

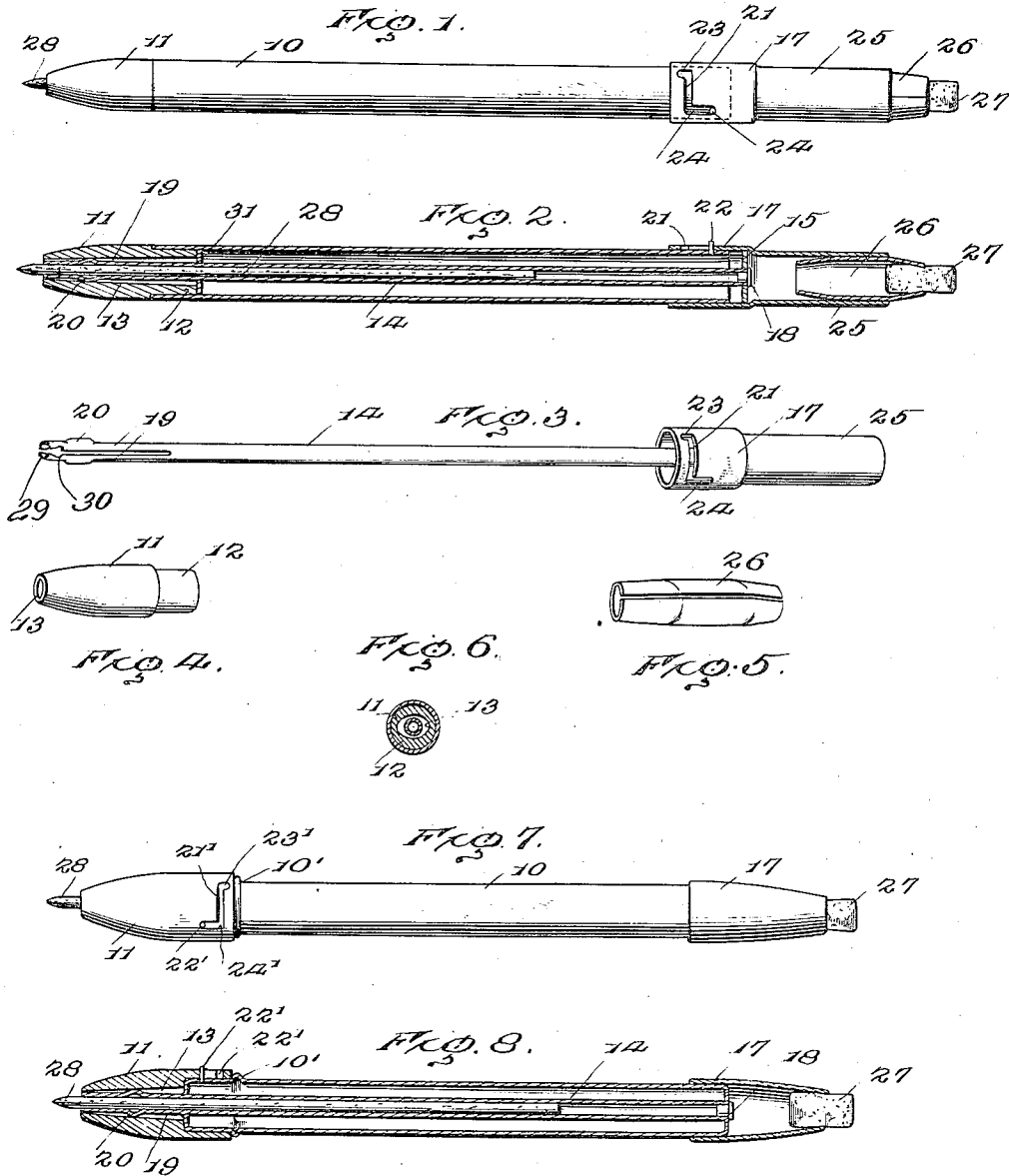
W. W. CASE.
PENCIL.

APPLICATION FILED AUG. 1, 1911.

1,064,288.

