

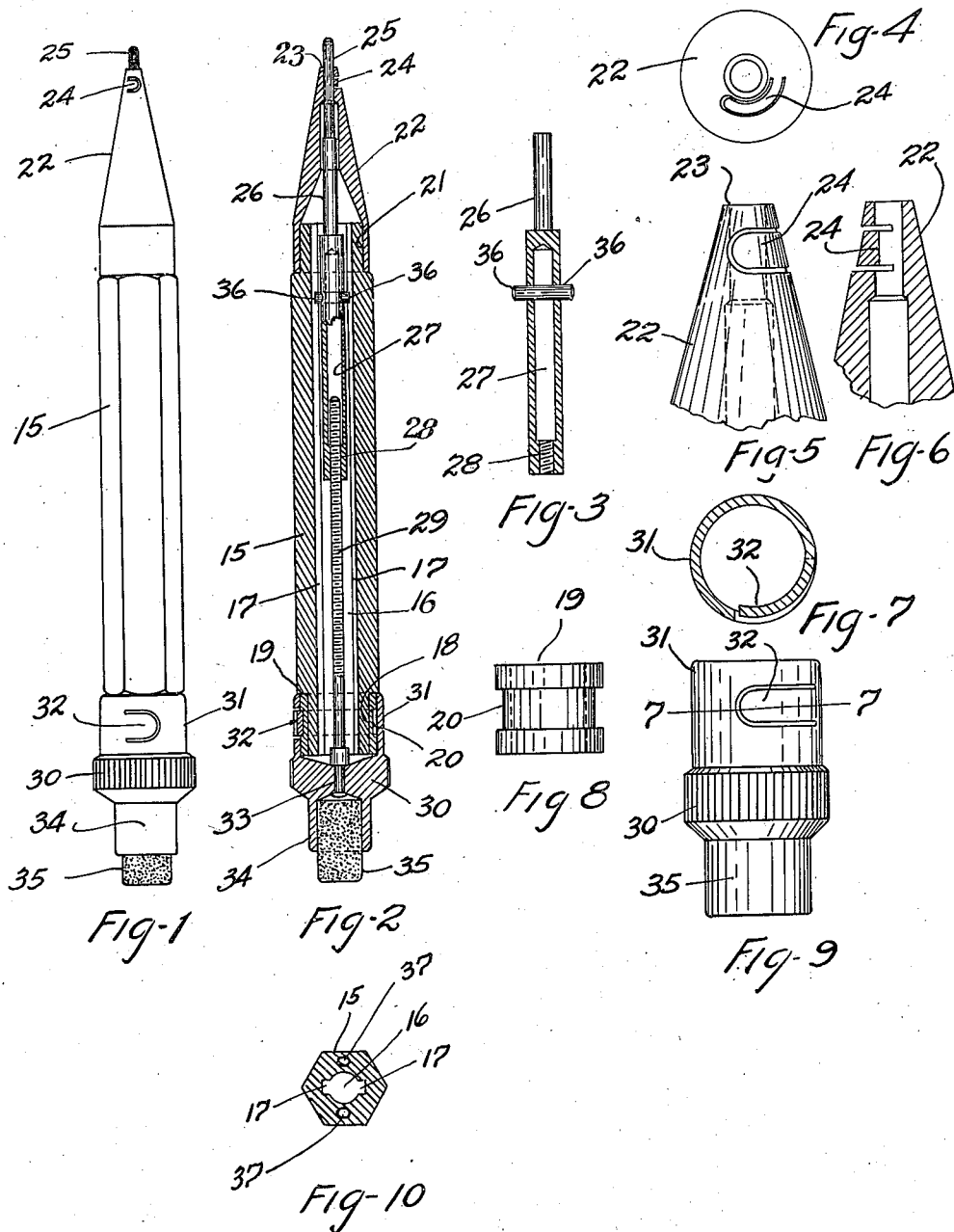
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1,510,618

R. T. BELL

PENCIL

Original Filed April 4, 1921



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UNITED STATES PATENT OFFICE.

