April 8, 1924. 1,489,590

H. L. CARMAN

MAGAZINE PENCIL

Filed June 28, 1920

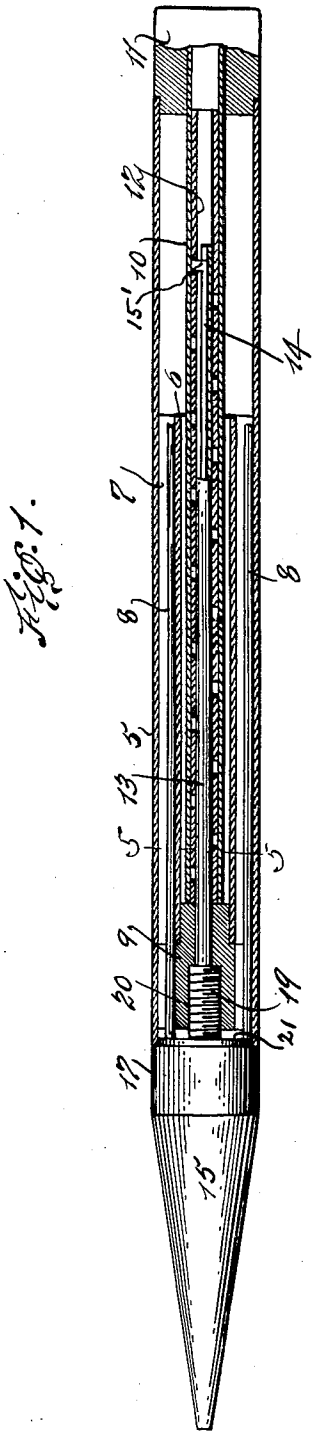

Fig. 1.

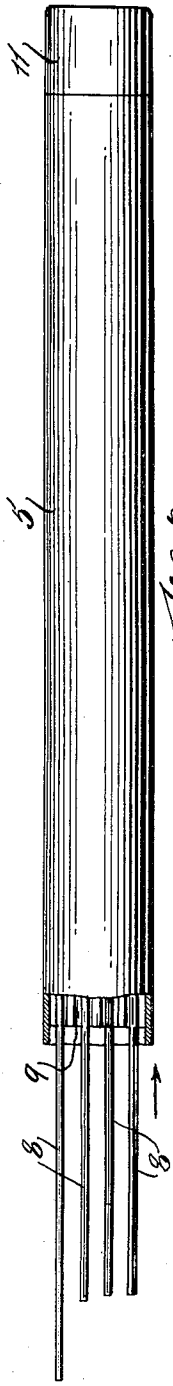

Fig. 2.

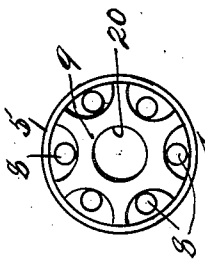

Fig. 4.

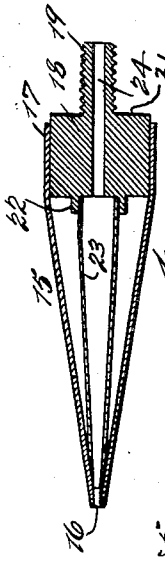

Fig. 3.

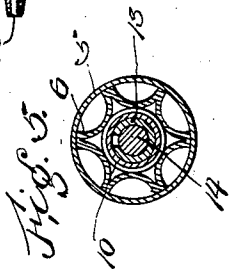

Fig. 5.

Inventor
Herbert L. Carman.
By his Attorney
Philip B. Kirk

Patented Apr. 8, 1924. 1,489,590

UNITED STATES PATENT OFFICE.

HERBERT L. CARMAN, OF NEW YORK, N. Y., ASSIGNOR TO MABIÉ, TODD & COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

MAGAZINE PENCIL.

Application filed June 28, 1920. Serial No. 392,324.

To all whom it may concern:

Be it known that I, HERBERT L. CARMAN, a citizen of the Kingdom of Great Britain and Ireland, residing in the borough of Manhattan, in the city, county, and State of New York, have invented certain new and useful Improvements in Magazine Pencils, of which the following is a specification, reference being made to the accompanying drawings, forming a part thereof.

My invention relates to magazine-pencils designed to hold a plurality of reserve leads which may be removed from the magazine and brought into operative position in the pencil when desired, and the objects of my invention are, among other things, to provide a pencil of this type in which the reserve leads may be readily withdrawn or extracted from the magazine without danger of breakage, which leads are preferably held in spaced-apart compartments in the magazine, and are preferably so spaced when slid or projected from the magazine, free and clear from any of the operative parts of the lead-propelling devices. A further object of my invention is to produce a simple, compact and efficient pencil of this character having a minimum of working parts which are combined so as to avoid the likelihood of distortion or breakage when the pencil is in use, or when it is necessary to withdraw a fresh lead from the magazine and insert same in suitable relation to the lead-propelling devices. The fewness of the parts comprising my improved magazine-pencil also tends to lessen the cost of manufacture.

