 9 are front elevation and end view respectively of the upper stop member for the lead holding tube.
- Referring to the drawings, the pencil holder comprises an outer sheath or barrel

*a* which may be made of any suitable material and may be made in a single piece as shown or with a separate tip in the usual manner. This outer sheath *a* is removable from the inner portion of the pencil holder which comprises the mechanism for propelling, retracting and ejecting the lead *b*.

The inner portion of the pencil holder comprises a tube *c* split as at *c*<sup>1</sup> in order to give a good friction tight grip inside the outer sheath *a*.

Inside the split tube *c* is arranged the tube *d* of the action, which is internally screw-threaded or spirally slotted in the usual manner as shown at *d*<sup>1</sup>.

Secured to the upper end of the tube *d* is the upper portion *a*<sup>1</sup> of the barrel of the pencil holder. This portion, which comprises the means for rotating the tube *d*, may, of course, be of any suitable construction but is preferably internally hollowed out as at *a*<sup>2</sup> in order to provide a reservoir space for spare leads. The upper end of this reservoir barrel is closed by a screw-in or plug-in cap *a*<sup>3</sup> which may, if desired, be provided with a ring for attaching the pencil to a watch chain or the like. The lower end of the reservoir barrel forms the shoulder against which the upper end of the outer sheath *a* abuts and, if desired, the ring *e* of a clip may be interposed between these two parts, this ring preferably being firmly secured either to the reservoir barrel or to the tube *c*.

Inside the threaded tube *d* is arranged the stationary tube *f* of the action (see Figures 6 and 7). This tube *f* is provided at its lower end with a further tube *f*<sup>1</sup> which is of smaller diameter than the tube *f* and is inserted a small distance into the same in order to form a shoulder *f*<sup>2</sup> for a purpose hereinafter described. The tube *f* is also provided with diametrically opposite slots *f*<sup>3</sup> and with a closure cap *f*<sup>4</sup> while inside the upper end of the tube *f* is arranged a stop member *g* formed of a V-shaped portion of half round wire (see Figures 8 and 9) which is arranged so as to allow a free passage forming in effect a continuation of the slots *f*<sup>3</sup> but also forming a stop member located in the tube *f* on either side of the slot.

Freely slidable in the tube *f*<sup>1</sup> is arranged the lead gripping tube *h* which is provided at its upper end with a thickened portion *h*<sup>1</sup> forming a shoulder *h*<sup>2</sup>. Arranged friction tight within the lead gripping tube *h* is the ejector rod *k* having at its upper end a small plate *k*<sup>1</sup> the edges of which are screwed as at *k*<sup>2</sup> to co-act with the internally screw-threaded tube *d*.

Describing now the method of assembling the pencil holder, the tubes *f* and *f*<sup>1</sup> are taken and soldered together. The stop *g* is then inserted in the upper end and the cap *f*<sup>4</sup> soldered or otherwise suitably secured in position.

The lead gripping tube *h* and the ejector rod *k* are now taken and after making sure that the rod *k* is a good friction tight fit in the tube *h* these two parts in their relative positions are inserted into the tube *f* by opening out the slots *f*<sup>3</sup> sufficiently to allow the tube *h* and ejector rod *k* to be easily inserted. The slots *f*<sup>3</sup> are then closed to their normal position. These parts are then inserted into the tube *d* through the reservoir end and are adjusted to their correct relative positions. The tube *c* is then placed over the whole and soldered to the tube *f* when the inner portion of the pencil holder is completed. It then only remains to place the outer sheath in position to complete the pencil holder.

As shown in the drawings the internal bore of the outer sheath *a* is provided with shoulders *a*<sup>4</sup>, *a*<sup>5</sup> and *a*<sup>6</sup> while the final bore *a*<sup>7</sup> is of the same diameter as the lead whereby in addition to being supported at its end by the lead gripping tube *h* the lead is also supported at the tip of the pencil so that a very steady writing point is obtained. The end of the tube *f*<sup>1</sup> abuts against the shoulder *a*<sup>5</sup> as shown so that a very rigid mounting of the inner portion in the outer sheath *a* is provided.

