

May 9, 1933.

A. WOELM

1,907,926

TIP FOR MECHANICAL LEAD PENCILS

Original Filed March 19, 1929

Fig. 1.

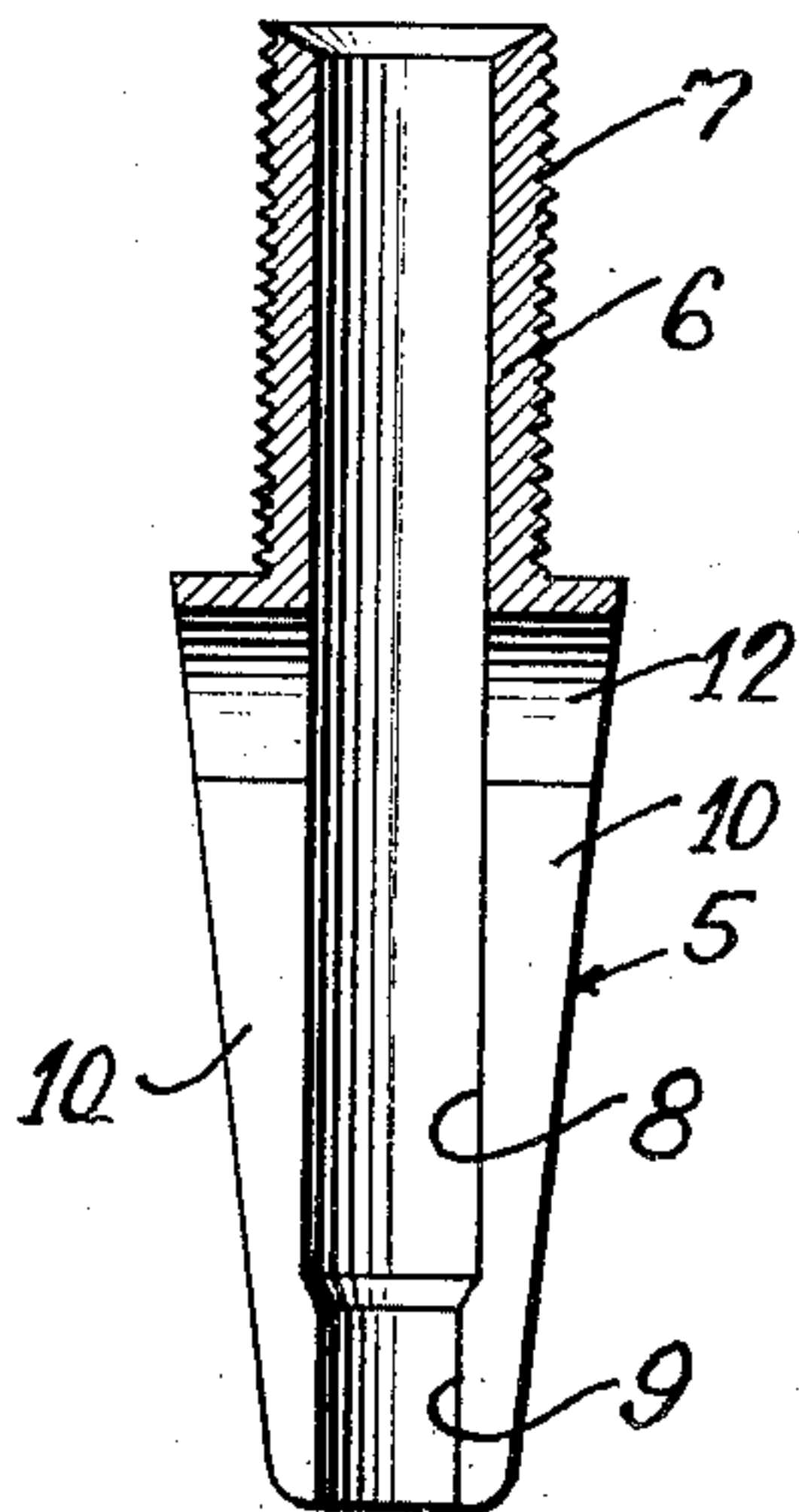


Fig. 2.