Other and further improvements and advantages will be hereinafter set forth and particularly pointed out in the appended claims.

A preferred embodiment of my invention is illustrated in the accompanying drawings in which—

Figure 1 is a side view of the pencil embodying my improvement, the body of the pencil being shown in longitudinal section to illustrate the inner structure of the pencil, more particularly the lead-propelling devices;

Figure 2 is a side view of the pencil casing alone showing several of the reserve leads projecting from the magazine;

Figure 3 is a longitudinal section of the closure member for the magazine such member also forming the point of the pencil;

Figure 4 is an enlarged end view of the writing end of the pencil casing looking in the direction of the arrow shown in Figure 2; and Figure 5 is an enlarged transverse section of the pencil taken on the line 5—5 of Figure 1.

Similar numerals refer to similar parts throughout the several figures.

Referring particularly to Figures 1 and 2, the outer casing 5 constitutes the cylindrical body of the pencil, and has the inner tube 6 concentrically arranged within the casing 5 as shown in Figure 1. This inner tube 6 is fluted or longitudinally corrugated on its outer surface to form spaced-apart compartments 7 between the tube 6 and casing 5 within which compartments the reserve leads 8 are contained as shown in Figure 4. The outer end of the tube 6 is rigidly affixed to the fluted head 9 which fits snugly into the casing 5 and is there secured to form a continuation of the corrugated or fluted surfaces of the tube 6, such head 9 being set at or preferably slightly within the writing end of the casing 5. Figures 1 and 2 show the outer end of the head 9 slightly inside the transverse plane of the writing end of the casing 5, thereby avoiding any danger of distortion to the magazine or to the lead-propelling devices all of which are within the casing 5.

Inside the tube 6 and extending outwardly from the inner end of the head 9 is the lead screw casing 10 which carries the cap 11 rotatably mounted on the end of the casing 5 as shown. Concentrically secured within the lead screw casing 10 is the spirally grooved tube or feed operating member 12, and within this tube 12 and extending partially through the head 9 to which it is secured is the lead-carrying cylinder 13 which is longitudinally slotted and within which the lead-propelling plunger bar 14 is reciprocated. The rear end of the plunger 14 has the lug 15′ projecting outwardly from the bar to engage in the spiral groove cut in tube 12 and also to slide through and along the slot formed in the cylinder 13. By means of this construction the rotation of the cap 11 in one direction will project the plunger 14 forwardly to propel the lead in use as the point thereof is consumed,

while the rotation of the cap 11 in the opposite direction will draw the plunger 14 inwardly toward the cap 11. Any other form of lead propelling mechanism may be used within the inner tube 6 so long as such mechanisms will propel the plunger 14 without rotation beyond the plane of the writing end of the casing 5; the mechanism herein shown and described is a preferred form of construction for accomplishing these results.

The closure member 15 forming the point of the pencil is in the usual conical form having the slitted opening 16 at its small end through which the particular lead in use (not shown) projects when the pencil is employed in writing. The cylindrical base or butt end 17 of the closure member 15 forms a continuation of the casing 5 to comprise the body of the pencil as shown in Figure 1. Within this end 17 is secured the cylindrical block 18 having an exteriorly threaded nozzle 19 projecting therefrom which nozzle is adapted to be secured in the screw-threaded bore 20 formed in the head 9 as shown in Figure 1. The circular shoulder 21 formed at the base of the nozzle 19 provides a closure for the annular reservoir forming the magazine for the reserve leads 8 as shown, whenever the closure member 15 is screwed home on the head 9 and the pencil is in use, Figure 1 showing the reserve leads 8 resting against this shoulder 21. The inner end of the block 19 has the ring 22 formed thereon to which is secured the tapered tube 23 which serves to guide the lead in use to the opening 16 when such lead is propelled by the plunger 14 through the hole 24 drilled through the center of the block 18 and nozzle 19.

When it becomes necessary or desirable to renew the lead in the pencil, the closure member 15 is unscrewed from the threaded bore 20 of the head 9 thereby exposing the lower end of the magazine compartments 7; the body of the pencil is then slightly tilted downwardly which movement will cause the reserve leads 8 to slide forwardly as shown in Figure 2, the compartments 7 maintaining the several leads in spaced-apart parallelism. The user can then readily select and grasp one of the reserve leads, and extract it from the magazine and then raise the writing end of the casing 5 which will cause the other reserve leads to fall back into their respective compartments. The new lead is then inserted in the lead-carrying cylinder 13 with its butt end in contact with the plunger and the closure member 15 is then screwed back on the casing 5. The user of the pencil then adjusts the new lead for use by rotating the cap 11 to move the plunger forwardly to cause the outer end of the new lead to project through the slitted opening 16.

