

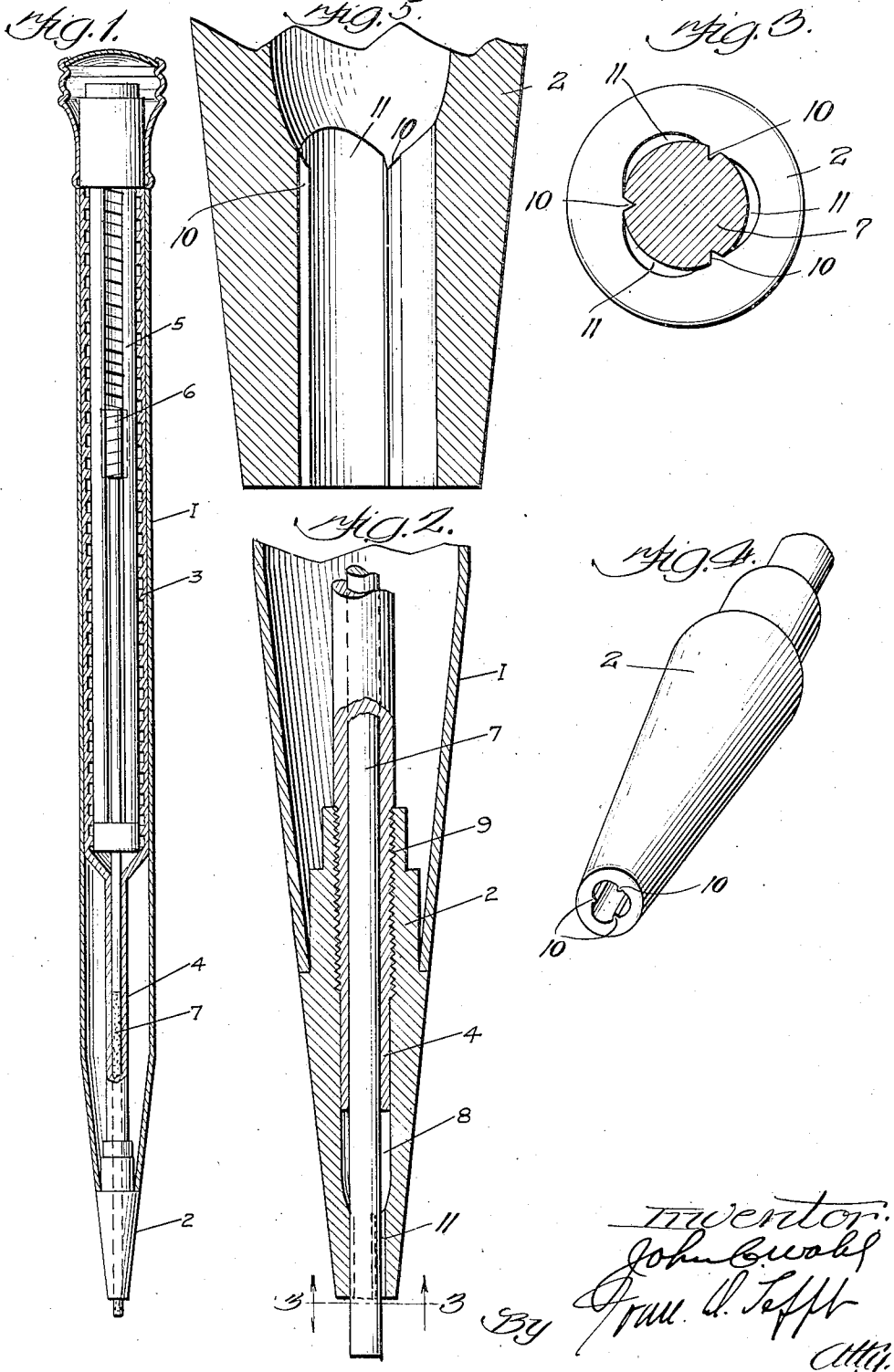
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MECHANICAL PENCIL

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UNITED STATES PATENT OFFICE.

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MECHANICAL PENCIL.

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This invention relates to improvements in mechanical pencils of the type in which the lead is propelled through a ribbed tip which supports the lead and prevents it from rotating in the pencil. In passing through the tip the ribs therein cut into the lead and produce dust which frequently packs firmly in the tip and finally clogs up the same.

The object of the present invention is to provide an improved form of ribbed tip in which this clogging is avoided.

The invention consists in the combination, construction and arrangement of parts of a tip as hereinafter described with reference to the accompanying drawings and more particularly pointed out in the appended claims.

Referring now to the accompanying drawings:—

Figure 1 is a view, partially in longitudinal section and partially in elevation, of a mechanical pencil with the tip according to the present invention attached thereto.

Figure 2 is a view in longitudinal section of the improved tip and co-related parts.

Figure 3 is a view taken on the line 3—3 of Figure 2 looking in the direction of the arrows.

Figure 4 is a view of the tip according to this invention, showing the same perspective detached from the other parts of the pencil.

Figure 5 is a sectional view on an enlarged scale of the end of the tip with no lead therein.

In the drawings numeral 1 indicates an outer barrel of a mechanical pencil tapered at one end to form a seat for a tip 2. Numeral 3 indicates a threaded inner sleeve which is swedged at one end to form a lead guide 4 to which the tip is adapted to be attached through the means of threaded engagement.

The lead propelling mechanism 5 is mounted within the tube 3, and the cross head 6 cooperates with the interior threads on the tube 3 to propel a lead 7 through the tip. The tip 2 has a passageway 8 therein,

threaded at its uppermost extremity as at 9 to engage the external threads on the lower end of the lead guide 4.

The aperture in the lower and smaller end of the tip 2 is milled in a generally triangular shape, as is illustrated in Figure 3, and ribs 10 are formed on the flat sides of the triangle. These ribs 10 project into the aperture of the tip and act to bite into the lead 7 as it is forced into the tip 2 by the propelling mechanism, thus preventing the lead from rotating, and holding it firmly in the tip.

It will be noticed in Figure 3 that there are spaces 11 between the lead 7 and the tip intermediate the ribs 10. These spaces 11 permit the dust that is cut from the lead 7 by the ribs 10 to filter through and out of the end of the tip 2, thus preventing this dust from gathering around and above the ribs 10, and packing firmly in the tip 2 and finally clogging up the tip.

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

1. In a mechanical pencil, a tip having a bore therein for the passage of a lead, ribs in said bore adapted to cut into said lead, the surface of said bore between said ribs being separated from the lead to provide longitudinal spaces alongside of the lead and extending to the end of the tip to permit the escape from the tip of the dust cut from the lead by said ribs.

2. In a mechanical pencil, a tip having a bore therein for the passage of a circular lead, ribs in said bore adapted to cut into said lead, said bore being at its lowermost end of general triangular form whereby the surface of said bore between said ribs is separated from the lead to provide spaces alongside the lead to permit the escape from the tip of the dust cut from the lead by said ribs.

In witness whereof, I have hereunto subscribed my name.

JOHN C. WAHL.