

UNITED STATES PATENT OFFICE.

SAMUEL KRAUS, OF NEW YORK, N. Y., ASSIGNOR TO THE EAGLE PENCIL COMPANY, OF SAME PLACE.

ARTIFICIAL SLATE-PENCIL.

SPECIFICATION forming part of Letters Patent No. 316,374, dated April 21, 1885.

Application filed March 5, 1885. (No specimens.)

To all whom it may concern:

Be it known that I, SAMUEL KRAUS, of the city, county, and State of New York, have invented a new and useful Improvement in Artificial Slate-Pencils, of which the following is a specification.

My invention has reference to what are commonly known as "slate-pencils," and is directed to obtaining a "colored" pencil of this kind—that is to say, a pencil which, in lieu of making the usual white or nearly white mark of the ordinary soapstone pencil, will make a mark in color—as, for instance, red, blue, green, &c. This result I obtain as follows: For the base of the composition of which the pencil is made I use talc or soapstone and potter's clay. The coloring-matter consists of a mineral color, or a color that will resist for the length of time required the considerable heat to which the pencil must be subjected without appreciably fading. Among such colors may be named iron-red, ultramarine, burnt sienna, Indian red, chrome and mineral yellow, (I use a mixture of the two for the production of a yellow color,) and what is known in the market as "Victoria," "permanent," or "lump" green. For modifying the shades of color a very little graphite may be added to any one of the colors or mixture of colors.

The proportions in which the ingredients are taken can be considerably varied. One formula that gives good results is as follows: coloring-matter, ten pounds; talc or soapstone, five pounds; potter's clay, ten pounds. These ingredients are mixed with water to the consistency of a paste. The compound is ground, so as to finely reduce and thoroughly mix together all the ingredients, and the mass thus produced is pressed into the requisite shape. The press usually employed for the purpose consists of a cylinder having a hole or die-opening in its bottom of the size and shape suitable for the desired cross-section of the finished

article. The compound in plastic condition is put into the cylinder, and is pressed out through the opening by means of a piston or follower actuated by hydraulic pressure or other suitable power. The mass thus emerges from the press in the form of a continuous stick, which is deposited upon a tray and cut up into proper lengths. In this condition it is allowed to thoroughly dry. As soon as the drying is completed it is baked in a furnace. In carrying out the baking operation, the furnace or baking chamber should first be raised to a medium red heat. Then the dried sticks or pencils are placed therein and allowed to remain, say, about ten minutes, or until they are heated to a dark-red heat. They are then at once taken out and are allowed to cool. This completes the operation, and the result is a composition pencil similar in structure to a slate-pencil and susceptible of being put to like uses, but making a colored mark—red, blue, green, yellow, or the like, according to the particular color employed.

In this specification I have used the term "colored" slate-pencil to distinguish the pencil from one making the white or nearly white mark of the ordinary slate-pencil, just as in the manufacture of pencil-leads the term "colored lead" is used in contradistinction to the ordinary pencil-lead made of graphite.

Having described my invention and the best way known to me of carrying the same into effect, what I claim, and desire to secure by Letters Patent, is—

As a new manufacture, a colored slate-pencil made and possessing the characteristics substantially as hereinbefore set forth.

In testimony whereof I have hereunto set my hand this 4th day of March, 1885.

SAMUEL KRAUS.

Witnesses:

JOE W. SWAINE,

LEOPOLD ANSBACHER.