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PATENT SPECIFICATION



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Complete Left: Jan. 9, 1922.

Complete Accepted: July 6, 1922.

PROVISIONAL SPECIFICATION.

Improvements in and relating to Propelling Actions or Devices for Pencil Holders.

We, THE WYVERN FOUNTAIN PEN Co., a British company, and GEORGE DAVIES, a British subject, both of Woodboy Street, Leicester, do hereby declare the nature of this invention to be as follows:—

This invention relates to propelling pencil motions or devices which may or may not be used with fountain pens.

One object of the invention is a unitary construction of the parts of the action whereby it may readily be inserted into a suitable barrel or holder which may serve either as a fountain pen or as a holder of a propelling pencil.

Another object of the invention is to so construct the parts of the unit that they may be readily taken apart for examination and repair.

Another object of the invention is to so arrange the over-all length of the propelling action that it may be inserted in one end of a holder, such holder serving at or towards its other end as a fountain pen.

In carrying the invention into effect the propelling action constitutes a self-contained unit which fits and is secured in one end of the usual barrel or holder. Such unit in one construction consists of the usual tubular conical preferably vulcanite nose, which is shrunk tightly upon one end of a sleeve nut that extends for a suitable distance beyond the larger end of the nose-piece.

The free end of the sleeve nut is formed with an exterior projecting collar, while internally it is tapped or screw-threaded. Carried on the projecting sleeve between the projecting collar and the large end of

the nose, is an adapter sleeve which internally forms a bearing for the sleeve nut and is externally screw-threaded to screw the propelling action into one end of the pencil or pen holder. The outer end of such sleeve is formed as a projecting collar which is of a diameter to fit flush between the enlarged end of the nose and the end of the barrel. Passing centrally through the nose with a slight clearance and through the sleeve nut is a threaded extension of a split or other lead holder which works to and fro within the smaller end of the nose, the latter being also split as is usual. The other end of the screwed extension carries a head adapted to make an easy fit in the barrel, and is provided with a radial pin to engage the slot formed longitudinally within the barrel.

The unit thus constructed is mounted in, and at one end of, the barrel by first inserting the head into the barrel with the pin in register with the longitudinal slot and then screwing the unit in position by the adapter sleeve until it reaches a shoulder forming a stop. By the foregoing construction the sleeve nut is firmly held in position and prevented from moving endwise by its projecting collar at one end, fitting against the shoulder and fitting behind the inner end of the adapter, whilst the nose is firmly shrunk upon its other end.

To operate the appliance thus placed in position the conical tip may be held stationary between the thumb and finger of one hand, whilst the barrel is rotated with the other. This rotation of the barrel rotates the radial pin on the lead holder, the threads of which co-operating with

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those of the sleeve nut causes longitudinal movement to be imparted to the lead holder in one or the other direction.

In the second form of construction, to adapt the propelling action to a holder or barrel of different dimensions, that is where it is of less length, the unit construction to be described is of an over-all length considerably less than the foregoing construction.

In such second construction the conical nose is shrunk as before on to the one end of a sleeve, the other end of which sleeve projects beyond the larger end of the conical nose, and terminates in a radial projecting collar.

The interior surface of the sleeve has a longitudinal slot. The projecting end of the sleeve carries externally an adapter which internally fits tightly in between the larger end of the nose and the shoulder formed by the radial projecting collar. Externally, such an adapter is screw threaded to fit into the barrel or holder and is extended inward beyond the radial collar. Fitted centrally within the

sleeve is a hollow quick-pitch grooved spiral, which is held stationary in the sleeve by a transverse pin or keep, secured to the extended end of the adapter. The split or other lead holder is arranged to slide freely within the split forward part of the nose, and its rear end extends within the spiral, where it carries a pin engaging with the convolutions of the spiral, and the longitudinal groove or slot inside the sleeve. By the above construction the sleeve is held firmly at one end by the nose being shrunk thereon, and by its collar at the other end fitting within the adapter. When the barrel is rotated as before, it turns the adapter sleeve and spiral, the convolutions of which thus act to longitudinally adjust the lead holder within the spiral by means of the pin thereon, the lead holder not being rotated as the radial pin therein engages with the longitudinal groove in the sleeve surrounding the spiral.

