UNITED STATES PATENT OFFICE.

NATHANIEL WHEELER, OF BRIDGEPORT, CONNECTICUT.

IMPROVEMENT IN FILLING WOOD.

Specification forming part of Letters Patent No. **172,534**, dated January 18, 1876; application filed December 24, 1875.

To all whom it may concern:

Be it known that I, NATHANIEL WHEELER, of Bridgeport, Fairfield county, and State of Connecticut, have invented a new and useful process for filling the grain and finishing the surfaces of woods; and I hereby declare that the following is a full, clear, and exact description thereof.

Heretofore various materials have been used, to fill the grain, in processes of finishing woods, such as pulverized marl, clay, flour, chalk, starch, and different gums, but all are found to have objectionable features in use, which my new process is designed to obviate.

In some of the substances employed, the particles, when powdered, are round or spherical and without angles, and consequently do not readily adhere to each other and unite with the pores of the wood, and others are wanting in durability, and subject to injurious atmospheric action.

I am also aware that various forms of infusorial silicates have been used in mixtures for filling the grain of wood, but these are all very powerful absorbents of liquids, and carry the moisture by the quality of their capillarity into the wood itself, which has to be removed by evaporation before the varnish can be applied to the surface of the wood, and which opens the pores when said moisture is evaporated, and prevents it from being solidified, or producing a hard or smooth surface ready for the varnish.

I use finely-powdered flint, quartz, or feldspar, which are non-absorbents of moisture or liquid of any kind, and which fill the pores of the wood by the particles packing together similar to a concrete, and which are combined with any fluid substance that will permit them being rubbed into the surface, such as oil or varnish, or other similar fluids.

The finely-powdered flint or quartz being so mixed to about the consistency of jelly, and colored, if desired, to match the wood to be filled and polished, I apply the mixture with a pad of cloth or leather to the wood, and rub it into the pores, until they are full, when, by a little continuous rubbing, the surplus material will adhere to the pad or cloth, until the whole surface of the wood is cleaned off, leaving the pores of the wood entirely packed, and when dry presenting a smooth, hard, and glassy surface of great durability, upon which one coat of varnish will produce all the finish desired for fine furniture.

I therefore claim—

In the art of filling wood the employment of finely-powdered flint, quartz, or feldspar, mixed with oil or other fluent substance, substantially as described.

NATHANIEL WHEELER.

Attest:
S. J. GORDEN,
BOYD ELIOT.