

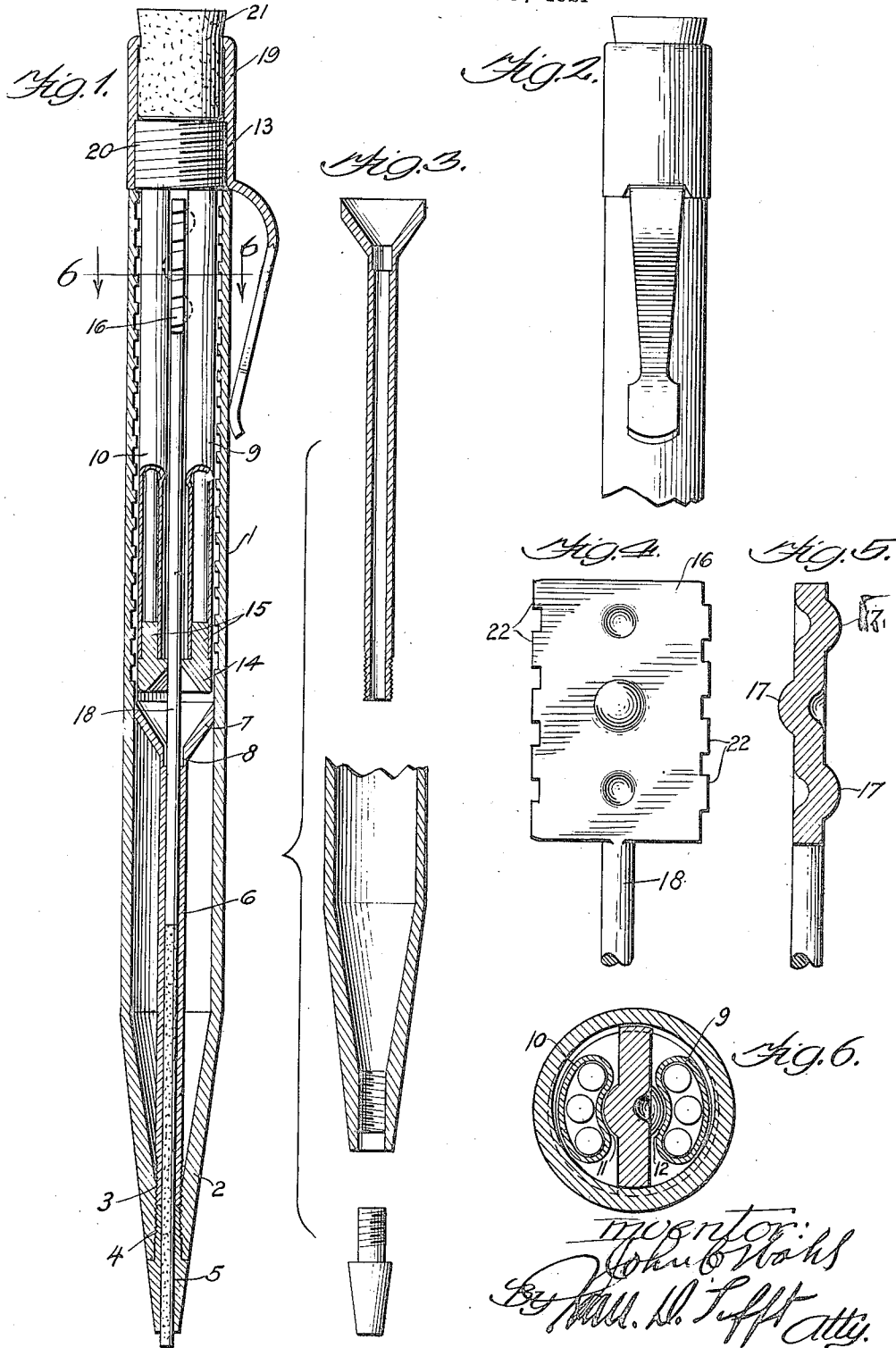
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J. C. WAHL

MECHANICAL PENCIL

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## UNITED STATES PATENT OFFICE.

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## MECHANICAL PENCIL.

Application filed February 14, 1921. Serial No. 444,791.

*To all whom it may concern:*

Be it known that I, JOHN C. WAHL, a citizen of the United States, and a resident of the city of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Mechanical Pencils, of which the following is a specification.

My invention relates to mechanical pencils and has for its primary object the improvement of the famous Eversharp pencil, said improvements consisting of reducing the weight and providing features not found in the last mentioned article.

Other objects will appear hereinafter.

The invention consists in the combinations and arrangements of parts hereinafter described and claimed.

The invention will be best understood by reference to the accompanying drawings forming a part of this specification and in which,

Fig. 1 is a longitudinal sectional view of my improved pencil showing the various working parts and their relation to each other;

Fig. 2 is a fragmentary section of the tube of the pencil showing my improved cap and clip attached thereto;

Fig. 3 is a sectional and fragmentary view of the lead funnel, swaged barrel end and tip and their respective relation to one another;

Fig. 4 is a plan view of the crosshead showing the guide lugs stamped thereon;

Fig. 5 is a sectional view of the crosshead along the line 5—5 of Fig. 4; and

Fig. 6 is a sectional view through the barrel magazine and crosshead along the line 6—6 of Fig. 1.