Dated this 9th day of April, 1921.

MARKS & CLERK.

COMPLETE SPECIFICATION.

Improvements in and relating to Propelling Actions or Devices for Pencil Holders.

We, THE WYVERN FOUNTAIN PEN CO., a British company, and GEORGE DAVIES, a British subject, both of Woodboy Street, Leicester, 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 propelling pencil motions or devices which may or may not be used with fountain pens.

One object of the invention is a unitary construction of the parts of the action whereby it may readily be inserted into a suitable barrel or holder which may serve either as a fountain pen or as a holder of a propelling pencil.

Another object of the invention is to so construct the parts of the unit that they may be readily taken apart for examination and repair.

Another object of the invention is to so arrange the over-all length of the propelling action that it may be inserted in one end of a holder, such holder serving at or towards its other end as a fountain pen.

In carrying the invention into effect the propelling action constitutes a self-contained unit which fits and is secured in one end of the usual barrel or holder. Two practical constructions of such unit are shown by way of example in the accompanying drawings, wherein:—

Figure 1 is a longitudinal sectional view of one construction.

Figure 2 shows the parts of said construction separated from each other.

Figure 3 is an outside view showing the unit construction of Figure 1 applied to the barrel of a fountain pen.

Figure 4 is a longitudinal sectional view of the same.

Figure 5 is a longitudinal sectional view of the other construction.

Figure 6 shows the parts of same separated from each other.

In the construction shown in Figure 1 to 4 the unit comprises the usual tubular conical preferably vulcanite nose 1, which is shrunk tightly upon one end of a sleeve nut 2 that extends for a suitable distance beyond the larger end of the nose piece 1. The free end of the sleeve nut 2 is formed

with an exterior projecting collar 3 while internally it is tapped or screw-threaded. Carried on the projecting sleeve 2 between the projecting collar 3 and the large end of the nose 1 is an adapter sleeve 4 which internally forms a bearing for the sleeve nut 2 and is externally screw-threaded to screw the propelling action constituting the unit into one end of the pencil or pen holder such for instance as the fountain pen barrel 5 as shown in Figures 3 and 4. The outer end of the sleeve 4 is formed as a projecting collar 6 which is of a diameter to fit flush between the enlarged end of the nose 1 and the end of the barrel. Passing centrally through the nose 1 with a slight clearance and through the sleeve nut 2 is a threaded extension 7 of a split lead holder 8 which works to and fro within the smaller end of the nose 1, the latter being also split longitudinally as is usual. The other end of the screwed extension 7 carries a head 9 adapted to make an easy fit in the barrel 5, said head being provided with a radial pin 10 to engage a slot 11 formed longitudinally within the barrel.

The unit thus constructed is mounted in and at one end of the barrel 5 by first inserting the head 9 into the barrel with the pin 10 in register with the longitudinal slot 11 and then screwing the unit in position by the adapter sleeve 4 until the collar 6 on the latter comes tightly up against the adjacent end of the barrel. By the foregoing construction the sleeve nut 2 is firmly held in position and prevented from moving endwise by fitting against the opposite ends of the adapter sleeve 4.

To operate the appliance thus placed in position, the conical tip 1, which it will be remembered is firmly shrunk upon the sleeve nut 2, may be held stationary between the thumb and finger of one hand whilst the barrel 5 is rotated with the other. This rotation of the barrel rotates the radial pin 10 and head 9 on the lead holder 8 the threads on the extension 7 of which co-operating with those of the sleeve nut 2 causes longitudinal movement to be imparted to the lead holder 8 in one or the other direction.

