

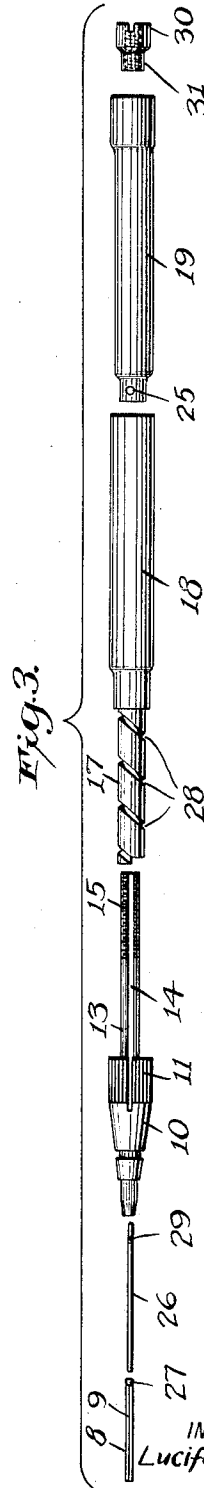
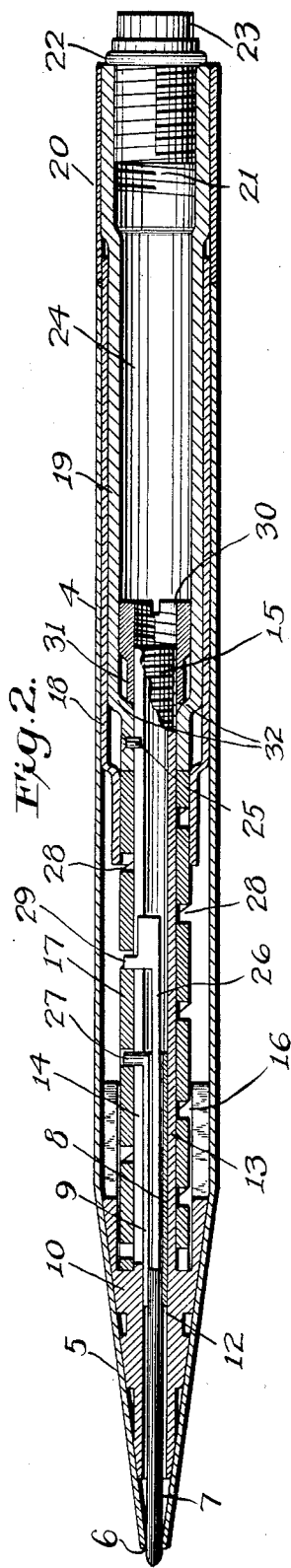
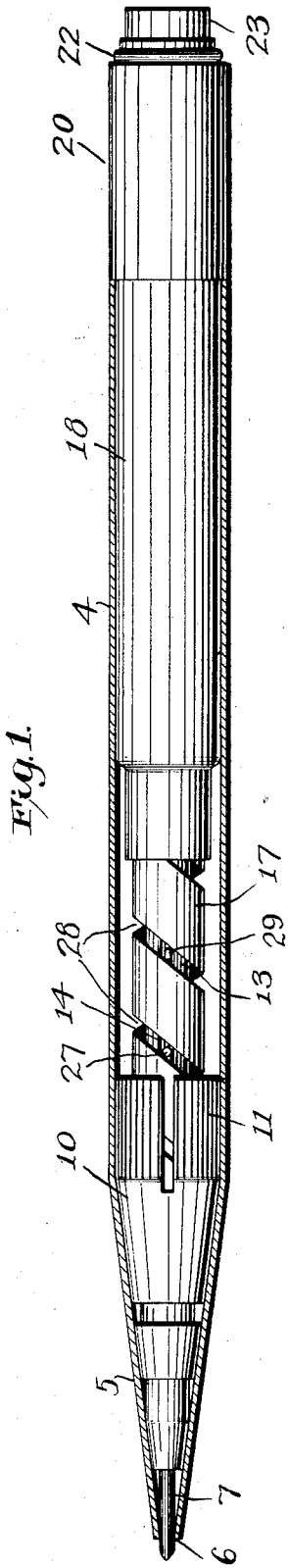
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L. J. MOST

MAGAZINE PENCIL

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MAGAZINE PENCIL.