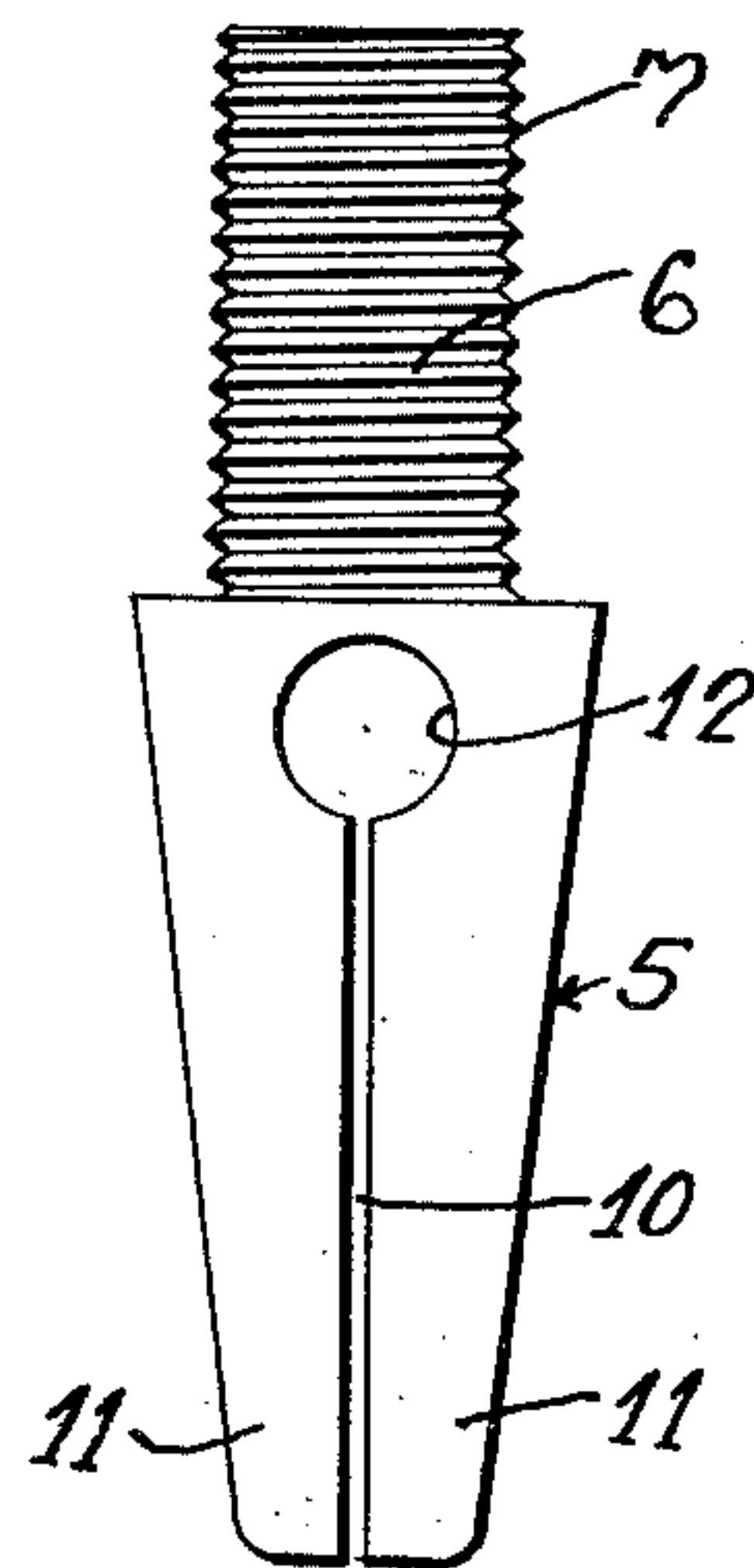
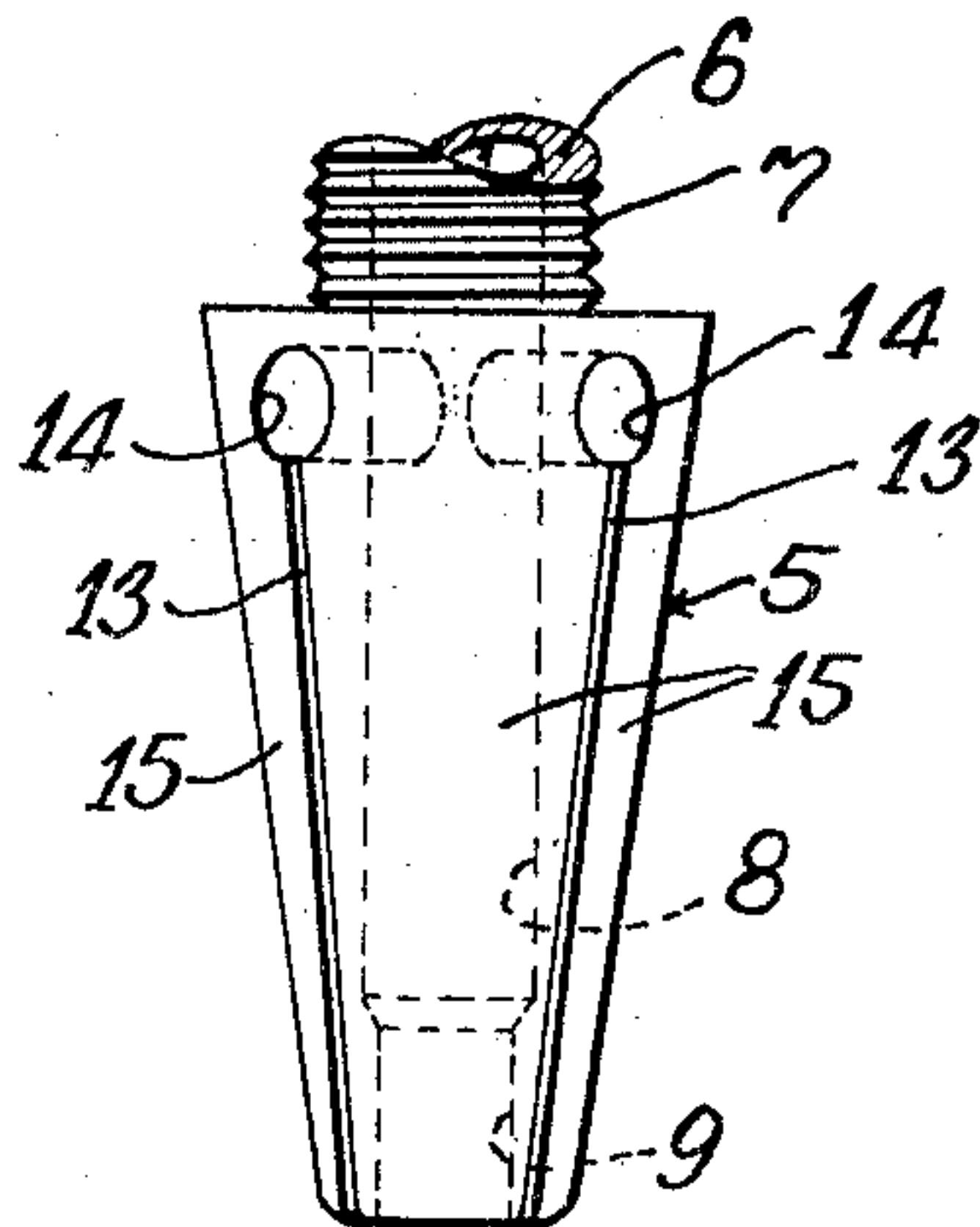