Patented June 10, 1913.

2 SHEETS—SHEET 1.



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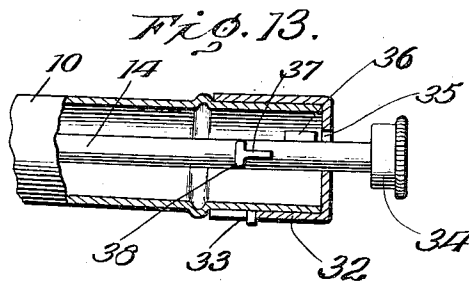
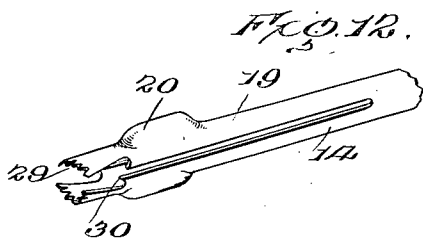
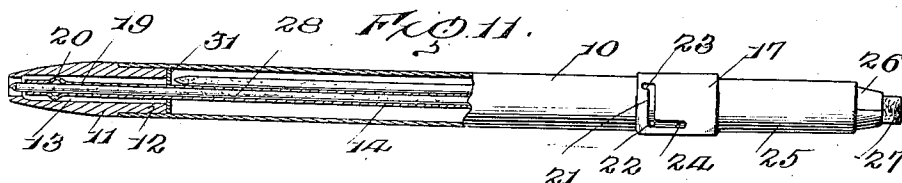
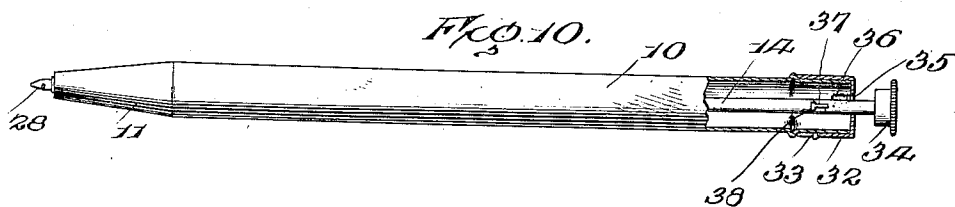
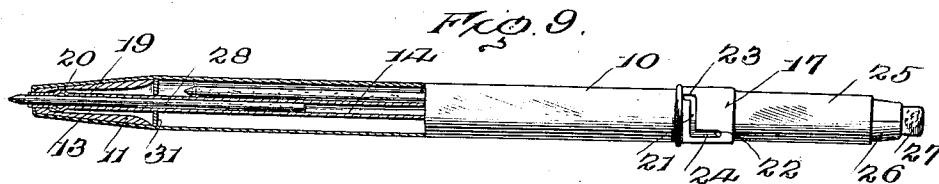
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2 SHEETS—SHEET 2.



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UNITED STATES PATENT OFFICE.

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PENCIL.

1,064,288.

Specification of Letters Patent.

Patented June 10, 1913.

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To all whom it may concern:

Be it known that I, WILLIAM W. CASE, citizen of the United States, residing at Raymond, in the county of Madera and State of California, have invented certain new and useful Improvements in Pencils, of which the following is a specification.

This invention relates to pencils, and refers particularly to that class of such devices in which a hollow hand portion carries a length of lead.

An object of this invention is to provide a barrel with means for adjustably holding a length of lead therein, to admit of the ready removal of the lead, and the retracting of the same within the barrel when the pencil is to be carried.

Another object of this invention is to provide a pencil of this character with operating means which is not dependent upon springs and the various other contrivances readily getting out of order, but to provide a substantial mechanism having only a relatively small number of movable parts which are directly acted upon by the turning of a revoluble member carried at one end of the barrel.

This invention further aims to provide a pencil which is durable yet neat in design, one which may be easily and quickly operated, a pencil which occupies but small space and conforms to the general size and shape of ordinary pencils, and a device which may be economically produced.

