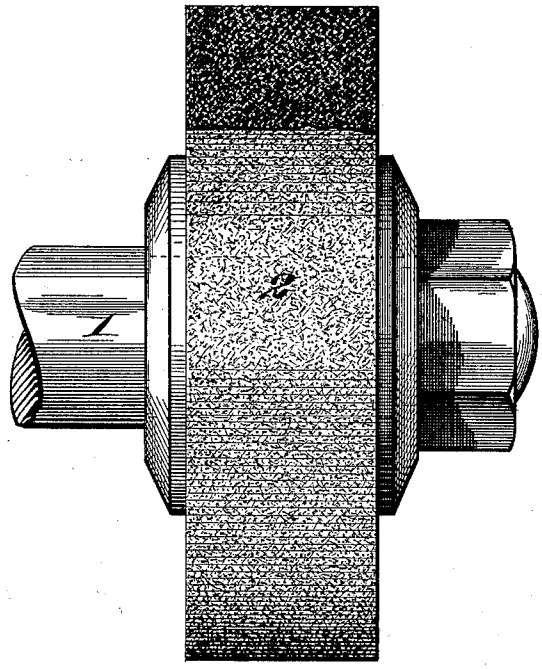
No. 608,877. Patented Aug. 9, 1898.

D. J. LATTIMORE.

ABRADING WHEEL.

(Application filed Oct. 6, 1897.)

(No Model.)



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UNITED STATES PATENT OFFICE.

DANIEL J. LATTIMORE, OF ST. LOUIS, MISSOURI, ASSIGNOR, BY DIRECT AND MESNE ASSIGNMENTS, TO THE GREENLEE BROTHERS & COMPANY, OF CHICAGO, ILLINOIS.

ABRADING-WHEEL.

SPECIFICATION forming part of Letters Patent No. 608,877, dated August 9, 1898.

Application filed October 6, 1897. Serial No. 654,270. (No model.)

To all whom it may concern:

Be it known that I, DANIEL J. LATTIMORE, a citizen of the United States, residing at the city of St. Louis, in the State of Missouri, have invented a certain new and useful Improvement in Abrading Devices, of which the following is a full, clear, and exact description, reference being had to the accompanying drawing, forming a part of this specification.

My invention relates to that class of devices employed in abrading surfaces, such as moldings, for the purpose of imparting to them a smooth surface.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claim.

The drawing shows an edge view of my improved abrading device in the form of a wheel, in elevation, part broken out, mounted upon the fragment of a mandrel.

1 designates the mandrel, and 2 the wheel.

The abrading device is constructed of abrading substance, fiber, and adhesive material that forms a bond to bind or hold the other materials in a firm union.

The abrading material which I prefer to use is sand, emery, corundum, carborundum, pumice-stone, or any other granular material of an abrasive nature. The fiber that I preferably employ is wood-pulp and the adhesive material is glue or other equivalent substance.

In constructing the wheel I take of abrasive material from forty to ninety parts, fiber nineteen parts, and adhesive substance one part. These are thoroughly intermingled into a mass until the desired consistency of the mass is attained and then placed in a press corresponding to the size of the wheel desired to be produced and pressed into the desired shape. The wheel is then dried to acquire the desired degree of hardness, when it is ready for use.

In some instances it is desirable to form the article of greater toughness than it possesses when made of abrasive substance, fiber, and the adhesive substance alone, and in such instances a sufficient amount of salt may be added to give the additional degree of toughness desired. In some instances also it is desirable to form the article of greater hardness than it possesses when made of abrasive substance, fiber, and adhesive substance alone, and in such instances this may be done by adding plaster-of-paris in sufficient quantity to give the desired additional degree of hardness; and should it be desired to make the article both tougher and harder than when made of the abrasive material, fiber, and adhesive substance alone it may be done by adding both salt and plaster-of-paris in quantities sufficient to give to the article the desired degrees of hardness and toughness.

An abrading device constructed in accordance with my invention is of a very efficient nature for abrading the surfaces of wood or other materials, and when the finer abrasive substances are employed excellent results may be obtained in polishing and buffing metals and materials of various kinds.

A wheel constructed in accordance with my invention contains a pliability or elasticity that is of material advantage, owing to its resiliency, owing to its permitting a degree of spring to the wheel which prevents the abrading process from burning the material acted upon, as would result from the employment of an unpliable wheel.

The wheel being of a soft nature permits of its periphery being cut to any desired contour partaking of the shape of an object desired to be abraded or polished. For instance, in preparing the wheel for abrading moldings the molding is held with its end in contact with the periphery of the wheel, and the softness of the wheel permits of the edges of the molding cutting grooves in the wheel's periphery that partake of the contour of the molding, and when formed the face of the molding may be held in contact with the periphery of the wheel and its whole surface be thus abraded and rendered smooth throughout. Any other surfaces, whether plain or otherwise, may also be rendered smooth when operated upon by my improved abrading device.

I claim as my invention—

An abrading device composed of wood-pulp, an abrasive substance, an adhesive substance, and salt as a toughening substance, substantially as described.

DANIEL J. LATTIMORE.

In presence of—

E. S. KNIGHT,

STANLEY STONER.