Application filed September 25, 1922. Serial No. 590,303.

To all whom it may concern:

Be it known that I, LUCIFER J. MOST, a citizen of the United States, and a resident of the borough and county of Bronx, in the city 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 particularly to magazine-pencils having a reservoir for holding a plurality of reserve leads within the body of the pencil in conjunction with a lead-propelling and retracting movement actuated by a rotatable head on the outer end of the pencil body.

Heretofore, it has proved difficult, if not impossible, for the user or dealer to readily disassemble the various working parts or elements embodied in the lead movement in the pencil body so that such parts as may have become worn, broken or jammed in use may be removed from the pencil, and thereafter to replace duplicate parts within the propelling mechanism.

The objects of my invention are, among other things, to provide a simplified and easily operated pencil of this type in which the various elements in the lead movement are compactly arranged to perform the several functions, yet are also capable of being detached from one another by the more or less unskilled user, and new parts replaced in such movement mechanism, followed by a ready reassembling of the movement and securing same in the casing body. Furthermore, I have also provided improved means to adjust and control the relative amount of friction between the movable lead carrier and the feed-operating member having the usual spiral groove cut therein to cause the advance or retraction of the lead carrier within the body of the pencil, so that the lead-carrier when in use may not be forced back into the movement by pressure on the writing surface, which is likely to occur particularly when the lead is hard.

Further benefits and advantages embodied in my pencil structure will be hereinafter described and then set forth in the appended claims.

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

Fig. 1 is a side view of the pencil, partly in section, to show the relative location of the parts comprising the lead-propelling movement;

Fig. 2 is a longitudinal sectional view of the pencil; and

Fig. 3 is a composite side view showing the different parts in the movement when disassembled, and their relative positions with one another.

Similar numerals refer to similar parts throughout the several figures.

Referring to Figs. 1 and 2, the outer casing 4 constitutes the body of the pencil having the integrally formed conical nozzle 5 at the writing end terminating in the opening 6 through which the lead 7 projects when advanced into writing position by the lead-propelling movement. The lead 7 is held in the tubular lead-carrier 8 which is longitudinally slotted at 9 in the usual manner to hold the stub end of the lead 7. The carrier 8 slides freely in the tubular conical tip 10 which is knurled at 11 to fit tightly in the casing 4 as shown in Fig. 1. Mounted concentrically within the inner bore 12 of the tip 10 is the inwardly-extending guide-tube 13 longitudinally slotted at 14 and formed with exterior threads 15 on its inner end. The diameter of the guide-tube 13 is such as to provide an annular space 16 within the tip 10 to contain the forward end of the spirally grooved tube or feed operating member 17 which is fitted over and surrounds the guide-tube 13 as shown in Figs. 1 and 2. The base of the tube 17 is crimped or otherwise secured to the cylindrical sleeve 18 within which is telescoped the hollow barrel 19; both sleeve 18 and barrel 19 being carried inside the casing 4; the outer end of the sleeve 18 carries the operating head 20 rotatable on the barrel 19, all as shown in Fig. 2. The outer end of the barrel 19 is interiorly threaded at 21 to removably hold the cap 22 to which the eraser 23 may be attached. The cylindrical space 24 within the barrel 19 constitutes a reservoir for the reserve leads (not shown), and the cap 22 prevents the leads carried in the reservoir from falling out of the body of the pencil. The forward end of the barrel 19 carries the pin 25 which engages the slot 14 in the guide tube 13 to hold the barrel 19 stationary.