For a full understanding of the invention, reference is to be had to the following description and accompanying drawings, in which:

Figure 1 is a side elevation of the improved pencil; Fig. 2 is a longitudinal central section taken through the same; Fig. 3 is a detail perspective view of the stem and its operating ferrule; Fig. 4 is a detail perspective view of the tip of the pencil; Fig. 5 is a detail perspective view of the split sleeve employed in attaching an eraser; Fig. 6 is a transverse sectional view through the pencil; Fig. 7 is a side elevation of a slightly modified form of the pencil; Fig. 8 is a longitudinal central section taken through the same; Fig. 9 is a side elevation partly in section of still another form of the invention; Fig. 10 is a similar view of still another form of the invention; Fig. 11 is a side elevation with parts in section of the form of the pencil as shown in Figs. 1 and

2 illustrating the positions of the parts when the lead is drawn into the tip; and, Fig. 12 is an enlarged perspective view of the lead engaging end of the stem; Fig. 13 is a detail sectional view, upon an enlarged scale, of the structure shown as a whole in Fig. 10.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawing by the same reference characters.

Referring to the drawing, 10 designates a barrel or handle forming the body portion of the pencil, the same preferably comprising an elongated metallic cylindrical member open at its opposite ends. The lower end of the barrel 10 is provided with a tip 11 in the form of a tapering hollow member being reduced at its upper end to provide a shank 12 engaging snugly in the lower end of the barrel 10. The tip 11 has a longitudinal central opening 13 tapering toward the outer end of the tip and being of substantially elliptical cross section toward its inner end.

A hollow stem 14 is arranged centrally within the barrel 10 having its upper end secured to a disk 15 fixed in a ferrule 17. A plug 18 is secured in the upper end of the stem 14 to close the same. The lower end of the stem 14 projects below the barrel 10 and into the tip 11, the lower end of the stem being split at its opposite sides to provide a pair of spring jaws 19. Humps 20 are formed in registration upon the outer faces of the jaws 19 and are adapted to normally lie within the receding sides of the opening 13 in the tip. The ferrule 17 is rotatably disposed over the upper end of the barrel 10 and is provided with a peripheral slot or groove 21 adjacent to its lower edge for the reception of an outstanding stud or pin 22 fixed upon the barrel 10. The stud 22 not only retains the ferrule 17 upon the barrel, but it also admits of and limits the rotation of the ferrule to move but one quarter of its complete revolution. One end of the slot 21 opens into a notch extending down therefrom and providing a shoulder 23 against which the pin 22 strikes to hold the ferrule from turning when adjusted. The opposite end of the slot 21 opens into an upwardly extending or vertical slot 24 to receive the pin when it is desired to move the stem 14 down into the tip 11. The upper end of the ferrule 17, above the disk 15, is reduced as at 25, and receives therein a

split sleeve 26 which projects slightly above the reduced portion 25 of the ferrule and carries a suitable eraser 27. When the jaws 19 are completely closed, as disclosed in Figs. 1 and 2, the lower ends of the jaws substantially register with the lower end of the tip 11 so as to bind a length of lead 28 between the jaws.

From the foregoing description, the operation is apparent since when the ferrule 17 is moved up upon the barrel 10 the pin 22 moves into the slot 21. The ferrule can now be rotated through a quarter-turn to bring the shoulder 23 against the pin 22. When the ferrule 17 is in this position the jaws 19 are drawn up into the upper end of the tip 11 and into the enlarged part of the opening 13. The tip 11 is so positioned upon the barrel 10 that it is necessary to rotate the ferrule 17 through a quarter-turn to bring the humps 20 opposite the receding sides of the opening 13 and admit of the expansion or divergence of the spring jaws 19. When the jaws 19 are thus separated the length of lead 28 will fall by gravity through the stem 14 either out through the tip 11 or back into the stem, dependent upon the position in which the barrel 10 is held.

