M. FINSTONE.

MAGAZINE PENCIL.

APPLICATION FILED JAN. 13, 1921.

1,411,715.

Patented Apr. 4, 1922.

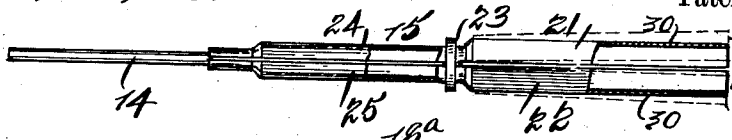

Fig. 5.

Fig. 6

Fig. 7.

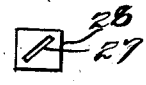

Fig. 8.

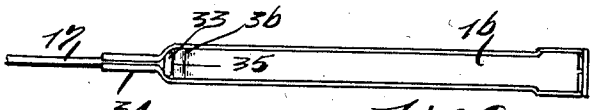

Fig. 9.

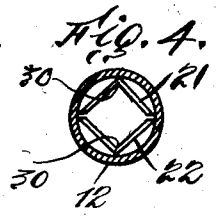

Fig. 4.

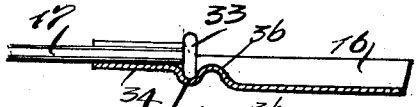

Fig. 10.

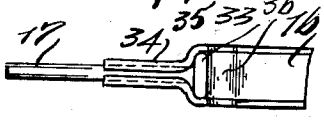

Fig. 11.

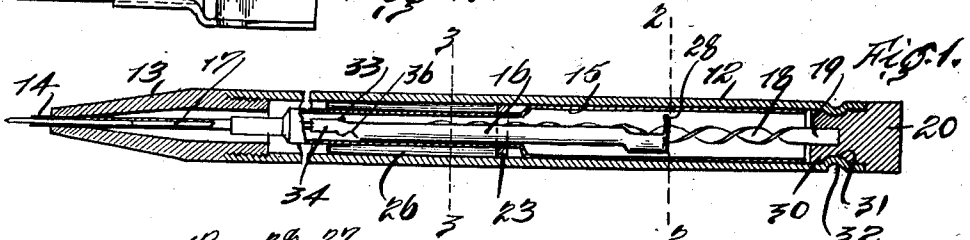

Fig. 1.

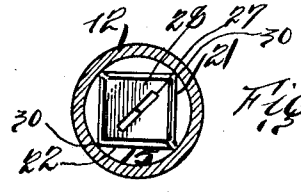

Fig. 2.

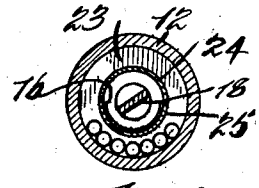

Fig. 3.

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UNITED STATES PATENT OFFICE.

MARX FINSTONE, OF BROOKLYN, NEW YORK.

MAGAZINE PENCIL.

1,411,715. Specification of Letters Patent. Patented Apr. 4, 1922.

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To all whom it may concern:

Be it known that I, MARX FINSTONE, a citizen of the United States of America, residing at Brooklyn, Kings County, State of New York, have invented certain new and useful Improvements in Magazine Pencils, of which the following is a full, clear, and exact description.

This invention relates to improvements in magazine pencils, one of the objects being to provide a pencil of this nature that can be cheaply manufactured, and which will at the same time be substantial in construction.

To carry out my invention, I have designed a pencil, the parts of which can be stamped out by suitable dies and a press, binding elements and soldering being dispensed with.

I will now describe my invention in detail, the novel features of which I will finally claim, reference being had to the accompanying drawing, wherein:—

Fig. 1 is a longitudinal sectional view of my improved pencil;

Fig. 2 is an enlarged cross sectional view, the section being taken on a line 2—2 in Fig. 1;

Fig. 3 is a similar view, the section being taken on a line 3—3 in Fig. 1;

Fig. 4 is a cross-sectional view, illustrating the barrel of the pencil and the follower casing;

Fig. 5 is a detail view, in elevation, partly in section, of the follower casing;

Fig. 6 is a detail view, broken away, of the lead screw;

Fig. 7 is a diagrammatic view, illustrating the follower and lead-screw assembled;

Fig. 8 is an end view of the follower, looking from the right in Fig. 7;

Fig. 9 is a top plan view of the follower;

Fig. 10 is an enlarged fragmentary sectional view, illustrating the manner of connecting the follower and push pin carried thereby; and

Fig. 11 is a top plan view thereof.

As herein constructed, my improved pencil consists of a barrel member 12 carrying a removable nozzle section 13 through which the tubular extension 14 of a casing 15 projects. The casing 15 slidably supports a follower 16 carrying a pin 17 which is operable to and fro within the extension 14. The follower 16 is engaged by a lead-screw 18 connected at one end as at 19, to a rotatable cap or plug member 20 located at one end of the barrel 12, as shown in Fig. 1. When cap or plug 20 is rotated, lead-screw 18 will also be rotated, thereby operating the follower 16 longitudinally of the casing 15. The casing 15 is made up of two members 21 and 22 (in this instance) held together by a ring 23 which is slipped over the cylindrical portion of the assembled casing, which is made up of the semi-circular portions 24 and 25 of the casing-members 21 and 22.