Fig. 3.



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TIP FOR MECHANICAL LEAD PENCILS

Application filed March 19, 1929, Serial No. 348,162, and in Germany April 16, 1928. Renewed August 3, 1932.

This invention relates to tips for mechanical lead pencils.

An object of the invention is to provide improved means for increasing the resiliency of fingers through which a lead passes out of a tip at the lower end of a mechanical pencil.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The invention accordingly comprises an article of manufacture possessing the features, properties, and the relation of elements which will be exemplified in the article hereinafter described and the scope of the application of which will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention reference should be had to the following detailed description taken in connection with the accompanying drawing, in which:

Fig. 1 is a longitudinal section of one form of a tip exemplifying the invention;

Fig. 2 is a side elevation thereof; and

Fig. 3 is a side elevation of a modified form of tip.

Each of the exemplified devices comprises a tip member 5 having, in the present instance, a frusto-conical outer surface, and carrying at its upper end an attaching member 6, which may be provided with suitable means such as the screw thread 7 for securing the tip in place in the pencil. The tip is formed with a longitudinal lead-guiding bore 8, the diameter of which may be reduced at its lower portion as exemplified at 9. The tip is also formed with suitable longitudinal slits 10 extending upwardly from the smaller end of the tip member to provide fingers 11 for holding a lead securely when the pencil is in use.

It is desirable that the fingers thus provided have sufficient resiliency to hold a lead securely and also to accommodate themselves to leads of varying diameter; and I have shown in my copending application Ser. No.

127,850, filed August 7, 1926 (renewed January 11, 1929, and re-allowed January 21, 1929) a tip so formed as to accomplish this purpose. In the form of tip exemplified in said application, the tip member is formed with an annular slot in its outer surface.

