

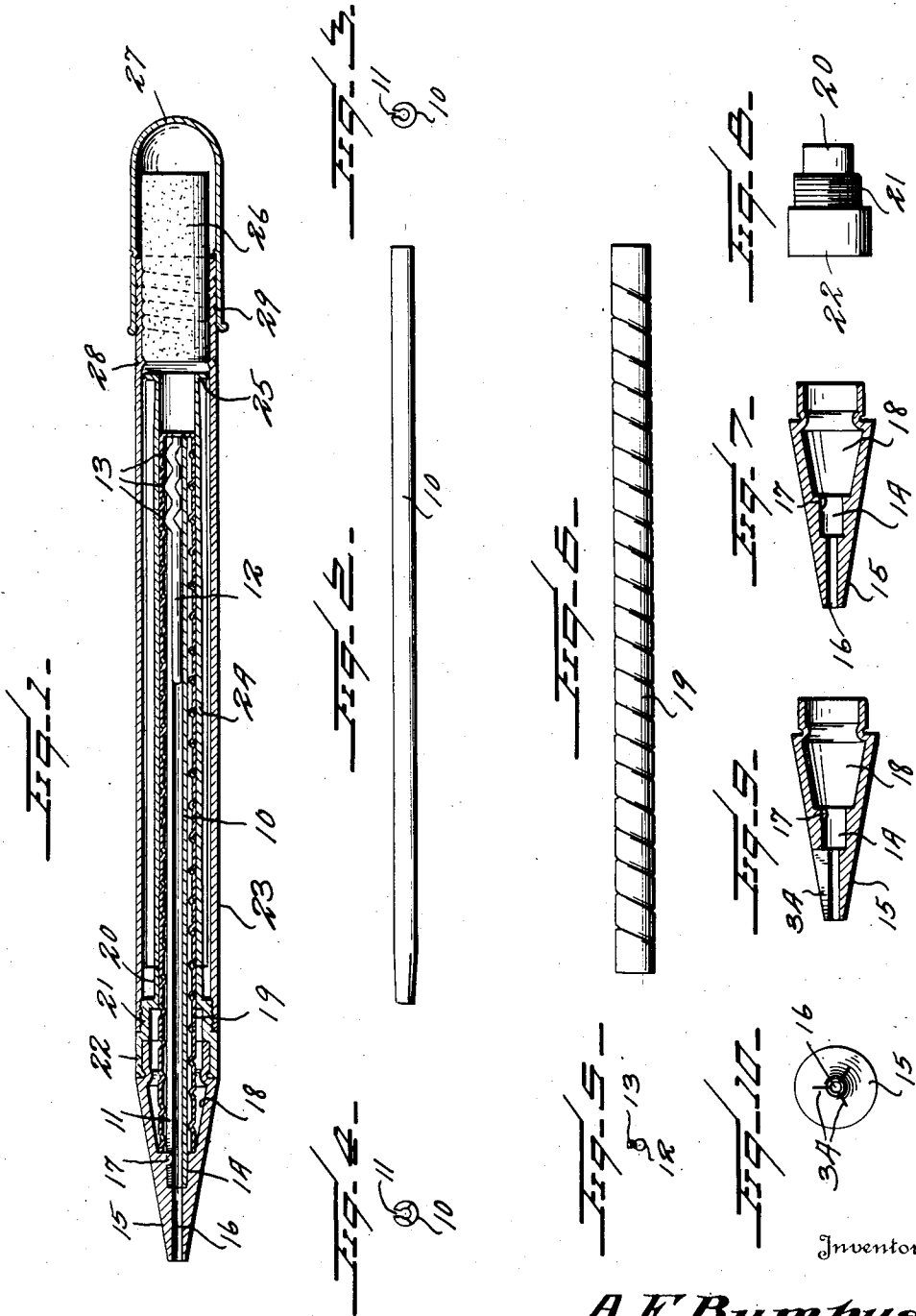
July 16, 1929.