In the second form of construction shown in Figures 5 and 6, to adapt the propelling action to a holder or barrel of different dimensions, that is where it is of less length, the unit construction to be described is of an over-all length considerably less than the foregoing construction.

In such second construction the conical

nose 12 is shrunk as before on to one end of a sleeve 13 the other end of which sleeve projects beyond the larger end of the conical nose and terminates in a radial projecting collar 14. 65

The interior surface of the sleeve 13 has a longitudinal groove 15. The projecting end of the sleeve carries externally an adapter 16 which fits rotatably between the larger end of the nose 12 and the radial projecting collar 14. The adapter 16 is screw threaded externally to fit into the barrel or holder (not shown) to which the unit is to be applied and has formed thereon a stop collar 17. Fitted centrally within the sleeve 13 is a hollow quick-pitch grooved spiral 18 which is held stationary in the sleeve by a transverse pin or keep 19 which passes through the end of the tubular spiral and also through the extended end of the adapter 16. A lead holder 20 is arranged to slide freely within the split forward part of the nose 12 and its rear end extends within the spiral 18 where it carries a radial pin 21 engaging with the convolutions of the spiral and also with the aforesaid longitudinal groove 15 inside the sleeve 13. By the construction described the sleeve 13 is held from endwise movement in the adapter by the nose 12 and by its collar 14 which latter makes contact with a shoulder 22 formed on the inside of the adapter 16. When the nose 12 is held by finger and thumb and the adapter 16 is rotated, the latter turns the spiral 18 the convolutions of which act upon the pin 21 to longitudinally adjust the lead holder 20 within the spiral 18, rotation of the lead holder being prevented by engagement of the pin 21 with the longitudinal groove 15 in the surrounding sleeve 13. When the unit is screwed into a suitable holder or barrel the collar 17 on the adapter 16 tightens up against the end of said holder or barrel. 70 75 80 85 90 95 100 105

Having now particularly described and ascertained the nature of our said invention, and in what manner the same is to be performed, we declare that what we claim is:— 110

1. A propelling pencil motion or device constructed as a unit whereby it may be inserted into a barrel or holder which may serve either as a fountain pen or as a holder of a propelling pencil, said motion or device including an adapter sleeve or member for fitting into the barrel or holder said adapter being capable of rotation relatively to the nose piece of the device and carrying the propelling means, 115 120

substantially as and for the purpose described.

2. A constructional form of the subject matter of Claim 1 wherein the adapter carries a sleeve nut upon which the nose piece is secured said sleeve nut having a screw-threaded lead holder passing through it which by means of a radial pin engaging a longitudinal groove in the barrel or holder is rotated in unison with the said barrel and adapter relatively to the nose piece and sleeve nut, substantially as described.

3. A constructional form of the subject matter of Claim 1 wherein the adapter carries a sleeve upon which the nose piece is secured, said sleeve having an internal longitudinal groove and carrying a tubular quick-pitch grooved spiral held stationary within the sleeve by a transverse pin passed through the spiral and

adapter, the said spiral containing an endwise slidable lead holder having a radial pin which engages with the surrounding spiral groove and with the longitudinal groove in the sleeve which pin propels the lead holder when the adapter is rotated relatively to the nose piece and sleeve, substantially as described.

4. A unitary propelling motion constructed, arranged and operating substantially in the manner as and for the purpose described with reference to Figures 1 to 4 and Figures 5 and 6 respectively of the accompanying drawings.

Dated this 3rd day of January, 1922.

E. N. LEWIS & TAYLOR,
Chartered Patent Agents,
Berridge Street Chambers, Leicester,
Agents for the Applicants.

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

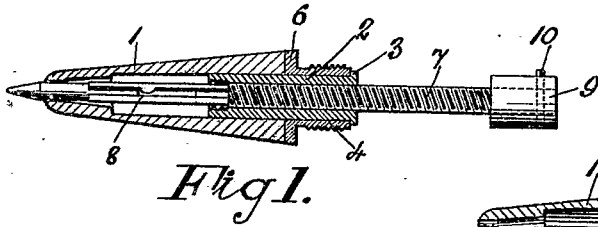


Fig 1.