Referring to the drawings, the numeral 1 indicates a metal barrel swaged at one end as at 2 and being threaded interiorly as at 3. The operation of swaging the barrel thickens the walls of the swaged end as at 3. The small opening in the barrel is threaded as at 4 to receive a threaded metallic tip 5 and a lead guide tube 6. Fixedly attached to the upper end of the guide tube 6 is a funnel shaped member 7 having a square opening 8 formed therein, said square opening 8 being adapted to be engaged by a tool inserted from the top of the barrel, thus permitting the lead guide tube 6 to be screwed into the threaded opening 4 from

the exterior of the barrel. By first screwing the tip 5 into the threaded opening 4 and then screwing the lead guide tube 6 firmly against the top portion of the tip 5 a permanent lock is effected, and until the pressure is released by unscrewing the member 6 the tip 5 cannot become unscrewed from the barrel.

Heretofore about 75% of the repairs on pencils using detachable rifled tips have been the replacing or re-cementing the same tips within the barrel. The construction herein described, as stated before, so locks the tip within the swaged end of the barrel as to make it practically impossible for the tip to become lost or loose through carelessness and neglect of the user.

Detachably mounted in the interior of the barrel 1 are lead magazines 9 and 10, said magazines being constructed of two lengths of hollow tubing, and being so indented as to form guide grooves 11 and 12. These lead magazines 9 and 10 are held in relation to each other by means of a threaded cap 13 and a funneled member 14, the funneled member having laterally extending lugs 15 which are adapted to be fixedly engaged in the lower ends of the hollow tubing 9 and 10.

Loosely mounted between the tubes 9 and 10 is a crosshead 16, said crosshead 16 having teeth 22 which are adapted to engage the threaded interior of the barrel. On the face of the crosshead are upstanding lugs 17 which are adapted to ride in the grooves 11 and 12 in the tubes 9 and 10. This arrangement is necessary to prevent the crosshead from falling out of the magazine upon withdrawal of the said magazine from the pencil barrel.

Fixedly attached to the crosshead 16 is a feed wire 18. It is adapted to force the lead through the rifled tip 5.

A combination clip and eraser holder 19, being partially threaded as at 20, is provided, said clip and eraser holder being adapted to be screwed upon the cap 13. Upon an eraser 21 being inserted in the upper opening of the cap the upper openings of the lead magazines are so covered as to prevent the falling out of lead in the event of the pencil being inverted. This combination clip and cap is so constructed as to make it easily detachable from the cap 13.

The operation of the above described pen-

cil is similar to that described in Patent No. 1,151,016 granted to Charles R. Keeran, under date of August 24, 1915 and assigned to The Wahl Company, and for this reason it is not believed necessary to incur this application with said description of operation.

While I have illustrated and described the preferred form of construction for carrying my invention into effect, this is capable of variation and modification without departing from the spirit of the invention. I, therefore, do not wish to be limited to the precise details of construction set forth, but desire to avail myself of such variations and modifications as come within the scope of the appended claims.

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

1. An article of the class described comprising a barrel; said barrel being swaged at one end to form a small threaded opening; a lead feeding mechanism mounted within said barrel; a lead guide mounted in the interior of said barrel adjacent the lead feeding mechanism; a funnel member having a square tool receiving aperture fixedly attached to the upper end of said lead guide; a tip mounted in the small threaded opening in the barrel; and means whereby an adjustment of the lead guide locks said tip in position.

2. An article of the class described comprising an internally threaded barrel swaged at one end to form a small threaded opening; a lead feeding mechanism removably mounted within said barrel; a lead

guide threaded at its lower extremity mounted in the interior of the barrel adjacent said feeding mechanism; a tip mounted exteriorly of the barrel within the threaded opening; and means whereby the internally mounted lead guide locks said tip within said small opening.

3. An article of the class described comprising a barrel swaged at one end to form a small threaded opening, lead feeding mechanism mounted within said barrel, a lead guide mounted in the interior of said barrel, the lower end of said guide being disposed within said small threaded opening, a funnel member having a square tool receiving aperture mounted on the upper end of said lead guide, and a threaded tip arranged in the threaded opening in said barrel, the upper end of said tip engaging the lower end of said lead guide whereby said lead guide locks said tip in position.

4. An article of the class described comprising a barrel swaged at one end to form a small threaded opening, lead feeding mechanism arranged within said barrel, a lead guide arranged within said barrel adjacent said feeding mechanism, the lower end of said guide being threaded and received in the upper end of the threaded opening in the barrel, and a tip mounted exteriorly of the barrel, said tip being provided with a threaded extension adapted to be received in the upper end of the threaded opening in the barrel and contact with the lower end of said lead guide.

In witness whereof I have hereunto subscribed my name.

JOHN C. WAHL.