RAYMOND T. BELL, OF CHICAGO, ILLINOIS, ASSIGNOR, BY MESNE ASSIGNMENTS, TO
THE WAHL COMPANY, A CORPORATION OF ILLINOIS.

PENCIL.

Application filed April 4, 1921, Serial No. 458,445. Renewed July 19, 1924.

To all whom it may concern:

Be it known that I, RAYMOND T. BELL, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

This invention relates to improvements in pencils of the type in which the lead or crayon is adapted to be fed from the holder as the lead is consumed, and one of the objects of the invention is to improve and simplify the construction thereof and to produce a pencil of this character from a very small number of parts and which will at the same-time be compact in construction, convenient for use and effective and efficient in operation.

To the attainment of these ends and the accomplishment of other new and useful objects as will appear, the invention consists in the features of novelty in substantially the construction, combination and arrangement of the several parts hereinafter more fully described and claimed and shown in the accompanying drawing illustrating this invention and in which—

Figure 1 is a side elevation.

Figure 2 is a longitudinal sectional view.

Figure 3 is a view partly in elevation and partly in longitudinal section of one of the crayon or lead adjusting members.

Figure 4 is an end view of Figure 5.

Figure 5 is an enlarged detail top plan view of one end of the pencil.

Figure 6 is a longitudinal sectional view of Figure 5.

Figure 7 is a sectional view taken on line 7—7, Figure 9.

Figure 8 is an elevation of a detail.

Figure 9 is a view of one of the end members of the pencil.

Figure 10 is a horizontal sectional view of the sheath or body of the pencil.

Referring more particularly to the drawing the numeral 15 designates the sheath or body of the pencil, which may be of any desired size and configuration and constructed of any suitable material but is preferably constructed of light material such as wood.

This sheath 15 is provided with a central bore 16 extending throughout the length thereof and the bore 16, is provided with laterally projecting grooves 17 communicat-

ing therewith and extending throughout the length of the sheath. One end of the sheath 15 is reduced as at 18 for any suitable distance from the end and encompassing this reduced portion 18, is a sleeve 19, constructed of any suitable material, such as metal or the like. This sleeve 19 is provided with a circumferentially reduced portion 20 intermediate its ends, and the sleeve is adapted to fit upon the reduced end 18 of the sheath 15, and to be held there in any suitable manner, preferably by a shrink fit thereupon, and the external diameter of the sleeve 19 is preferably slightly less than the external diameter of the sheath 15 beyond the reduced portion 18.

The other end of the sheath 15 is reduced as at 21, and is adapted to receive a tip 22, which is also constructed of any suitable material and is tapered as shown, a portion of one end of the tip being of a diameter to receive the reduced end 21 of the sheath 15, and these parts are secured together in any desired or suitable manner.

The tip 22 may be of any desired length and a portion of the tip adjacent the extremity 23 is cut to form a spring tongue 24, which is deflected inwardly into the bore of the tip 22, so as to engage and rest upon the lead or crayon 25, when the latter is in position, for the purpose of holding the lead or crayon against accidental displacement. This spring portion 24 is adapted to yield when pressure is exerted upon the lead 25 lengthwise thereof so as to feed the extremity of the lead through the end of the tip 22.

Arranged within the bore 16 is a plunger member 26, one end of which is adapted to engage the end of the lead 25. The other end of the plunger member 26 is preferably hollow as at 27, and is provided with suitable screw threads 28, to receive a screw element 29, the latter being rigidly connected with a cap member 30, adapted to extend over the sleeve 19 and also the adjacent extremity of the sheath 15. This cap member 30 is provided with a sleeve portion 31, having a spring tongue 32 cut therefrom and the tongue is deflected inwardly into the sleeve portion 31, as shown more clearly in Figure 7. This spring tongue 32 is provided as a means for yieldingly locking the cap 31 upon the end of the sheath and co-operates with the sleeve

29 so that when the sleeve portion 31 is placed in position the spring tongue 32 will enter the circumferentially cut away portion 20 of the sleeve 19 for holding the parts together under normal conditions, but when an abnormal stress is exerted upon the cap 30 to remove the same, the spring portion 32 will yield and permit the cap member 30 to become disengaged from the end of the sheath 15.

