

UNITED STATES PATENT OFFICE.

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PLASTIC COMPOUND FROM PYROXYLINE AND MICA.

SPECIFICATION forming part of Letters Patent No. 294,661, dated March 4, 1884.

Application filed October 27, 1883. (No specimens.)

To all whom it may concern:

Be it known that I, GEORGE M. MOWBRAY, a citizen of the United States, residing at North Adams, county of Berkshire, State of Massachusetts, have invented new and useful Improvements in Plastic Compounds from Pyroxyline and Mica, of which the following is a specification.

My invention relates to that class of plastic compounds having soluble pyroxyline for their base, being, in fact, a new composition of matter consisting of soluble pyroxyline with mica in a fine state of division, together with coloring-matter and any inert substance—that is, any substance compatible with pyroxyline—such as oxide zinc, sulphate barytes, &c., to give body to the compound when required.

I do not claim as of my invention the admixture of coloring-matter, of oxide zinc, sulphate barytes, or like matter, suitable materials when incorporated with soluble pyroxyline to give the resulting compound solidity or body, for these have long been used for that purpose, but mention the fact that these materials may be added to or used in conjunction with my invention, which consists of mica incorporated in soluble pyroxyline, to which the above-mentioned materials may be added with pleasing effect.

To enable others to avail of my invention, I will now describe several methods of forming this new composition of matter.

I first divide up the mica, either by rasping, grating, or grinding, and because during this process the mica is apt to be discolored, losing its brilliant sparkle, I prefer, on sifting same through a fine sieve, to reject the first or very finely-powdered portions, that first pass through the meshes of the sieve, since these usually contain dust, dirt, or abrasions from the grinding-machine, and select the succeeding portions as being free from these impurities. The mica is next mixed with the soluble pyroxyline, both being in a fine state of division, and if camphor is intended to be used as the solvent of the pyroxyline, this may be now added in finely-divided state, and thorough mixture effected in any convenient manner—viz., by a tumbling-box or stirring-machine.

A variety of tints of color may be incorporated with the compound after same has com-

menced to pass into the plastic state, caused by the addition of alcohol or wood-spirit, (rectified, the higher the rectification the better,) when the compound has been submitted to the process of rolling between warmed rolls and the mass has assumed the plastic state. At this stage of the process, by means of a spray-bottle charged with alcohol and coloring-matters, the plastic compound, consisting of mica, pyroxyline, and camphor, as it passes between the rolls, can be made to assume a very beautiful appearance, the variety of colors, the sparkling reflections of the mica, and the pyroxyline, with its translucent properties, each contributing to the result.

Another method of combining mica with pyroxyline consists in first preparing sheets of collodion pyroxyline, either colored, transparent, or opaque, moistening the surface with a solvent of pyroxyline, and scattering over the surface extremely-minute scales of mica, or scales varying in surface, then superimposing another very thin sheet of collodion pyroxyline and subjecting the two sheets to warmth and pressure, so as to form a compound sheet enveloping the mica scales. The superimposed sheet should of course be as transparent as possible, and very thin, in order to obtain the best effects.

Another mode is by preparing very thin sheets of mica, cut into any suitable pattern, and inclosing same between two sheets of pyroxyline moistened with a solvent thereof, and then subjecting same to warmth and pressure until complete union occurs between the body sheet and superficial sheet, between which the mica, either perforated or patterned, will be securely retained.

By these and analogous combinations of mica, pyroxyline, coloring-matters, and inert matters, hereinbefore enumerated, a very brilliant heterogeneous mass or sheets can be formed, conveying the impression, at a first glance, that fused glass has been welded over the mica and other materials. When mica in masses of two or three ounces weight has been exposed to an intense red heat, it exfoliates, loses its transparency, and reflects light so as to resemble matt silver.

In my invention I do not limit myself to the use of transparent mica alone, but include

also mica that has been previously heated until it exhibits this silvery appearance, whether it be used in the form of powder, of scales, or whether perforated or patterned, as described.

5 What I claim as my invention, and desire to secure by Letters Patent, is—

1. The new composition of matter consisting of mica and soluble pyroxyline, substantially as described.

10 2. The new composition of matter consist-

ing of mica, soluble pyroxyline, coloring-matters, and inert substances, to serve as a body thereto, substantially as described.

In testimony whereof I have hereunto set my hand and seal in the presence of two subscribing witnesses.

GEO. M. MOWBRAY. [L. s.]

Witnesses:

J. G. JARVIS,

F. H. SCHAAKE.