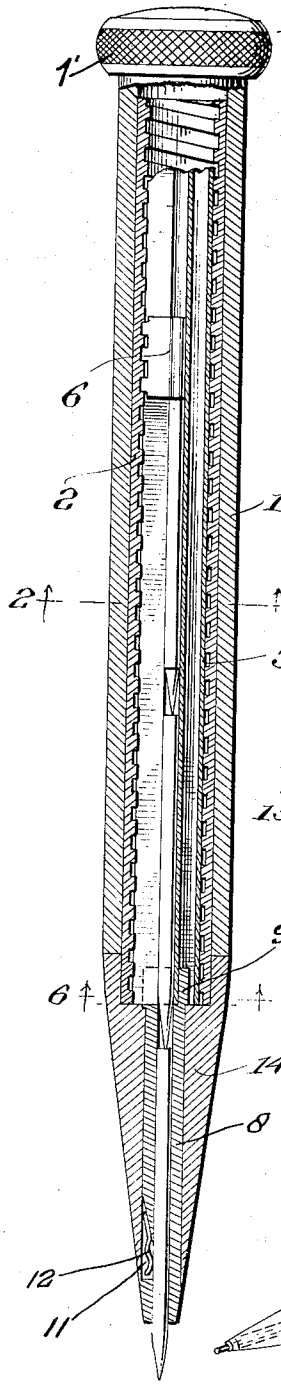
W. C. FOWLER.

PENCIL.

APPLICATION FILED AUG. 24, 1920.

1,406,362. Patented Feb. 14, 1922.

Fig. 1.



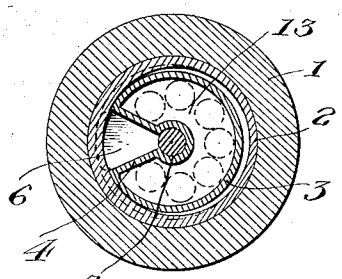
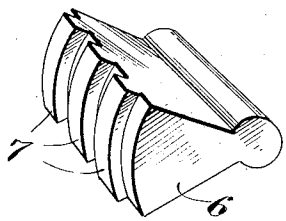


Fig. 2.

Fig. 3.



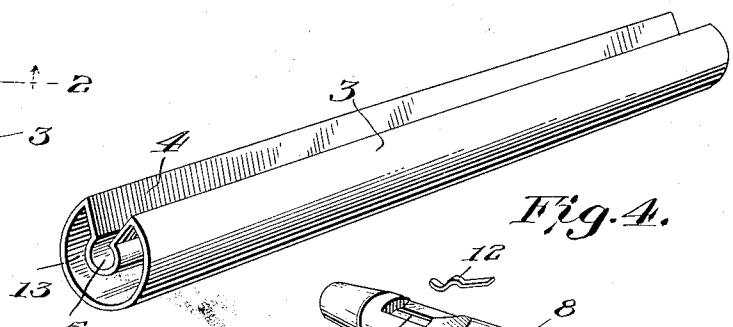


Fig. 4.

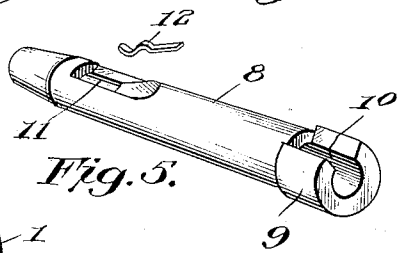


Fig. 5.

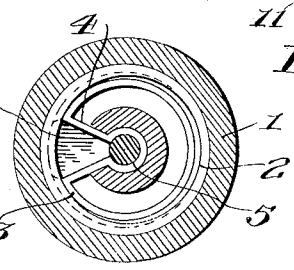


Fig. 6.

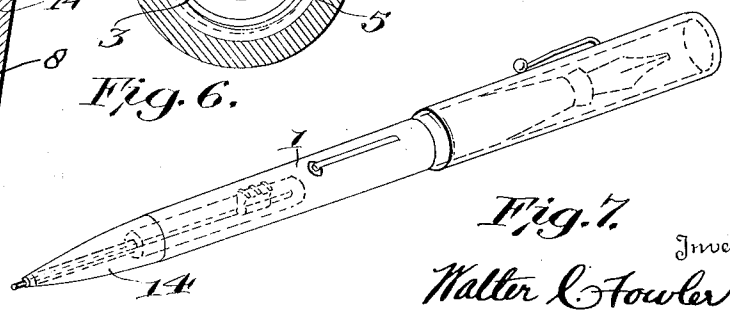


Fig. 7.