Contained within the lead carrier 8 is

90
95
100
105
110

the sliding ejector pin 26 having its tip resting against the rear end of the lead 7 as shown in Fig. 2. The inner end of the lead carrier 8 has the projecting stud 27 passing through the slot 14 in the guide tube and operating through the spiral groove 28 in the tube 17; the ejector pin 26 also carries its separate stud 29 which also passes through the slot 14 and engages and operates through the groove 28, as shown in Figs. 1 and 2. Axial rotary movement between the guide tube 13 and the spirally grooved tube 17 relatively to each other will cause the lead carrier 8 and ejector pin 26 to advance or retract within the casing 4 in the usual manner according to the direction of rotation.

To hold the operative parts of the lead propelling and ejecting movement in position, I use the circular screw-nut 30 (Figs. 2 and 3) interiorly threaded to engage the exteriorly threaded end 15 of the guide tube 13. The nut 30 carries the circular flange 31 which is adapted to bear on the annular shoulder 32 formed in the forward end of the barrel 19, and the screwing of the nut in close fit as shown in Fig. 2 binds the guide tube 13 and spirally-grooved tube 17 together so that the movement may be operated by twisting the head 20. This nut 30 when forcibly screwed down on the threaded end 15 forces the barrel 19 and tube 17 forwardly against the tip 10; this compression acts to lessen slightly the length of the tube 17 by contracting the widths of the spiral groove 28 and so frictionally grip the studs 27 and 29 to prevent the retraction of the lead carrier 8 when pressure is exerted on the lead 7 in use. This nut 30 functions not only to hold the various parts of the movement in position, but also varies the grip of the guide tube 13 and spirally-grooved tube 17 on the lead carrier 8.

When disassembling the movement the screw nut 30 is removed from the tube 13; then the tube 17 and barrel 19 are rotated to disengage the lead carrier 8 and ejector pin 26, and afterwards the tube 17 is disengaged from the tube 10, the parts being as shown diagrammatically in Fig. 3. Upon reassembling the parts are brought together in reverse order, and the screw nut 30 is secured on the threaded end 15 and turned until the forward end of the tube 17 engages the tip 10 as shown in Fig. 2, the pressure being varied at will.

Various changes may be made in the structural details of the pencil herein shown and described without departing from the principle of my invention as particularly pointed out in the claims.

I claim as my invention:

1. In a pencil, a lead-propelling movement comprising a lead carrier, a straight slotted

guide tube containing said carrier and a spirally grooved propelling tube rotatable relatively to said guide tube to advance or retract said carrier operatively connected therewith, all said members being detachable relatively from one another, and means removably mounted on the inner end of said guide tube and bearing indirectly on said propelling tube to hold said members as a unit in operative position.

2. In a pencil, a lead-propelling movement comprising a lead carrier, a straight slotted guide tube containing said carrier and a spirally grooved propelling tube rotatable relatively to said guide tube to advance or retract said carrier operatively connected therewith, all said members being detachable relatively from one another, and means mounted on the inner end of said guide tube to engage said propelling tube to hold the latter adjustably in operative position under variable tension.

3. In a pencil, a lead-propelling movement comprising a lead carrier, a straight slotted guide tube containing said carrier having its inner end exteriorly threaded and a spirally grooved propelling tube rotatable relatively to said guide tube to advance or retract said carrier operatively connected therewith, all said members being detachable relatively from one another, and a screw nut mounted on the inner end of said guide tube to engage said propelling tube to hold the latter in operative position.

4. In a pencil, a lead-propelling movement comprising a lead carrier, a straight slotted guide tube containing said carrier having its inner end exteriorly threaded and a spirally grooved propelling tube rotatable relatively to said guide tube to advance or retract said carrier operatively connected therewith, all said members being detachable relatively from one another, and a screw nut mounted on the inner end of said guide tube to engage said propelling tube to hold the latter adjustably in operative position under variable tension.