The screw member 29 is rigidly secured to the cap member 30 in any suitable manner preferably by the extremity 33 of the member 29 passing through a portion of the cap 30, and being riveted or otherwise secured thereto.

The cap member 30 may also be provided with a recessed portion 34, adapted to receive an eraser 35.

20 Projecting laterally from the plunger member 26, and at any suitable point intermediate its ends is a pin or lug 36, the extremities of which project for some distance on each side of the plunger member 26, so that when the plunger member 26 is inserted in the bore 16 of the sheath 15, the ends of the projecting element 36 will enter the slots 17, which latter extend throughout the length of the sheath, so that when the cap member 30 is rotated to rotate the screw 29, the latter will be fed into or out of the tubular portion 27 of the plunger 26, to advance or retract the plunger according to the direction of rotation of the cap 30, the ends of this element operating in grooves 17 will hold the plunger 26 against rotation and thereby cause the same to be moved longitudinally of the sheath when the screw 29 is rotated.

40 When it is desired to replenish the supply of lead in the sheath 15, all that is necessary is to exert a stress upon the cap 30, so as to cause the spring or flexible tongue 32 to yield and pass out of the circumferential groove 20, in the sleeve 19, at which time the screw member 29 and plunger 26 may be withdrawn through the cap end of the sheath.

50 If desired, portions of the sheath 15 may be shaped to form magazines 37, in which an extra supply of leads may be carried.

With this improved construction it will be manifest that there is provided a pencil which is constructed of a minimum number of parts, in the present form of the invention there being only six parts from which the pencil is constructed.

Obviously many changes may be made in the details of construction and in the combination and arrangement of the several parts, within the scope of the claims,

without departing from the spirit of this invention.

What is claimed as new is:—

1. A pencil embodying a sheath, a groove 65 extending lengthwise of the sheath and communicating with the bore of the sheath, said groove being considerably smaller than the said bore, a tip connected with the sheath, a plunger movable in the said bore, 70 a lateral projection carried by the plunger, extending into and movable in the groove for maintaining the plunger against turning, a screw element threaded into the end of the plunger for longitudinally moving 75 the plunger, a cap rotatable upon the other end of the sheath, and to which cap the said screw element is secured for rotation, a shoulder on the end of the sheath, and a spring tongue formed from a portion of 80 said cap entirely within the confines of the edges of the cap and extending in a direction transverse to the axis of the cap and co-operating with the shoulder for rotatably and yieldingly holding the cap in position 85 and for free removal.

2. A pencil embodying a barrel, a plunger therein, means for maintaining the plunger against rotation, means for moving the plunger lengthwise of the barrel, a collar encompassing one end of the barrel, said collar having a circumferentially reduced portion to form a shoulder, a cap engaging 90 over the collar, and to which cap the second recited means is connected for operation thereby, and a spring tongue formed from a portion of the said cap and extending into 95 the cap, said tongue being adapted to engage under the said shoulder for rotatably and yieldingly holding the cap in position 100 and for free removal, the said tongue extending in a direction transverse to the axis of the cap.

3. A pencil embodying a sheath, a plunger movable in the sheath, means for moving the plunger, a cap carried by one end of the sheath and to which cap the said means is operatively connected, a tip at the other end of the sheath, and means for 105 rotatably securing the said cap in position for free detachment, the last recited means embodying a spring like portion carried by the cap and disposed entirely within the confines of the edges of the cap, and 110 an annular groove connected with the sheath and into which groove the said spring like portion projects. 115

In testimony whereof I have signed my name to this specification, on this 31st day of March, A. D. 1921.

RAYMOND T. BELL.