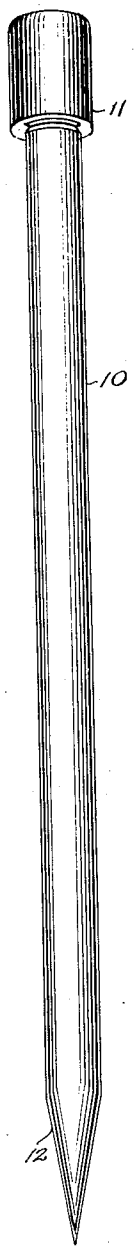
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1,501,745

F. CARROLL

METALLIC PENCIL

Filed Sept. 27. 1923



WITNESSES

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UNITED STATES PATENT OFFICE.

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METALLIC PENCIL.

Application filed September 27, 1923. Serial No. 665,209.

To all whom it may concern:

Be it known that I, FRANCIS CARROLL, a citizen of the United States of America, and a resident of Yonkers, in the county of Westchester and State of New York, have invented a new and Improved Metallic Pencil, of which the following is a description.

My invention relates to a pencil and particularly to a metallic pencil.

The general object of my invention is to provide a pencil of lead alloy having the characteristic that distinct and clear writing may be produced therewith and which pencil at the same time will possess the attribute of being readily sharpened by scraping or abrading.

Reference is to be had to the accompanying drawing forming a part of this specification, in which the figure shows a side elevation of a pencil.

In carrying out my invention in accordance with the illustrated example, a pencil 10 is formed wholly of alloy composed of lead, zinc and mercury combined approximately in the proportions of lead, 70 to 80%; zinc, 12 to 22%; mercury, 8 to 18%. The hard and soft grades of pencils are produced by varying the mercury content.

The method of manufacture is briefly as follows: The lead and the zinc are first alloyed by melting them and the mercury is then added, care being taken that the temperature of the lead and zinc does not exceed the boiling point of mercury 357° Cent. The mixture is then poured into molds which are shaped to produce the pencil. When cold the pencils are removed from the molds and the ends threaded to take the rubber tips. It will be readily understood that in manufacturing in large quantities, pencils may be produced by extrusion, that is to say, by forcing the material through hydraulic lead presses as in the manufacture of lead pipe and the extruded material cut into the desired lengths.

The pencil in practice advantageously is provided with a piece of rubber 11 at the end secured to the threaded rear end of the pencil.

A proper point 12 may be produced on the pencil by scraping the material of the pencil with a knife blade or by the use of suitable abrading material.

A pencil, formed as described, is unbreakable and can be manufactured more easily than the ordinary lead pencil.

Having thus described my invention, I claim:—

1. As a new article of manufacture, a writing pencil formed of a lead alloy containing mercury determining the degree of hardness of the pencil.

2. As a new article of manufacture, a pencil formed of lead 70 to 80%; zinc, 12 to 22%; and mercury, 8 to 18%.

3. As a new article of manufacture, a pencil composed of lead, zinc and mercury.

FRANCIS CARROLL.