The binding ring 23 may be forced into position or spot-soldered after having been slipped into place. The ring 23 will, after the casing 15 has been placed in the barrel 12, serve as a back stop for reserve leads 26 (see Fig. 1) placed in the space between the cylindrical portion of the casing 15 and barrel 12. The nozzle 13 serves as a closure for the adjacent end of the barrel 12. Leads can be removed from the magazine portion of the pencil after the nozzle 13 has been removed. The lead screw 18 consists of a strip of flat metal twisted to form spirals 18^a, said strip at one end being flat as indicated by 19 to engage the cap or rotatable plug 20. The end 19 of the strip will be molded into said plug or cap. The spiral portion of the lead screw engages a slot 27 in the upturned end 28 of the follower 16 through which it passes, as can be seen in Fig. 7. Hence, when the cap or plug 20 is rotated, the follower 16 will be moved longitudinally of the casing 15 by the lead screw 18.

The follower 16 is formed out of thin metal by suitable dies and the end plate 28 will be of such dimensions as to slidably engage the interior of the casing 15. The end plate will be preferably made square, likewise the body portion 29 of the casing 15; hence the follower will not turn or rotate about the axis of said casing after it has been placed therein. The body portion of the casing is made square to provide corners to act as gripping agents to engage the inner surface of the barrel 12 to prevent premature displacement of said casing. Before casing 15 is placed in the barrel 12, the angular portions, constituting the body portions 29, will be spread apart, as indicated by dotted lines in Fig. 5. When the casing is inserted in the barrel and forced home, the spread apart members of the body portion will be brought together. As said members will be under tension, as the result of

having been spread apart, the corners 30 will tightly grip the barrel of the pencil and prevent the casing from moving longitudinally of said barrel. The casing 15 may be inserted through either end of the barrel. The cap of plug 20 is reduced at 30 and provided with an annular groove 31 in said reduced portion. After the casing 15 has been inserted, also the follower 16 and its lead-screw 18, to which plug 20 is attached, and after the reduced portion of the plug has been inserted in the adjacent end of the barrel, the wall of the barrel will be forced inwardly as at 32 to engage the groove 31; hence, the cap or plug will be held against removal from said barrel, but at the same time will be rotatable, in order that the follower 16 can be manipulated. The follower 16 carries the push pin 17, which is preferably provided with a head 33. The pin 17 is held by the tubular end projection 34 on the follower body portion 16 and is held in position by means of a recess 35 which the head 33 engages. When the follower 16 is stamped out, the portion thereof from which the tubular end member 34 is formed will be approximately flat or at least not wholly formed, nor will the recess 35 exist. After the pin 17 has been placed in position, the material adjacent the shank of the pin will be turned up and over to envelop the said shank adjacent its head 33. After this operation, the wall of the follower will be forced inwardly behind the head 33 as at 36, whereby the said recess 35 will be formed. which in turn will be engaged by the head 33. By this means, the pin 17 will be held by the follower without resorting to solder. The end plate 28 will be an integral part of the follower, as is evident.

It will be seen that the casing is reduced in diameter throughout a portion thereof to provide a magazine for reserve leads, the remainder of the casing being arranged to grip the barrel of the pencil, as can be seen in Fig. 1.

It will be evident that the casing 15 and follower 16 are made out of thin metal suitably formed by dies, and that the lead-screw is made out of thin strip metal twisted to form a plurality of spirals to form a thread. The tubular extension 14 is preferably secured to the casing members 21 and 22 by solder. The lead point will be placed in the tubular extension or lead carrier 14 and projected forwardly, or out of the carrier, by the pin 17 when the follower 16 is forced forwardly by the lead screw 18.

The barrel 12 and nozzle section 13 will be made preferably out of vulcanized rubber and shaped to give the device the appearance of a fountain pen. It will be seen by referring to Figs. 3 and 7 that the follower 16 is of channel formation so as to receive the lead screw 18 after it has passed through the end wall 28. The follower will rest within the cylindrical portion of the casing 15 and be guided thereby. The end wall 28 will also aid in guiding the follower as it will slidably fit the square body portion of the casing 15.

Having described my invention, what I claim and desire to secure by Letters Patent is:—

1. In a pencil, a barrel member, a casing within same, a lead carrier supported by the casing at one end thereof, a follower within the casing, a portion of said casing being of angular formation and arranged to grip the wall of said barrel, a follower within the casing, a push pin carried thereby, operable longitudinally of the lead carrier, a lead screw engaging said follower, and means carried by the barrel to operate the lead screw.

2. In a pencil, a barrel member, a casing within same consisting of a plurality of spaced apart connected members, said members at one end being under tension and tending to spring outwardly to grip the barrel, a lead carrier supported by the casing and projecting from one end thereof, a follower within the casing, a pin carried by the follower and operable longitudinally of the lead carrier, a lead screw engaging the follower, and means associated with the barrel to operate the lead screw.

3. In a pencil, a casing member for insertion within a barrel consisting of a plurality of separate channeled members, and means to bind said members together.

4. In a pencil, a casing member for insertion within a barrel consisting of a plurality of separate channeled members arranged to be spread apart at one end before being inserted into a barrel, whereby said members will exert pressure upon said barrel after the casing has been forced into position within a barrel and the said members compressed and means to connect said members.

5. In a pencil, a casing member for insertion with a barrel consisting of a plurality of separate channeled members arranged to be spread apart at one end before being inserted into a barrel, whereby said members will exert pressure upon said barrel after the casing has been forced into position within a barrel and the said members compressed, means to connect the channeled members and a lead carrier supported by the casing.

Signed at New York city, N. Y., this 12th day of January, 1921.

MARX FINSTONE.

Witnesses:
EDWARD A. JARVIS,
MAURICE BLOCK.