

N^o 17,889



A.D. 1894

Date of Application, 20th Sept., 1894

Complete Specification Left, 1st June, 1895—Accepted, 20th July, 1895

PROVISIONAL SPECIFICATION.

Improved Means applicable to Articles where an Advancing and Retiring Motion is Required.

We, HARRY LAMBERT SYMONDS, of the Firm of S. Mordan and Company, Manufacturers, and JOHN PUGH, Engineer, both of 41 City Road, in the County of London, do hereby declare the nature of this invention to be as follows :—

5 This invention relates to improved means applicable to articles where an advancing and retiring motion is required, such articles being for instance, pencil cases, tooth-picks, penholders, copying presses, music stools, surgical and other instruments, and it has for its object to so construct these articles that when in their advanced position they shall be securely held in place without fear of their retiring, and also to avoid friction in the working thereof.

10 In applying our invention, say, to a pencil case, we dispense with the usual longitudinal slot in the inner tube, and in which slot slides the pin or stud of the carrier, and in place thereof we employ a spiral slot so arranged that its inclination is at right angles to that of the spiral groove or slot, forming the guide for the pin or stud, in the outer casing of the instrument. We thus obtain
15 a quick action; and the pencil, when in its advanced position is prevented from retiring; owing to the pin or stud of the carrier being maintained in the angle formed by the crossing of the two spiral slots or grooves. And as the inclination of the spiral slot is at right angles to that of the guide, this latter does not tend to force the pin or stud against the side of the slot, and hence friction in working
20 is avoided.

Furthermore, by means of our invention the pencil is caused to revolve while being projected, and hence binding is obviated.

Or we may employ two spiral slots, the pin or stud in this instance projecting on either side of the carrier and entering both the slots. A stronger construction
25 is thereby obtained which will be found useful when applying the invention to heavier articles, such as music stools and copying presses.

Dated this 20th day of September 1894.

30 ERNEST DE PASS,
Chartered Patent Agent,
78, Fleet Street, London, and 6, Victoria Street, Nottingham,
Agent for the Applicants.

Means applicable to Articles where an Advancing and Retiring Motion is Required.

COMPLETE SPECIFICATION.

Improved Means applicable to Articles where an Advancing and Retiring Motion is Required.

We, HARRY LAMBERT SYMONDS, of the Firm of S. Mordan and Company, Manufacturers, and JOHN PUGH, Engineer, both of 41 City Road, in the County of London 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, reference being had to the accompanying drawings 5 and to the letters and figures marked thereon, that is to say:—

This invention relates to improved means, applicable to articles where an advancing and retiring motion is required, such articles being, for instance, pencil-cases, tooth-picks, pen-holders, surgical and other instruments, and it has for its object to so construct these articles that when in their advanced position they 10 shall be securely held in place without fear of their retiring, and also to avoid any binding action in the working thereof.

In applying our invention, say to a pencil-case, we dispense with the usual longitudinal slot in the inner tube, and in which slot slides the pin or stud of the pencil carrier, and in place thereof we employ a spiral slot so arranged that its 15 inclination is at right angles, or thereabouts, to that of the spiral groove, or grooves, in the outer tube or casing of the instrument, forming the guide for the pin or stud.

Or we may employ two spiral slots in the inner tube, the pin or stud in this instance projecting on either side of the carrier and entering both the slots. 20

And in order that the invention may be better understood, we will describe the same fully with reference to the accompanying drawings, in which:

Fig. 1 is an elevation, Fig. 2 a longitudinal section, partly in elevation, and Fig. 3 a cross section, showing our invention applied, by way of example, to a 25 pencil-case.

Fig. 4 is an elevation of the inner tube detached from the outer casing.

Fig. 5 shows, also in elevation, a modified arrangement of inner tube having two spiral slots.

Referring to Figs. 1 and 2, *a* is the outer tube or casing of the pencil-case, which is formed with spiral grooves or flutings serving as guides for the pin or 30 stud hereinafter mentioned. *b* is the inner tube, and *b*¹ is the spiral slot therein, the twist or inclination of this slot being approximately at right angles to the grooves or flutings of the outer casing. In the example shown, the slot forms a left hand spiral, and the flutings a right hand spiral, but if desired the reverse position could be adopted. At its rear end, the inner tube *b* is provided with a 35 knob or head *b*², for rotating it, and at its front end a collar *b*³ is secured to it and fits closely up against the end of the outer casing *a*, which casing is held on the inner tube between the said head and collar, so that longitudinal movement, relatively to one another, is impossible, while either of them, however, is free to 40 turn.

c is the carrier in which is fitted the pencil *d*, and *c*¹ is the pin or stud of the carrier which works in the slot *b*¹ and engages in one or other of the spiral grooves or flutings of the outer casing.

By rotating the inner tube *b*, (by means of the head *b*²), or the outer casing *a*, the pin or stud *c*¹ is caused to travel in a forward or backward direction, according 45 to the way in which the tube is turned, thereby advancing or withdrawing the pencil, and, as the pin travels, a motion of rotation is imparted by it to the carrier and pencil, as it follows the spiral grooves or flutings of the outer casing.

It will readily be seen that by reason of the slot *b*¹ being of spiral form, and of an opposite twist to the flutings of the outer casing, we obtain a quick action, 50

Means applicable to Articles where an Advancing and Retiring Motion is Required.

and the pencil, when in its advanced position, is prevented from retiring, owing to the pin or stud of the carrier being maintained in the angle formed by the crossing of the spiral slot and the fluting. Moreover, as the inclination of the spiral slot is at right angles to that of the fluting or outer casing, and as the pencil is caused

5 to rotate when being advanced or retired, binding is obviated.