A. F. BUMPUS
MAGAZINE PENCIL

1,720,717

Filed Jan. 22, 1927

2 Sheets-Sheet 1



Inventor

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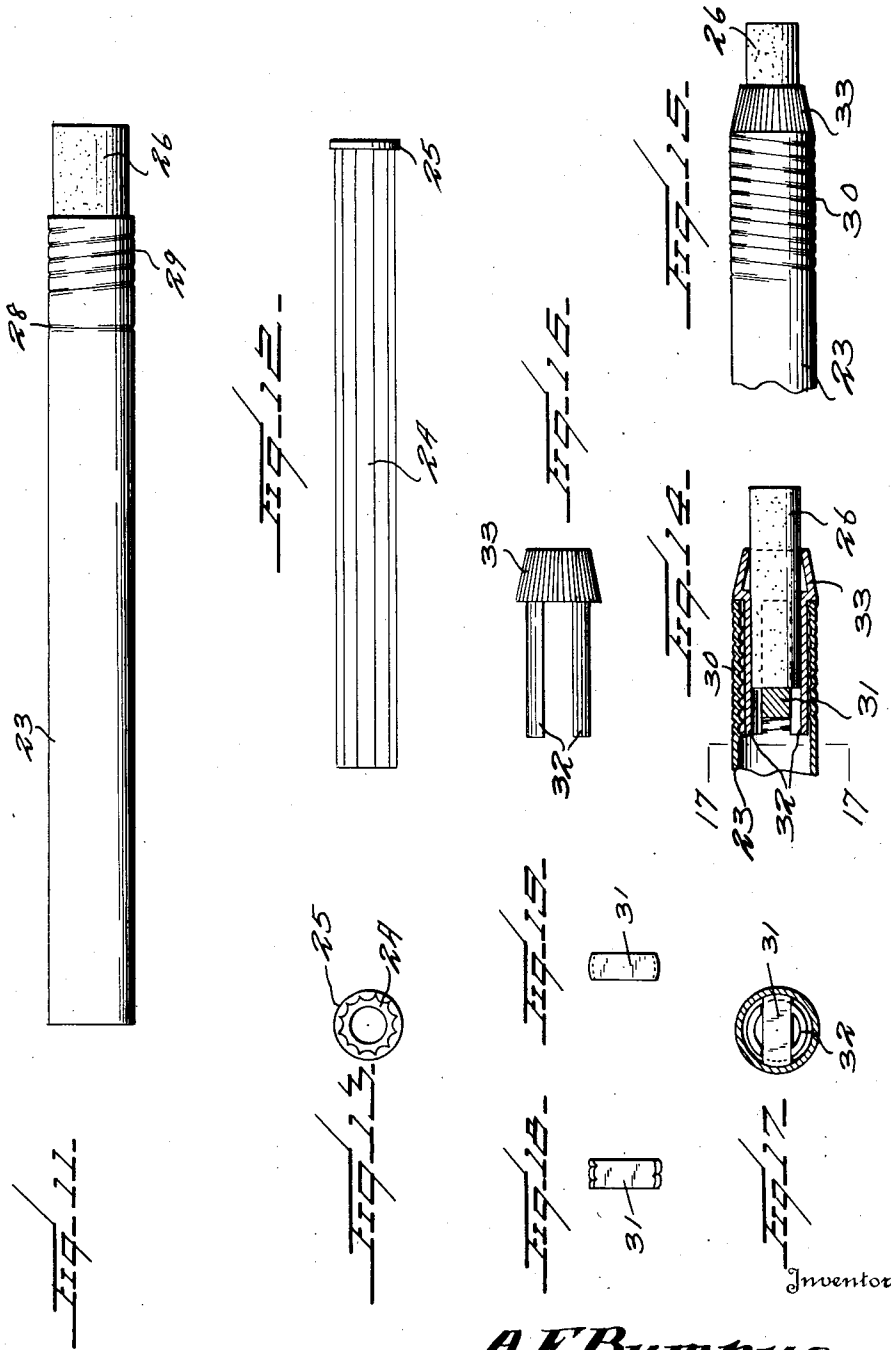
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MAGAZINE PENCIL

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UNITED STATES PATENT OFFICE.