The present invention contemplates the provision of a tip member formed with recess, which may be provided with extreme ease, which may be individual to each slit so as not to break the continuity of the outer surface of the tip member, and which may extend adjacent the lead-guiding bore.

In the tip exemplified in Figs. 1 and 2, there is accordingly formed near the upper end of each of a pair of slits 10, a lateral bore 12, which, as exemplified, is formed at the upper portion of each slit, extends from the longitudinal bore outwardly to the outer surface of the tip member, and is cylindrical in shape and of approximately the same diameter as the bore 8, but which may be of any desired form. This decreases the resistance of the body of the tip member to the flexing of the fingers 11 and accordingly increases the resiliency thereof and the adaptability of the tip.

In the tip exemplified in Fig. 3, slits 13 divide the tip member into four fingers 15, the resiliency of which is increased by the formation of lateral bores 14 at the upper ends of the slits. As exemplified, the bores 14 are cylindrical in shape and of somewhat less diameter than the bores 12, but the size and shape thereof may, of course, be varied widely.

Since certain changes may be made in the above article and different embodiments of the invention could be made without departing from the scope thereof, it is intended that all matter contained in the above description or shown in the accompanying drawing shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the follow-

ing claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of the scope of the invention which as a matter of language might be said to fall therebetween.

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

1. A tip for mechanical pencils, comprising a tip member having a longitudinal bore therethrough and formed with a plurality of longitudinal slits extending upwardly from its lower end, the side walls of said tip member increasing in width from the lower end upwardly to the upper end of said slits, said member being recessed at each side of each slit at a point above its lower end, the recesses thus provided being in the nature of lateral bores, and extending outwardly from said longitudinal bore, the portions between said slits constituting tongues each provided with a portion extending inwardly into said bore whereby a lead moving through said bore will spread said tongues and will be gripped thereby.

2. A tip for mechanical pencils, comprising a tip member having a longitudinal bore therethrough and formed with a plurality of longitudinal slits extending upwardly from its lower end, the side walls of said tip member increasing in width from the lower end upwardly to the upper end of said slits, said member being formed with recesses individual to each of said slits and at the upper portion thereof, whereby each slit is widened at its upper end, the portions between said slits constituting tongues each provided with a portion extending inwardly into said bore whereby a lead moving through said bore will spread said tongues and will be gripped thereby.

3. A tip for mechanical pencils, comprising a tip member having a longitudinal bore therethrough and formed with a plurality of longitudinal slits extending upwardly from its lower end, the side walls of said tip member increasing in width from the lower end upwardly to the upper end of said slits, said member being formed with recesses individual to each of said slits and at the upper portion thereof, whereby each slit is widened at its upper end approximately to the width of said longitudinal bore, the portions between said slits constituting tongues each provided with a portion extending inwardly into said bore whereby a lead moving through said bore will spread said tongues and will be gripped thereby.

4. A tip for mechanical pencils, comprising a tip member having a longitudinal bore therethrough and formed with a plurality of longitudinal slits extending upwardly from its lower end, the side walls of said tip member increasing in width from the lower end

upwardly to the upper end of said slits, said member being formed with a lateral bore extending therethrough at the upper end of each of said slits, the portions between said slits constituting tongues each provided with a portion extending inwardly into said bore whereby a lead moving through said bore will spread said tongues and will be gripped thereby.

5. A tip for mechanical pencils, comprising a tip member having a longitudinal bore therethrough and formed with a plurality of longitudinal slits extending upwardly from its lower end, the side walls of said tip member increasing in width from the lower end upwardly to the upper end of said slits, said member being formed with a lateral bore extending therethrough at the upper end of each of said slits and having a diameter approximately equal to the diameter of said longitudinal bore, the portions between said slits constituting tongues each provided with a portion extending inwardly into said bore whereby a lead moving through said bore will spread said tongues and will be gripped thereby.

6. A tip for mechanical pencils, comprising a tip member having a longitudinal bore therethrough and formed with a plurality of longitudinal slits extending upwardly from its lower end, the side walls of said tip member increasing in width from the lower end upwardly to the upper end of said slits, one of said slits being disposed opposite another of said slits, said member being formed with coaxial lateral bores whereby each of said oppositely disposed slits are widened at a point removed from the lower end of the tip member, the portions between said slits constituting tongues each provided with a portion extending inwardly into said bore whereby a lead moving through said bore will spread said tongues and will be gripped thereby.

In testimony whereof I affix my signature.

ALFRED WOELM.