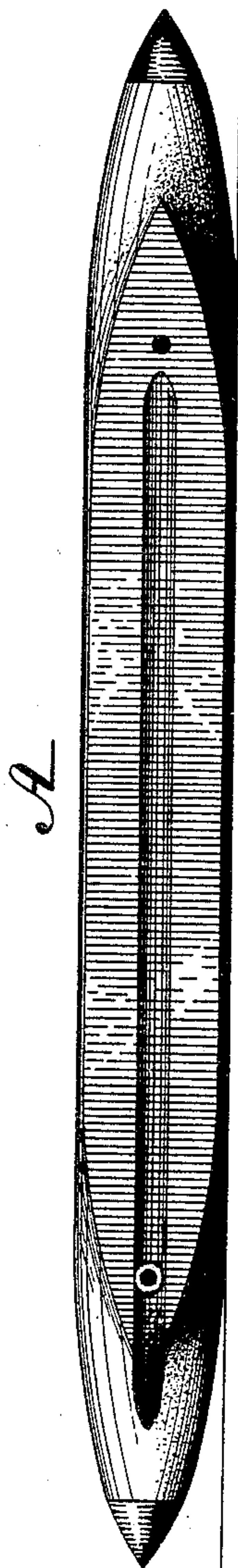


(No Model.)

F. J. HALL.  
LOOM SHUTTLE.

No. 407,201.

Patented July 16, 1889.



WITNESSES

*L. Douville*  
*Jos. K. Platt*

INVENTOR:

*Frank J. Hall*  
BY *W. J. Schuchert* *W. J. Schuchert*  
ATTORNEYS.

# UNITED STATES PATENT OFFICE.

FRANK J. HALL, OF PHILADELPHIA, PENNSYLVANIA.

## LOOM-SHUTTLE.

SPECIFICATION forming part of Letters Patent No. 407,201, dated July 16, 1889.

Application filed April 11, 1888. Serial No. 270,259. (No model.)

*To all whom it may concern:*

Be it known that I, FRANK J. HALL, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Loom-Shuttles, which improvement is fully set forth in the following specification and accompanying drawing.

My invention consists of a loom-shuttle having a body composed of wood which is treated in such manner that it is rendered water-proof, prevented from becoming rough, has increased weight, works with reduced friction, and possesses great durability, as will be hereinafter fully set forth.

The figure represents a loom-shuttle embodying my invention.

Referring to the drawing, A represents a shuttle for a loom, the body of the same being formed of wood, and may be of any suitable shape and construction.

In carrying out my invention I treat the body of the shuttle with paraffine, either under pressure, *in vacuo*, or by boiling, &c., whereby the body becomes coated, saturated, injected, or impregnated with the paraffine.

It is evident that the wood from which the body of a shuttle is made may be similarly treated prior to the conversion of the wood into such body.

It will be seen that the body is rendered water-proof—a feature of great service where wet stock is being woven—has its weight and density increased, whereby it runs true and firm, works with reduced friction, and does not become rough in usage, owing to its unctuous nature, and possesses greater durability, occasioned by the preservative treatment to which it is subjected.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

A loom-shuttle having a body formed of wood treated with paraffine, substantially as and for the purpose set forth.

FRANK J. HALL.

Witnesses:

JOHN A. WIEDERSHEIM,  
A. P. JENNINGS.