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MAGAZINE PENCIL.

Application filed January 22, 1927. Serial No. 162,823.

This invention relates to pencils of that character in which relatively long leads are carried, which leads may be fed automatically forward as they become worn.

5 The general object of the invention is to provide a pencil of this character which is relatively simple in its construction, which may be cheaply made, and which is positive in its action.

10 A further object is to provide a pencil of this character in which the magazine for the leads is provided between the outer case and an inner member, the outer case being removable so that a new lead may be removed from the magazine and inserted within the pencil.

Other objects have to do with the details of construction and arrangement of parts to appear more fully hereinafter.

20 My invention is illustrated in the accompanying drawings wherein:—

Figure 1 is a longitudinal sectional view of a pencil constructed in accordance with my invention;

25 Fig. 2 is an elevation of the lead guide; Figures 3 and 4 are end views thereof; Fig. 5 is an end view of the expeller; Fig. 6 is an elevation of the indented groove;

30 Fig. 7 is a longitudinal section of the tip; Fig. 8 is an elevation of the thimble; Fig. 9 is a longitudinal section of a modified tip;

35 Fig. 10 is an elevation thereof; Fig. 11 is a side elevation of the barrel; Fig. 12 is a side elevation of the magazine;

40 Fig. 13 is an end view thereof; Fig. 14 is a sectional view of the eraser holder;

Fig. 15 is an elevation thereof; Fig. 16 is an elevation of the eraser clamp; Fig. 17 is a section on the line 17—17 of Figure 14;

45 Figures 18 and 19 are elevations of the member 31.

Referring to these drawings it will be seen that the lead is contained within a lead guide 10 which is tubular in form, has a length 50 very nearly the length of the pencil, and which is longitudinally slitted for its entire length, as at 11. Operating within the lead guide is the expeller 12, the rear portion of which is convoluted so as to provide a series 55 of upstanding fins 13 operating within the

slot 11 so that while the expeller may move longitudinally along the lead guide, it cannot rotate therein. The lead guide 10 is fitted within a seat 14 formed within a tip 15, this tip having a longitudinally extending bore 16 through which the lead of the pencil is projected. As illustrated in Figure 7, the wall of the seat 14 is formed with a lug 16 which engages within the slot 11 and holds the tip and the lead guide for co-incident rotation.

Rearward of the seat 14 the tip 15 is formed with a relatively larger seat 18 or socket to receive the threaded member 19. This is preferably a spirally indented tube 70 and this tube is rigidly secured to the sleeve 20. This sleeve 20 has an interior diameter fitting the indented tube 19, an enlarged exteriorly screw-threaded portion 21, and a further enlarged portion 22 having an exterior diameter the same as the largest diameter of the tip 15. The tip 15 at its rear end is reduced in its exterior diameter to fit within the portion 22, as shown in Figure 1.

Engaging the screw-threaded portion 21 80 of this sleeve 20 is the barrel 23 and disposed within this barrel is a tubular member 24 constituting a lead holder and with the barrel 23, a magazine. The exterior face of this member 24 is corrugated as shown in Figure 13, so as to form a series of circumferentially arranged sockets or recesses within which the leads may be disposed. The rear end of this magazine 24 is flanged 85 as at 25, so as to form a base having a diameter nearly the same as the interior diameter of the barrel 23. It is to be noted that the rear end of the magazine 24 is somewhat tapered or gradually reduced in diameter from a point in advance of the flange 90 back to the flange. The barrel 23 when it is released from engagement with the intermediate sleeve 20 and drawn backward, exposes the leads and as the barrel is drawn 95 off of the magazine 24, the leads will tend to spring outward into a flaring position or divergent relation to each other so that the leads may be readily selected and withdrawn. The rear end of the barrel 23 is formed to contain a rubber eraser 26 which 100 is preferably so engaged with the barrel that the eraser may be gradually withdrawn as it is worn. A cap 27 is adapted to fit over the end of the barrel if desired so as to cover 105 this eraser. As illustrated in Figure 11 the

