

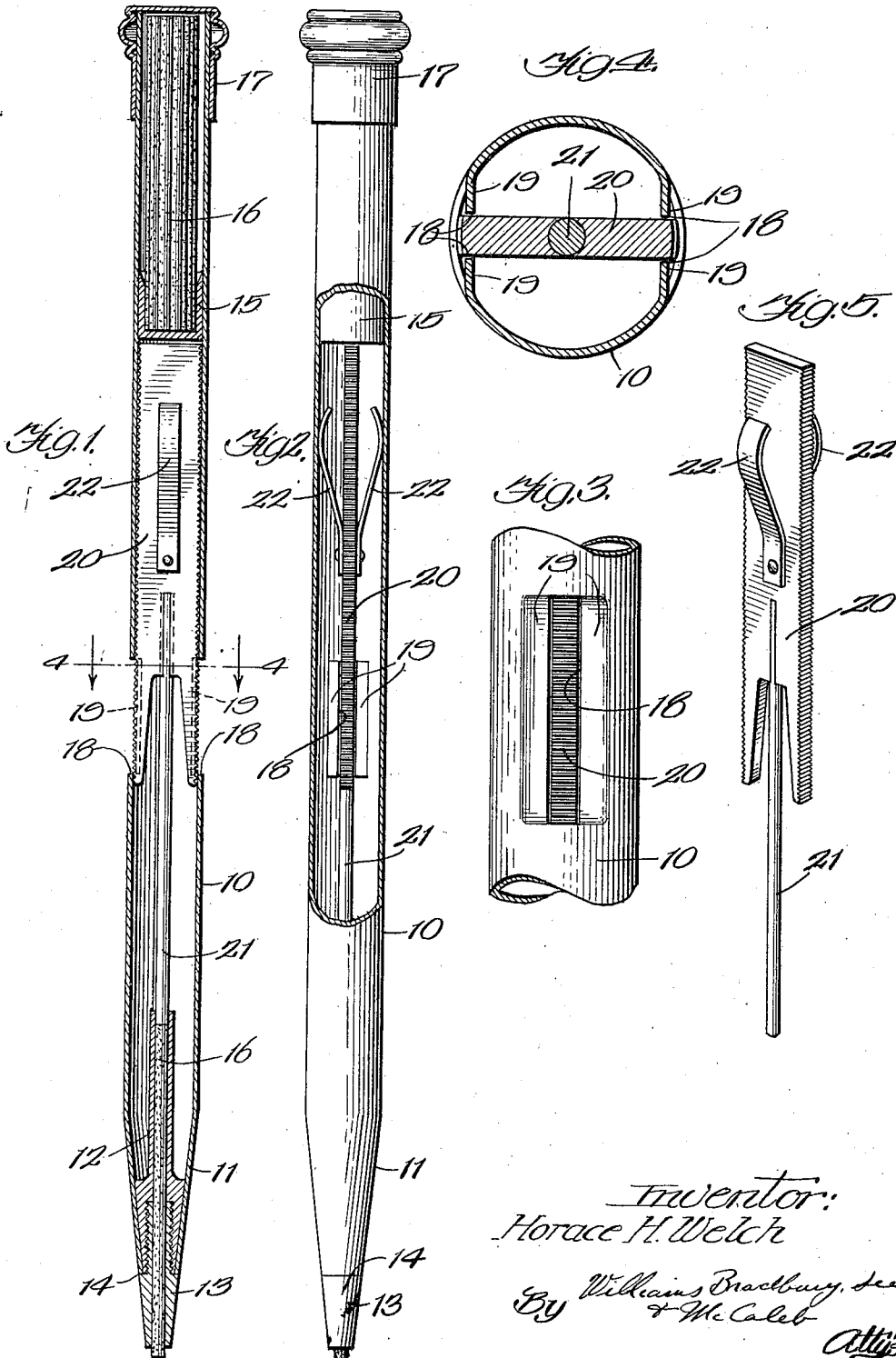
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H. H. WELCH

PENCIL

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UNITED STATES PATENT OFFICE.

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PENCIL.

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To all whom it may concern:

Be it known that I, HORACE H. WELCH, a citizen of the United States, and resident of Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Pencils, of which the following is a full, clear, concise, and exact description, reference being had to the accompanying drawings, forming a part of this specification.

My invention relates to improvements in pencils, and is especially concerned with improvements in that type of pencil which comprises a barrel made of metal or other suitable material having a passageway therein for receiving and holding leads, and suitable means for extruding the end of the lead through one end of the barrel, so that it can be used for writing.

The objects of my invention are—

First, to provide a pencil of this character comprising novel means for extruding or feeding the lead from the end of the pencil, comprising a feed-bar, a portion of which is in registry with an opening in the side of the pencil barrel thereby permitting it to be grasped by the fingers and moved in a direction to extrude the lead from the barrel, and

Second, to provide a pencil of the character described, which is simple in construction, economical to manufacture, and easy to operate.