Inventor

Walter C. Fowler

By Chas. J. O'Neill.

Attorney

UNITED STATES PATENT OFFICE.

WALTER C. FOWLER, OF TRENTON, NEW JERSEY.

PENCIL.

1,406,362. Specification of Letters Patent. Patented Feb. 14, 1922.

Application filed August 24, 1920. Serial No. 405,650.

To all whom it may concern:

Be it known that I, WALTER C. FOWLER, a citizen of the United States, residing at Trenton, county of Mercer, State of New Jersey, (whose post-office address is No. 180 Passaic Street, Trenton, New Jersey,) have invented certain new and useful Improvements in Pencils; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in pencils and more particularly to pencils of the magazine type.

The principal object of this invention is the provision of a pencil of the class indicated, simple in construction and operation and possessing only the minimum number of parts.

Another object of the invention is to so construct a pencil of this type wherein the lead feeding device will occupy very little space and thereby allow for a greater number of lead sections in the lead feeding compartment of the pencil.

Another object of the invention is to so construct the interior of the pencil that the same will provide a chamber or holder for an auxiliary supply of lead.

The invention is also capable of being used in combination with a fountain pen and may be applied to the upper portion thereof with very slight modification.

Briefly stated, the improved pencil comprises a barrel provided with an interiorly threaded bore in which is positioned a hollow smooth tube of substantial cylindrical shape. This tube is inserted within the threaded bore with a frictional fit so that the same will be retained therein without the necessity of any additional securing means. This tube is provided with a longitudinal V-shaped groove, the bottom of said groove being open and terminating in a small longitudinal tubular extension, said tubular extension being concentric to the main cylindrical tube. Slidably positioned in this V-shaped groove is a lead feeding plug or follower, shaped in cross sections to fit within the V-shaped groove and provided with a portion adapted to slide within the longitudinal tubular extension carried by said tube. The outer face of the follower is provided with projections forming substantial screw threads which are adapted to engage the internally threaded portion of the main barrel of the pencil. Secured to one end of the smooth cylindrical tube, adjacent the end of the longitudinal tubular extension of the V-shaped slot, is a writing point through which the lead is fed. This writing point is provided with a spring clip, one end of which is normally in engagement with the section of lead in order to prevent the said lead from being accidentally displaced therefrom.

This same construction is readily adapted to be used in combination with the conventional form of fountain pen, it only being necessary to shorten the interiorly threaded portion and the co-related parts, so that the same will occupy only a small portion of the pen. Of course, it is to be understood that when it is desired to construct only a pencil the various parts will run the full length of said pencil, as will be apparent upon referring to the accompanying drawings.

In the accompanying drawings,

Fig. 1 is a sectional view showing the various parts illustrating the pencil construction;

Fig. 2 is a cross-section on the lines 2—2;

Fig. 3 is an enlarged detail view of the plug or lead feeding follower;

Fig. 4 is a view illustrating the construction of grooved cylindrical tube in which the plug or follower is adapted to be inserted and through which the sections of lead are fed to the writing point;

Fig. 5 illustrates the construction of writing point with the spring clip removed.

Fig. 6 is a cross-section on line 6—6 illustrating the position of the lead feeding tube within the pencil bore and the means of attaching the writing point thereto and

Fig. 7 is a view illustrating the device as applied to the conventional form of fountain pen.

Referring to the drawings in detail, the improved pencil comprises an outer barrel 1 closely embracing an interiorly threaded tube 2, which tube extends the full length of the pencil barrel. Frictionally positioned within the tube 2 is a smooth, substantially cylindrical hollow number 3, which is practically of the same length of the interiorly threaded tube 2. This hollow cylinder 3 which is preferably made of thin sheet metal, is provided with a longitudinal V-shaped groove 4 extending the full length of the cylinder, open at the bottom and terminat-

ing into a small longitudinal tubular extension 5, which tubular extension is concentric with cylinder 3, thus providing a space between the tubular extension 5 and the said cylinder 3 for the purpose to be hereinafter referred to.

Slidably positioned within the groove 4 and tubular extension 5 is a lead feeding plug or follower 6, of a shape in cross-section to conform with the groove 4 and also provided with a portion to conform to and slide within the tube 5. The outer face of the follower 6 is provided with a series of projections 7 extending beyond the circumference of cylinder 3, which projections are constructed to form substantial screw threads for engagement with the internally threaded tube 2 positioned within the barrel 1 of the pencil.

