Allen & Moody,

Loom Shuttle.

No. 97,147. Patented Nov. 23. 1869.

fig. 1.

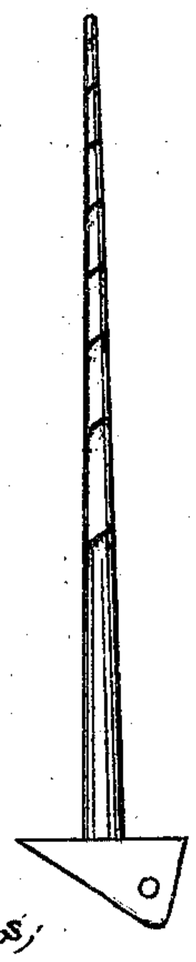

fig. 2.

Witnesses;

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Per W. W. Clifford Atty

United States Patent Office.

N. I. ALLEN AND JAMES C. MOODY, OF BRUNSWICK, MAINE.

Letters Patent No. 97,147, *dated November* 23, 1869.

IMPROVEMENT IN SPINDLES FOR LOOM-SHUTTLES.

The Schedule referred to in these Letters Patent and making part of the same.

To all whom it may concern:

Be it known that we, N. I. ALLEN and JAMES C. MOODY, of Brunswick, in the county of Cumberland, and State of Maine, have invented a new and useful Improved Loom-Shuttle Spindle; and we hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which are seen two views of a spindle, made in conformity with our invention.

The purpose of our invention is to produce a shuttle-spindle that will firmly hold the cop, so that there will be no likelihood of its becoming loose or slipping off, and at the same time allow the cop to be very easily slipped on, when desired, and as easily removed.

It is also our object to produce a spindle of increased durability, and of considerably less cost than as heretofore made.

We construct our spindle of cast-iron, first casting the same as common, and then annealing it.

The spindle is in one whole rod or piece, that is to say, not split, as some are made, with a view to hold the cop, by the enlargement of the spindle, caused by the splitting.

Ours is solid, and tapering toward the free end, as is also common.

The peculiarity of our spindle consists in casting on it a succession of beards or ridges on the outside surface of the spindle, extending half way around the spindle, from centre to centre.

These beards are inclined at a certain angle, as shown in the drawing, and are placed at such distances apart as practice may show to be necessary.

These beards, on the sides toward the point or free end, rise up with a gradual inclination, which inclination fills the whole, or nearly the whole, spaces between two successive ridges, as seen in the drawing; that is, the inclination begins at the base of the ridge or beard, next before or toward the point of the spindle.

On the other end of the beard, it is abrupt, as shown in the drawing, with the view to hold the cop by the friction of it against said abrupt end.

With this arrangement, the cop is placed on by simply pushing it in by the hand, and removed by turning it in such way that the cop slips over the successive beards or ridges.

This is a very advantageous method over any now in use.

We construct our spindle of malleable-iron, thus arriving at greater cheapness, as by the former method of forging and finishing, the expense was very much greater.

We also arrive at the advantage of being able to use a whole or solid spindle, not liable to break, like the split ones, but one which will wear out a number of shuttles.

Furthermore, as the spindle is not apt to break, the spindle-pin has no liability to become loose, by frequent driving in and out, and so protrude and injure the reed, and, consequently, the warp.

The inclination of the beards being in the same direction as the filling is drawn when being delivered, no friction is occasioned by the delivery.

The invention saves waste, inasmuch as the cop cannot be thrown from the spindle by a direct draught or pull upon it.

We do not claim, broadly, a malleable-iron spindle, but only in combination with our improved method of forming a spindle, the said malleable-iron being the material best suited to the formation of such a spindle as is embodied in our device. Neither do we claim the device shown as described in the patent of C. B. Thorpe, No. 162, April 17, 1837, which consists in forming a spiral projecting edge or lip around the surface of the tongues, or cutting notches therein, the said projecting worm or spiral being formed by winding a wire around the tongue. With this form, the cop is much more easily disengaged from the tongue than in the form shown in our invention, which is an interrupted or broken helix, and formed out of the stock or tongue itself. The spiral wire, we are aware, is old, and has been discarded.

What we claim as our invention, and desire to secure by Letters Patent, is—

The improved shuttle-spindle herein described, that is, made of malleable cast-iron, and having the inclined beards or ridges on the surface formed from the body of the spindle itself, and on one side thereof only, as herein described.

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