Frequently this plunger 14 is projected beyond the plane of the writing end of the casing 5 and protrudes therefrom when the lead in use is finally consumed and it therefore becomes necessary to obtain a fresh lead from the magazine reservoir. Under such conditions upon the tilting of the pencil, the reserve leads will slide forward about the plunger 14 and by first resting the tip of the plunger against the finger or other suitable stop, the extent of the sliding movement of the reserve leads from their compartments may be limited to the plane of the plunger tip; this prevents the danger of having the reserve leads slide completely out of their magazine compartments with likelihood of breaking.

I have illustrated and described a preferred and satisfactory embodiment of my invention, but changes and modifications may be made therein without departing the principle and scope thereof as defined in the appended claims.

I claim as my invention:

1. A magazine-pencil comprising an inner tube to contain the lead-projecting mechanism, a casing surrounding said tube to form an annular reservoir for reserve leads, said tube terminating in an internally threaded head approximately at the writing end of the casing, and a reservoir closure member provided with an exteriorly threaded projecting nozzle to secure the same to the head and having a transverse shoulder concentric with said reservoir to hold said leads in the reservoir.

2. A magazine-pencil comprising an inner fluted tube to contain the lead-projecting mechanism, a casing surrounding said tube to form an annular reservoir with spaced-apart compartments for reserve leads, said tube terminating in an internally threaded head approximately at the writing end of the casing, and a reservoir closure member provided with an exteriorly threaded projecting nozzle to secure same to the head and having a transverse shoulder concentric with said reservoir to hold said leads in the reservoir.

3. A magazine-pencil comprising an inner tube to contain the lead-projecting mechanism, comprising a reciprocable plunger within said tube, a casing surrounding said tube to form an annular reservoir for reserve leads, said tube terminating in an internally threaded head approximately at the writing end of the casing, means for projecting the plunger beyond said head and casing end whereby the projected plunger is spaced from the leads when slid from the reservoir, and a reservoir closure member provided with an exteriorly threaded projecting nozzle to secure the same to the head and having a transverse shoulder concentric with said reservoir to hold said leads in the reservoir.

4. A magazine-pencil comprising an inner

fluted tube to contain the lead-projecting mechanism, comprising a reciprocable plunger within said tube, a casing surrounding said tube to form an annular reservoir with spaced-apart compartments for reserve leads, said tube terminating in an internally threaded head approximately at the writing end of the casing, means for projecting the plunger beyond said head and casing end whereby the projected plunger is spaced from the leads when slid from the reservoir, and a reservoir closure member provided with an exteriorly threaded projecting nozzle to secure same to the head and having a transverse shoulder concentric with said reservoir to hold said leads in the reservoir.

5. A magazine-pencil comprising an outer casing forming the body of the pencil, a fluted tube concentrically arranged within the casing to form a plurality of spaced-apart compartments for reserve leads, said tube terminating in an interiorly threaded opening approximately at the writing end of the casing, and a closure member having an exteriorly threaded nozzle to engage in said tube opening, said member having a transverse shoulder concentric with said compartments to hold the reserve leads therein.

6. A magazine-pencil comprising an outer casing, a fluted tube arranged within the casing to form spaced-apart compartments for reserve leads having a fluted head affixed thereto approximately at the writing end of the casing, a removable closure member secured to said head only and having an annular seat for the reserve leads when the pencil is in use, and an element projectable at varying distances directly from said head when the closure member is removed having a smaller diameter than said tube whereby said leads and element when projected are spaced from each other.

7. A magazine-pencil comprising an outer casing, a fluted tube arranged within the casing to form spaced-apart compartments for reserve leads having a fluted head affixed thereto approximately at the writing end of the casing, a removable closure member secured to said head only and having an annular seat for the reserve leads when the pencil is in use, and a lead propeller projectable at varying distances directly from said head when the closure member is removed having a smaller diameter than said tube whereby said leads and lead propeller when projected are spaced from each other.

8. In a magazine-pencil having an outer casing, a tube arranged within the casing to form an annular reservoir for reserve leads having a head affixed thereto approximately at the writing end of the casing, an element projectable directly from said head at varying distances beyond the writing end of the pencil, and a closure member removably secured to said head only approximately at the casing opening, and having an annular shoulder to form a seat for the reserve leads.

9. In a magazine-pencil having an outer casing, a fluted tube concentrically arranged within the casing to form an annular spaced-apart reservoir for reserve leads having a fluted head affixed thereto approximately at the writing end of the casing, an element projectable directly from said head at varying distances beyond the writing end of the pencil, and a closure member removably secured to said head only approximately at the casing opening, and having an annular shoulder to form a seat for the reserve leads.

HERBERT L. CARMAN.