Secured to the lower end of cylinder 3, adjacent the tubular extension 5, is a writing point 8, said writing point being provided with an enlarged end 9 adapted to be inserted on and embrace one end of said tubular extension 5, said enlarged end 9 having a slotted portion 10 to permit this adjustment, the edges of said slotted portion 10 firmly engaging the under sides of the V-shaped groove 4 at this point. In applying the writing point to the cylinder 3, the same is securely attached thereto by sweating or shrinking in the customary manner. The writing point 8 is provided with a recess 11, in which is positioned a spring clip 12 having one end of said clip secured in the recess in any convenient manner, the free end adapted to extend therethrough and engage the lead as it is being fed through the writing point section and prevent the same from being accidentally displaced therefrom.

The hollow interior of the cylinder 3 provides a chamber 13 in which an auxiliary supply of lead may be conveniently stored, the same being inserted from the outer end of the pencil.

Threaded to the outer end of the barrel 1 is a knurled nut or cap 1′, the removal of which will permit access to the lead storage chamber 13. This cap will also provide a convenient means of rotating the barrel 1 during the feeding operation of the lead.

In Fig. 7 I have illustrated the invention as applied to the ordinary form of fountain pen and the construction used in this relation is identical with that already described with the exception that the various parts are shortened in order to adapt them to the space provided for the purpose.

When the various parts are assembled it is to be understood that the writing point 8 is covered and finished off with an end section 14 to be made of the same material as the barrel 1 of the pencil or pen, according to the construction perferred and used.

From the foregoing description it will be apparent that in using the pencil and when desiring to feed the lead sections to the writing point, it is only necessary to rotate barrel 1 carrying the internally threaded tube 2 by turning the knurled nut 1′ at the same time holding the pencil at its lower portion 14, which will cause the follower 6 to traverse the V-shaped groove 4, resulting in the forcing of the lead along the small tubular extension 5 and out through the writing point. The refilling operation of the pencil is accomplished by a rotation of barrel 1 in the reverse direction which will withdraw follower 6 and allow the lead to be inserted in the lead feeding bore from the writing point end of said pencil. Ordinarily this reverse rotation of the barrel 1 by the knurled nut 1′ will not unscrew said nut, but should this happen, the reverse rotation of said barrel 1 may be accomplished by grasping the barrel itself. By providing the spring pressure clip 12 the lead will always be held in proper writing position and the various lead sections may be used to their fullest extent.

I claim—

1. In a pencil, the combination with an internally threaded barrel, of a smooth cylinder frictionally positioned within said threaded barrel, a point section carried by said cylinder, said cylinder being provided with a longitudinal V-shaped groove, the bottom of said groove terminating into a small longitudinal hollow cylindrical passageway concentric with said grooved cylinder, a lead feeding plug or follower of a cross section to fit and slide within said groove and hollow passageway and screw threads on the outer face of said follower adapted to engage the internal screw threads of the pencil barrel.

2. In a pencil, the combination with an internally threaded barrel of a hollow, smooth cylinder or tube, frictionally positioned within said threaded barrel, a point section adapted to be secured to said cylinder, said cylinder or tube being provided with a longitudinal V-shaped groove, the bottom of said groove terminating into a small longitudinal tubular extension concentric with said grooved cylinder, a lead feeding plug or follower of a cross section to fit and slide within said groove and tubular extension and screw threads on the outer face of said follower adapted to engage the internal screw threads of the pencil barrel.

3. In a pencil, the combination with an internally threaded barrel, of a smooth cylinder frictionally positioned within said threaded barrel, a point section carried by said cylinder, said cylinder being provided with a longitudinal V-shaped groove, the bottom of said groove terminating into a small longitudinal, hollow, cylindrical passageway concentric with said grooved cylinder, a lead feeding plug or follower of

a cross section to fit and slide within said groove, said plug being provided with a portion adapted to slide within the cylindrical passageway, and screw threads on the outer face of said follower adapted to engage the internal screw threads of the pencil barrel.

4. In a pencil, the combination with an internally threaded barrel, of a hollow, smooth cylinder or tube frictionally positioned within said threaded barrel, said hollow cylinder or tube provided with a longitudinal V-shape groove, the bottom of said groove terminating into a small, longitudinal, tubular extension, concentric with said grooved hollow cylinder, a point section adapted to be secured to the longitudinal, tubular extension forming a continuation of said tubular extension, a lead feeding plug or follower of cross-section to fit and slide within said slot and tubular extension, and screw threads on the outer face of said follower adapted to engage the internal screw threads of the pencil barrel.

In testimony whereof I affix my signature.

WALTER C. FOWLER.