In the modified arrangement shown in Fig. 5, two parallel spiral slots b^1 are formed in the inner tube b , and two pins or studs c^1 are provided on the carrier c , one on each side thereof, and pass through the slots and enter the grooves or flutings in the outer tube or casing, thereby equalising the strain. A stronger

40 construction is thus obtained which it will be found useful to adopt when applying the invention to heavier articles.

Although we have described and shown our invention as applied more especially to a pencil-case, it will be obvious that it can be applied in a similar manner to tooth-picks, pen-holders, and surgical and other instruments.

15 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:—

1. Means for obtaining an advancing and retiring motion, comprising an outer tube or casing, having spiral grooves or flutings, and an inner tube having a spiral

20 slot, or slots, running at right angles, or nearly so, to the grooves or flutings in the outer tube, a carrier to which the motion is imparted being arranged within the inner tube and provided with a pin, or pins, projecting through the spiral slot, or slots, and engaging the grooves or flutings of the outer casing, substantially as set forth.

25 2. A pencil case (or like instrument) provided with a grooved or fluted outer casing surrounding an inner tube in which works the pencil carrier, said inner tube having one or more spiral slots running at right angles to the grooves or flutings of the outer casing, and the pencil carrier having pins engaging both the slot, or slots, and the groove, or grooves, so that by turning either the inner or the outer

30 tube, an advancing, or retiring, and at the same time a rotary motion, is imparted to the pencil, substantially as described and shown with reference to the drawings.

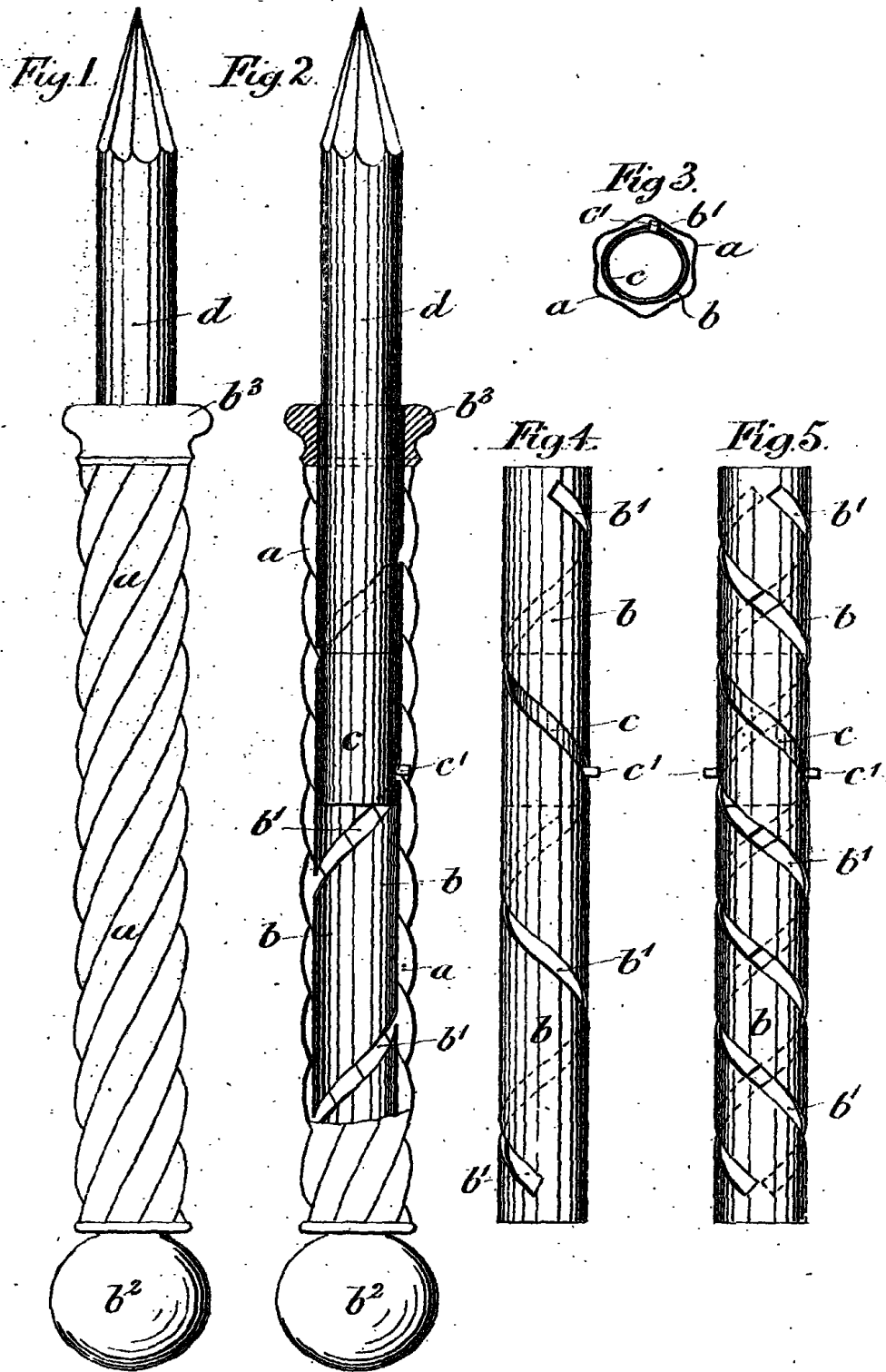
3. Our improved means applicable to articles where an advancing and retiring

35 motion is required, whereby, when applied to such articles, will securely hold them in place when in their advanced position, and without fear of their retiring when in use, substantially as hereinbefore described and shown in the annexed drawings.

Dated this 19th day of June 1895.

ERNEST DE PASS,
Chartered Patent Agent,

40 78, Fleet Street, London, and 5^A Market Street, Nottingham,
Agent for the Applicants.



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