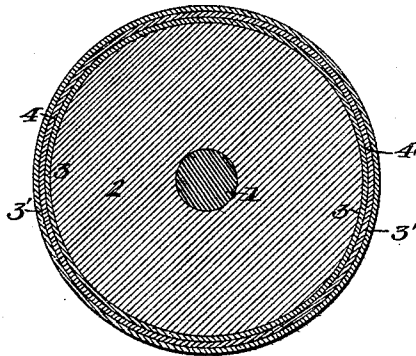


(No Model.)

B. B. GOLDSMITH.
LEAD PENCIL.

No. 500,061.

Patented June 20, 1893.



Witnesses.

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UNITED STATES PATENT OFFICE.

BYRON BENJAMIN GOLDSMITH, OF NEW YORK, N. Y.

LEAD-PENCIL.

SPECIFICATION forming part of Letters Patent No. 500,061, dated June 20, 1893.

Application filed October 13, 1890. Serial No. 367,979. (No model.)

To all whom it may concern:

Be it known that I, BYRON BENJAMIN GOLDSMITH, a citizen of the United States, and a resident of New York, in the county and State of New York, have invented certain new and useful Improvements in Lead-Pencils, of which the following is a specification.

My invention has reference to improvements in pencils, pencil and pen holders, and other like articles, all of which are comprised in the generic term "pencil," and all of which I mean to include by the term "lead-pencil."

Broadly speaking, the invention consists in a lead-pencil, the exposed surface of which consists of a film of pyroxyline, which film may be simply applied to the wooden surface of the lead-pencil, or may be applied both to the wooden surface and to a superimposed film of ordinary resin varnish.

I have found that pyroxyline in solution, when applied as a varnish, to wooden or other fibrous surfaces, does not, like ordinary varnishes, raise the fiber of the wood, but keeps that surface as even and smooth as it was before the pyroxyline was applied. I have also found that not only is the wood fiber not raised by the application thereto of a solution of pyroxyline, but on the contrary, the wood fiber is perceptibly compressed or "laid down," by reason of the close contraction of the pyroxyline when its vehicle or solvent evaporates. A great saving in the manufacture of lead-pencils is thereby accomplished, since the sandpapering and burnishing of the wood may be altogether, or at least in a great measure, omitted, and the pyroxyline varnish may be applied upon the wood immediately after the same has been delivered from the shaping tools.

A lead-pencil, the exposed surface of which consists of a film or films of pyroxyline, has the advantage and utility over lead-pencils the exposed surfaces of which consist of resin, that they are not scratched and dulled by the handling to which they are subjected in ordinary use, and will thus preserve their smooth gloss an indefinite time.

The simple application of pyroxyline varnish in one or a number of layers directly upon the wooden surface, secures this result, which, however, is also secured by applying upon the pencil thus treated a film or films

of ordinary varnish, and then covering the latter with an additional coat or coats of pyroxyline varnish. In both cases, the exposed surface of the lead-pencil is pyroxyline, which resists the otherwise injurious effect of handling.

In the accompanying drawing, which forms a part of this specification, I have illustrated in cross-section, a lead-pencil embodying my invention. In this drawing, 1, represents the graphite or "lead" of the pencil; 2, the wooden mantle of the same, and 3, 4, 3', the layers of pyroxyline and resin varnishes, applied to the wooden mantle, 3, 3', being the layers of pyroxyline, and 4, the film or films of resin varnish.

As before stated, I may stop the manufacture after the application of the first film of pyroxyline, which will "lay down" the wood-fiber, and prevent the disfigurement of the surface by handling; but in order to give to the pencil its ornamental gloss, a number of coats of pyroxyline directly superimposed upon each other, may be used, and the layer of pyroxyline marked in the drawing by the numeral 3, may consist of such number of coats, and be then ready for the market.

To still further intensify the gloss of the pencil, I ordinarily, but not necessarily, apply to the pyroxyline film or films, one or more coats of ordinary resin varnish 4, upon which the name of the manufacturer, the trademark, and ornamental designs, may be stamped and gilded, which cannot practically be done upon the pyroxyline surface. If now, the lead-pencil were left in this condition, it would be subject to disfigurement by handling, as is the case with all lead-pencils the exposed surfaces of which are made of resins. For this reason, whenever I apply upon the pyroxyline varnish next to the wood, an ordinary resin varnish, my invention calls for an additional coat or coats of pyroxyline, 3', which furnishes the necessary protection against scratching, in accordance with my invention.

From the foregoing description, it will be seen that by my invention, I secure two beneficial results; first, the prevention of the raising of the fiber of the wood; and secondly, the preservation of the gloss of the lead-pencil; and these two results are obtained whether I

only use a single coat of pyroxyline (which may consist of a number of superimposed films) applied directly to the wood, or whether I use the series of coats, pyroxyline, resin, and pyroxyline.

It will be readily understood that it is within my invention to burnish or polish the successive layers of pyroxyline, and ordinary varnish, if this should be necessary, or to burnish either of them, and that it is also within my invention to tint or color the varnishes, or either of them, or to apply a dye or dyes upon either or all the coats, or varnishes.

In this specification, the terms "pyroxyline" and "pyroxyline varnish," are used indifferently as designating pure pyroxyline and pyroxyline varnish, respectively, or these substances when mixed with a suitable quantity of resin or resin varnish, since I have found that a moderate admixture of resin or resin varnish does not seriously affect the peculiar utility of pyroxyline or pyroxyline varnish.

I do not herein claim broadly a lead pencil having a coat or coats of pyroxyline upon its exposed surface, since this is claimed by me in my application Serial No. 367,979, filed on September 28, 1892, as a continuation of this case.

Having now fully described my invention, I claim and desire to secure by Letters Patent—

As an article of manufacture, a lead-pencil, having its wooden surface covered with pyroxyline, a layer of ordinary varnish upon the pyroxyline surface, and an additional layer of pyroxyline upon the ordinary varnish, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

BYRON BENJAMIN GOLDSMITH.

Witnesses:

G. A. GARSMITH,

ALBERT WEISSENBORN.