5. In a pencil, a lead-propelling movement comprising a tip, a lead carrier and an ejector pin within said carrier, a straight slotted guide tube mounted on said tip to contain said carrier and ejector pin and a spirally grooved propelling tube rotatable relatively to said guide tube, separate means on said carrier and ejector pin engaging both said tubes, all said members being detachable relatively from one another, and means mounted on the inner end of said guide tube to engage said propelling tube to hold the latter in operative position.

6. In a pencil, a lead-propelling movement comprising a tip, a lead carrier and an ejector pin within said carrier, a straight slotted guide tube mounted on said tip to contain said carrier and ejector pin and a

spirally grooved propelling tube rotatable relatively to said guide tube, separate means on said carrier and ejector pin engaging both said tubes, all said members being detachable relatively from one another, and means mounted on the inner end of said guide tube to engage said propelling tube to force the latter with variable pressure against said tip.

7. In a pencil, a lead-propelling movement comprising a tip, a lead carrier, and an ejector pin within said carrier, a straight slotted guide tube mounted on said tip to contain said carrier and ejector pin having its inner end exteriorly threaded, and a spirally grooved propelling tube rotatable relatively to said guide tube, separate means on said carrier and ejector pin engaging both said tubes, all said members being detachable relatively from one another, and a screwnut mounted on the inner end of said guide tube to engage said propelling tube to force the latter with variable pressure against said tip.

8. In a pencil, an outer casing having an integrally formed conical nozzle, a conical tip fitted in said nozzle, a lead-propelling movement comprising a lead carrier projectable through said tip and nozzle, a straight slotted guide tube mounted on said tip and having its inner end exteriorly threaded, a spirally grooved propelling tube surrounding said guide tube and rotatable relatively thereto, a stud on said carrier projecting through said guide tube and engaging said spiral groove, and a screw-nut mounted on the inner end of said guide tube to engage said propelling tube to longitudinally compress the latter against said tip.

9. In a pencil, an outer casing having an integrally formed conical nozzle, a conical tip fitted in said nozzle, a lead-propelling movement comprising a lead carrier projectable through said tip and nozzle, a straight slotted guide tube mounted on said tip and having its inner end exteriorly threaded, a spirally grooved propelling tube surrounding said guide tube and rotata-

ble relatively thereto, a stud on said carrier projecting through said guide tube and engaging said spiral groove, and a screw-nut mounted on the inner end of said guide tube to engage said propelling tube longitudinally and variably compress the latter against said tip to adjust the frictional engagement between said stud and said groove.

10. In a pencil, an outer casing having an integrally formed conical nozzle at the writing end and a reserve lead chamber in the opposite end, a conical tip fitted in said nozzle, a lead-propelling movement comprising a lead carrier projectable through said tip and nozzle, a straight slotted guide tube mounted on said tip and having its inner end exteriorly threaded, a spirally grooved propelling tube surrounding said guide tube and rotatable relatively thereto, a stud on said carrier projecting through said guide tube and engaging said spiral groove, and a screw-nut mounted on the inner end of said guide tube and actuated through said reserve lead chamber to engage said propelling tube to longitudinally compress the latter against said tip.

11. In a pencil, an outer casing having an integrally formed conical nozzle at the writing end and a reserve lead chamber in the opposite end, a conical tip fitted in said nozzle, a lead-propelling movement comprising a lead carrier projectable through said tip and nozzle, a straight slotted guide tube mounted on said tip and having its inner end exteriorly threaded, a spirally grooved propelling tube surrounding said guide tube and rotatable relatively thereto, a stud on said carrier projecting through said guide tube and engaging said spiral groove, and a screw-nut mounted on the inner end of said guide tube and actuated through said reserve lead chamber to engage said propelling tube to longitudinally and variably compress the latter against said tip to adjust the frictional engagement between said stud and said groove.

LUCIFER J. MOST.