With the lead in position in the lead gripping tube rotation of the upper portion *a*<sup>1</sup> of the pencil holder will rotate the tube *d* and cause the rod *k* to move axially into the tube *f* which is secured to the slotted tube *c* due to the screwed edge *k*<sup>2</sup> of the plate *k*<sup>1</sup> engaging with the internally screw-threaded bore of the tube *d*. Since the lead gripping tube is arranged friction tight on the ejector rod *k* the lead gripping tube and hence the lead will be advanced or retracted as the case may be. The parts are then in the position shown in Figure 1. Consider the position when the lead is nearly used. The shoulder *h*<sup>2</sup> on the lead gripping tube will abut against the shoulder *f*<sup>2</sup> (see Figures 2 and 6) and hence the lead gripping tube will be held against further forward movement. Continued rotation of the upper portion of the pencil case will, however, cause a further advancement of the ejector rod *k* and since the lead gripping tube *h* is held, the ejector rod *k* will move longitudinally in the lead gripping tube pushing with it the lead. The lead will thus continue to be propelled forward until the whole is ejected. When the ejector rod *k* has been fully propelled through the lead

gripping tube *h*, the plate *k*<sup>1</sup> will abut against the top of the tube *h*, and the parts will be in the position shown in Figure 2.

5 It will be obvious that with the parts in this position it will be impossible to insert the lead. Also rotation of the upper portion *a*<sup>1</sup> in the reverse direction will simply cause the lead gripping tube 10 *h* and the ejector rod *k* to be retracted without however altering their relative positions due to the friction tight mounting of the lead gripping tube *h* on the ejector rod *k*. It is for the purpose of 15 withdrawing the ejector rod *k* from within the lead gripping tube *h* that the stop member *g* is provided. When the two parts have been fully withdrawn by rotation of the upper portion *a*<sup>1</sup> in the reverse 20 direction the top of the lead gripping tube *h* abuts against the ends of the stop member *g* so that the lead gripping tube is held against further movement in the rearward direction. Further, rotation of the 25 upper part *a*<sup>1</sup> will now cause the ejector rod *k* to be withdrawn in the lead gripping tube *h* due to the plate *k*<sup>1</sup> sliding between the two portions of the stop member *g*. The lead can then be inserted 30 in the lead gripping tube and the pencil used in the ordinary manner.

It will be obvious that many modifications may be made in the pencil holder according to this invention, for example, 35 the ejecting means may be omitted, if so desired, in which case the lead gripping tube would be secured to the propeller rod. Having now particularly described and ascertained the nature of our said invention and in what manner the same is to 40 be performed, we declare that what we claim is:—

1. A pencil holder, pencil case or the like of the type specified comprising an 45 outer sheath or barrel and an inner member held friction tight within the outer sheath and provided with a lead gripping tube and with means for propelling and retracting the said lead gripping 50 tube, the said inner member having at its end a tube which forms a continuation of the bore in the outer sheath or barrel and

within which the lead is accommodated when fitting or removing the outer sheath thereby reducing the risk of breaking the 55 lead during such operations to a minimum.

2. A pencil holder, pencil case or the like, according to Claim 1, in which the inner member is provided with an outer 60 slotted tube by means of which the inner member is held friction tight within the outer sheath.

3. A pencil holder, pencil case or the like, according to Claim 1, provided with means for ejecting the lead substantially 65 as described.

4. A pencil holder, pencil case or the like according to either of the preceding Claims 2 or 3 in which the lead gripping 70 tube is mounted friction tight on the propeller rod and stops are provided to limit the movement of the lead gripping tube in both directions while allowing further movement of the propeller rod, substantially 75 as described for the purpose specified.

5. A pencil holder, pencil case or the like according to Claim 4 in which the upper stop comprises a length of substantially half round wire which is let into 80 the stationary tube of the action in such a manner as to arrest the movement of the lead gripping tube while at the same time allowing a further movement of the propeller rod substantially as described. 85