barrel is constricted as at 28, forward of its rear end and the rear portion of the barrel is formed with indented screw-threads 29 which grip the eraser 26 but permit the eraser to be turned so as to feed it outward. If a more adjustable eraser holder is desired, then the construction illustrated in Figure 14 is used wherein the barrel is threaded, as at 30, to receive a block adapted to be rotated by legs 32 which are formed as part of the eraser holder or tapered ring 33. In this form of pencil, the lead in use is kept from sliding out through the tip end of the guide by slitting the guide and slightly compressing it but this may also be accomplished by slitting the tip, as at 34 in Figure 9. In this type of pencil, if it is desired to project the lead, the tip is rotated to the right. This acts to rotate the pencil guide and, of course, rotate the expeller. The fins 13 engage the indented screw-threads of member 19 so that as the tip is turned, the expeller 12 engaging the screw-threads will be forced forward. When the tip is turned in a reverse direction the expeller will be turned backward to its initial position. After a lead has been used up, the used up extremity of the lead is withdrawn from the pencil and a new lead may be taken from the magazine by removing the barrel 23, removing the new lead from the magazine, putting on the barrel again, then inserting this lead butt end foremost through the tapering tip 15, gradually turning the expeller back to its initial position to accommodate the lead as it is inserted.

I claim:—

1. A pencil of the character described including a centrally disposed, tubular, longitudinally slotted lead guide, an expeller operating therethrough and having a fin extended out through said slot, a tapering tip in which the lead guide is mounted for rotation with the tip, a spirally indented tube surrounding the lead guide and with the spiral indentations of which the expeller engages, a sleeve supporting said tube having engagement with the rear end of the tapering tip, a barrel detachably engaged with said sleeve, and a magazine extending over the spirally indented tube and having engagement with said sleeve at one end, the space between the magazine and the barrel constituting a lead receiving space.

2. A pencil of the character described including a centrally disposed, tubular, longitudinally slotted lead guide, an expeller op-

erating therethrough and having a fin extended out through said slot, a tapering tip in which the lead guide is mounted for rotation with the tip, a spirally indented tube surrounding the lead guide and with the spiral indentations of which the expeller engages, a sleeve supporting said tube having engagement with the rear end of the tapering tip, a barrel detachably engaged with said sleeve, and a magazine extending over the spirally indented tube and having engagement with said sleeve at one end, the space between the magazine and the barrel constituting a lead receiving space, the exterior surface of the magazine being longitudinally grooved.

3. A pencil of the character described including a centrally disposed, tubular, longitudinally slotted lead guide, an expeller operating therethrough and having a fin extended out through said slot, a tapering tip in which the lead guide is mounted for rotation with the tip, a spirally indented tube surrounding the lead guide and with the spiral indentations of which the expeller engages, a sleeve supporting said tube having engagement with the rear end of the tapering tip, a barrel detachably engaged with said sleeve, and a magazine extending over the spirally indented tube and having engagement with said sleeve at one end, the space between the magazine and the barrel constituting a lead receiving space, the exterior surface of the magazine being longitudinally grooved, and the rear end of the magazine being slightly tapering and having a flange.

4. A pencil of the character described including a central tubular longitudinally slotted lead guide, an expeller operating therethrough and having a fin extending out through the slot, a tip in which the lead guide is mounted, a spirally indented tube surrounding the lead guide and with which spiral indentations the fin of the expeller engages, a sleeve supporting said tube having engagement with the rear end of said tip, a barrel engaged with the sleeve and a magazine extending over and having engagement with the sleeve at one end, the space between the magazine and the barrel constituting a lead receiving space, one of the walls of the space being longitudinally channelled.

In testimony whereof I hereunto affix my signature.

AMOS F. BUMPUS.