

UNITED STATES PATENT OFFICE.

DANIEL G. STAIGHT AND STEPHEN STAIGHT, OF LONDON, ENGLAND.

IMPROVEMENT IN ARTIFICIAL IVORY FOR PIANO-KEYS AND OTHER ARTICLES.

Specification forming part of Letters Patent No. **149,615**, dated April 14, 1874; application filed January 9, 1874.

To all whom it may concern:

Be it known that we, DANIEL GEORGE STAIGHT and STEPHEN STAIGHT, of Charles street, Hatton Garden, London, in the county of Middlesex, England, have invented an Improvement in the Manufacture of Keys of Piano-Fortes and other similarly-keyed musical instruments, of which the following is a specification:

The invention consists in employing alabaster, gypsum, or other variety of the sulphate of lime prepared for that purpose, neutral, or colored, or tinted, as a substitute for ivory or bone in the construction of keys for piano-fortes and other similarly-keyed musical instruments.

The material is prepared by the application of heat and subsequent immersion in white hard varnish, or olive-oil, or in other oleaginous fatty or waxy matter, and then by repeated immersions in water or a weak solution of alum-water heated for the purpose. The object of these repeated immersions is to give a superior finish and hardness to the material, rendering it the better adapted for use on the keys of musical instruments, and the better able to meet the wear demanded of it.

By the use of the alum, the hardness can be varied as may be desired.

The color or tint is imparted by charging the heated water in which the substance is about to be immersed with any particular mordant, dye, or color, according to the usual method of dyeing.

After the material is prepared, as aforesaid, we glue or fasten it to the key-board, and then cut it to its proper form or shape. In cutting we do not cut the material of one uniform thickness, as we cut ivory keys, but vary the thickness to suit the nature of the material.

Having thus described our invention, and means which we adopt in carrying the same into effect, we would have it understood that what we claim is—

As a substitute for ivory or bone in the manufacture of keys of piano-fortes and other similarly-keyed musical instruments, alabaster, gypsum, or other variety of lime, treated and hardened substantially as described.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

DANIEL GEORGE STAIGHT.
STEPHEN STAIGHT.

Witnesses:

JOHN COODE HORE,
ALFRED GEORGE BROOKES.