These and other objects will definitely appear as the description progresses, reference being had to the accompanying drawings, in which—

Figure 1 is a central longitudinal section, through my improved pencil.

Figure 2 is a side elevation thereof, with portions broken away, this view being taken at right angles to that in Figure 1.

Figure 3 is an enlarged side elevation with parts of the pencil broken away.

Figure 4 is a transverse section on an enlarged scale on line 4—4 of Figure 1, and

Figure 5 is a perspective view of the feed bar and associated parts of my pencil.

Throughout the several views, similar reference characters will be used for referring to similar parts.

My improved pencil comprises a barrel 10, of metal or other suitable material, more or less permanent in character, one end of which is tapered as shown at 11, and pro-

vided with a lead receiving and guiding tube 12, into the outer end of which the hollow tip 13 is secured, this tip being provided with a shoulder 14 bearing against the end of the barrel in such a manner that when the tip 13 is completely threaded into the end of tube 12, both of these members are rigidly clamped to the end of the barrel. A cup 15 is soldered or otherwise secured in the opposite end of the barrel at such a distance from the end thereof as to provide a suitable magazine for the reception of leads 16, the outer end of the magazine being closed by a cap 17 or in any other desired manner.

The barrel 10 is provided intermediate its ends with two diametrically opposite slots 18. The incisions forming the ends of these slots are continued a short distance past each side of the slot to form tongues 19 which are bent inwardly slightly to form spaced guides for receiving and guiding the feed bar 20, the opposite edges of which will then extend through the slots 18, thus permitting the user to grasp these edges to move the feed bar longitudinally of the barrel. I prefer to mill the edges of the feed bar to provide firm finger grips. A rod 21, of suitable diameter for sliding in the lead receiving tube 12, is secured to the end of the feed bar adjacent the tip 12.

For holding the feed bar in any one of its adjusted positions, I provide a pair of bow springs 22, which are riveted or otherwise secured to the opposite sides of the feed bar 20, the free ends of these springs being in frictional contact with the inner wall of the pencil barrel.

It is believed that the operation of my improved pencil will be apparent from the above description. In use, it is merely necessary to insert a lead through the tip 13 and into the tube 12, and whenever it is desired to extrude the lead, the user grasps the edges of the feed bar projecting through the slots 18, and moves the feed bar slightly toward the end of the barrel carrying the tip 13. The friction of the lead in the tip 13, plus the application of the springs 22, bearing against the walls of the barrel, will be sufficient to hold the lead in any of its adjusted positions.

While I have described the details of construction of the preferred embodiment of my improved pencil, it is to be clearly un-

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derstood that my invention is not limited to these details, but is capable of other adaptations and modifications within the scope of the appended claims.

5 Having thus described my invention, what I claim is:

1. A pencil comprising a barrel having a lead receiving tube and tip at one end, the said barrel having diametrically disposed
10 longitudinally extending slots, formed in the sides thereof, the edges of said slots being turned inwardly to form guides, a feed bar slidably mounted in said barrel, and
15 having its edges projecting through said slots between said guides, the said feed bar having a push rod secured thereto slidable in said lead tube, and abutting the end of a lead in said lead tube, and a spring secured to said feed bar and having frictional
20 engagement with the inner walls of said barrel.

2. A pencil comprising a barrel having a lead receiving tube at one end, said barrel
25 having a pair of diametrically opposed flats and a slot extending longitudinally of said barrel in each of said flats, a feed bar slidably mounted in said barrel and having a lateral edge projecting through each said slot and guided by the edges of said slots,
30 the said lateral edges of said bar being supported by the inner surfaces of said barrel, and a push rod extending from said bar, the free end of said rod being slidable within said lead receiving tube, and adapted to
35 abut the inner end of a lead, and means for holding said feed bar relatively to said barrel.

3. A pencil comprising a barrel having a lead receiving tube at one end, a feed bar
40 slidable in said barrel, said bar by means of its edges being supported by the inner surfaces of said barrel, means for preventing the rotation of said bar relatively to said barrel, a slot in said barrel, said barrel being indented adjacent the edges of
45 said slot to present the said edges of said feed bar in manually manipulatable position, a push rod extending from said bar, one end of said rod being slidable within said lead receiving tube, and abutting the
50 inner end of a lead, and means within said barrel for adjustably holding said feed bar relatively to said barrel.

4. A pencil comprising in combination a barrel, a lead receiving tube in one end of
55 said barrel, a feed bar reciprocable in said barrel, a feed rod secured to said bar and reciprocable in said tube to feed a lead therein, said feed bar having a knurled lateral edge adjacent the periphery of said
60 barrel, an opening in said barrel, means for keeping said knurled edge in registry with said slot, the margins of said slot being indented to allow an operator's finger to engage said knurled edge to adjust said feed
65 rod, and means within said barrel to hold said feed bar in its adjusted position relative to said barrel.

In witness whereof, I hereunto subscribe my name this 26th day of August, 1920.

HORACE H. WELCH.

Witnesses:

EARL R. PIERCE,
ARTHUR W. CARLSON.