Referring to Figs. 7 and 8 of the drawing, disclosing a modified form of the invention, the barrel 10 is turned in at its opposite ends for fixed engagement with the stem 14 which is held rigid in the barrel. The ferrule 17 closes the upper end of the barrel and tapers at its upper end to support the eraser 27. The lower end of the barrel 10 is provided adjacent to its extremity with an annular shoulder 10' against which rests the upper end of the tip 11. The tip 11 is provided with an enlarged opening at its upper end rotatably receiving the lower end of the barrel 10. The tip 11 is provided with the peripheral slot 21' having the shoulder 23' at one end and the vertical slot 24' opening into its opposite end. The barrel 10 carries, below the shoulder 10', a pin or stud 22' engaging in the slots 21' and 24', as shown. The stem 14 extends below the barrel 10 and into the tip 11, and is split to provide a pair of spring jaws 19. The lower end of the tip 11 is provided, as in the preferred form, with the tapering elliptical opening 13 adapted to compress the jaws 19.

In all of the forms of the pencil the stem 14 is provided at its split or lead engaging end with inwardly disposed points or prongs 29 which are adapted to engage the opposite sides of the lead 28 and hold the same when the jaws 19 are brought toward each other. The said jaws are also provided at their side edges with points or prongs 30 which are also inwardly disposed and are adapted to engage the side portions of the lead 28 at points behind the parts thereof engaged by the prongs 29.

In all of the forms of the invention the outer side of the stem 14 is spaced from the inner surface of the barrel 10 and in the compartment thus formed extra leads may be stored as indicated in Figs. 9 and 11 of the drawings. In the forms of the invention as illustrated in Figs. 1, 2, 9 and 11 the stem 14 is surrounded by a washer 31 which is located against the inner end of the tip 11 and is adapted to prevent the stored leads from entering the opening through the tip.

In the form of the invention as illustrated in Fig. 10 the barrel 10 is provided with a detachable cap 32 which is held in position on the said barrel by means of a slot and pin connection 33 of the usual pattern. The stem 14 passes through the center of the cap 32 and is provided at its outer end with a knob 34. The stem 14 may have limited sliding movement through said cap. The cap 32 is provided at one side of the opening through which the stem 14 passes with a recess 35, and lugs 36 and 37 are carried by the stem 14. These lugs stand out from the stem 14 at approximately right angles to each other and the adjacent ends of the lugs are spaced from each other for a distance at least equal to the thickness of the central portion of the cap. The lug 37 is provided at its inner end with laterally disposed shoulders 38. When the point of the lead 28 is projected beyond the end of the tip 11 the lug 36 lies in the recess 35 of the cap 32 as illustrated in Fig. 10 of the drawings. To retract the point of the lead within the tip 11 the stem 14 is pulled back by grasping the knob 34 and the lug 36 slides through the recess 35 until the outer end of the lug 37 strikes the inner side of the cap 32. The stem 14 and knob 34 are then given a quarter turn so that the end of the lug 37 is brought into register with the recess 35. The stem 14 is then given additional longitudinal movement in the barrel 10 which passes the lug 37 into the recess 35 until its shoulders 38 come in contact with the inner side of the cap 32. When this has been done the point of the lead 28 is retracted well within the tip 11.

Having thus described the invention, what is claimed is:

1. A pencil comprising a barrel, a stem slidably mounted therein and having spring jaws adapted to engage the lead, a cap mounted upon the barrel and through which the said stem passes, said cap having a recess at the side of the opening through which the stem passes, said stem having outwardly disposed lugs arranged in planes at an angle with relation to each other and having their inner ends spaced apart in a direction longitudinal of the stem.

2. A pencil comprising a barrel, a stem slidably mounted therein and having spring jaws adapted to engage a lead, a cap carried

by the barrel and slidably receiving the stem, said cap having a recess at the side of its opening which receives the stem, outwardly disposed lugs carried by the stem and disposed in planes at an angle to each other and adapted to enter the said recess, the said lugs having their adjacent ends spaced from each other in a direction longitudinally of the stem, the innermost lug being provided at

its innermost end with laterally disposed 10 shoulders.

In testimony whereof, I affix my signature in presence of two witnesses.

WILLIAM W. CASE. [L. S.]

Witnesses:

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A. E. PHILP.