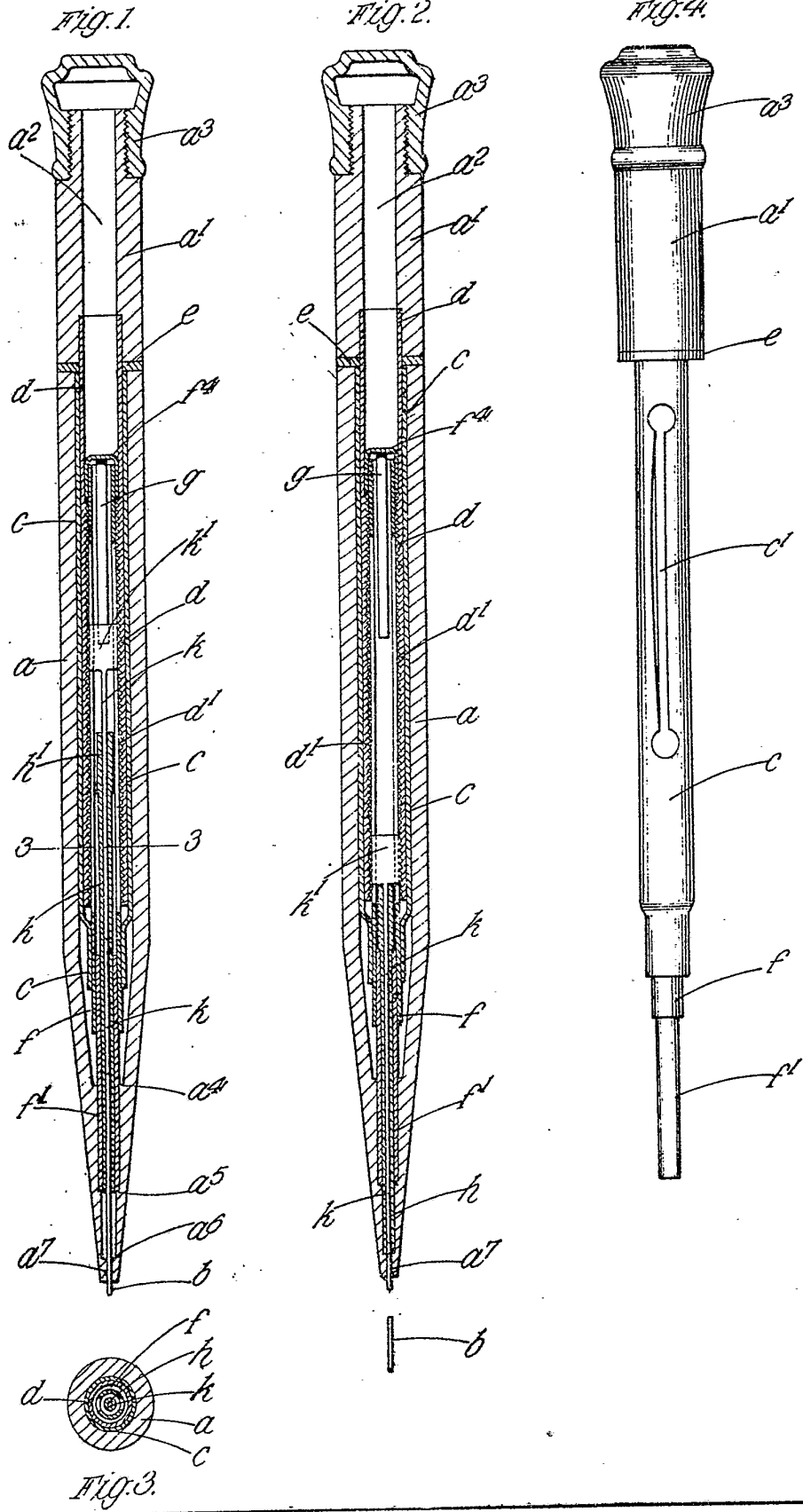
6. A pencil holder, pencil case or the like according to any of the preceding Claims 1 to 5 in which the bore at the tip of the outer sheath is adapted to 90 enclose the lead tightly, thereby assuring a steady guide for the lead and ease in use.

7. The improved pencil holders, pencil cases, or the like having their parts constructed, arranged and adapted to operate 95 substantially as described or as illustrated in the accompanying drawings.

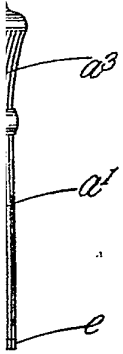
Dated the 30th day of July, 1928.

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[This Drawing is a reproduction of the Original on a reduced scale.]



4



*a1*

*c*

*f*

*f1*