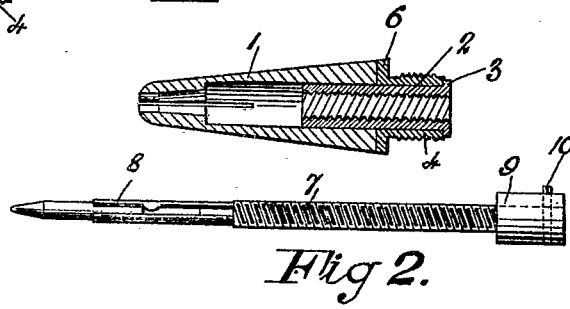


Fig 2.

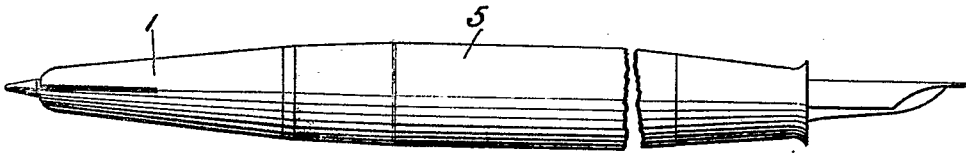


Fig 3.

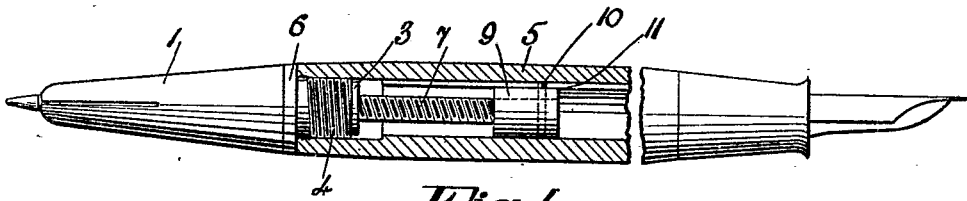


Fig 4.

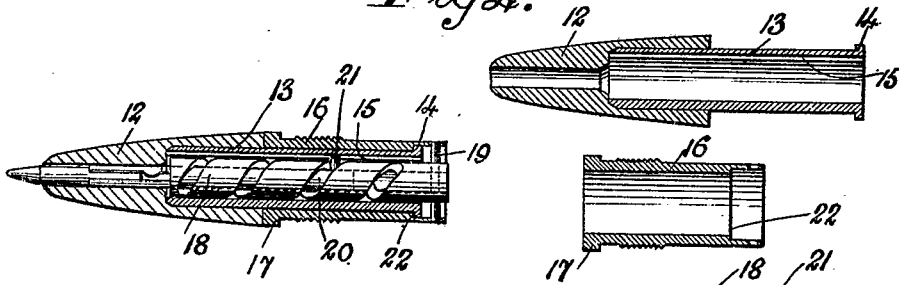


Fig 5.

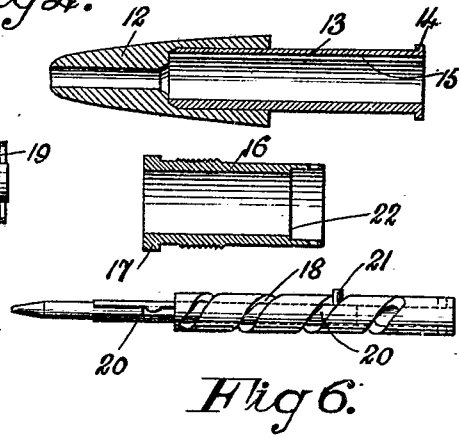


Fig 6.