H. Hall.

Drawing Roller for Spinning.

No. 51,895. Patented Jan. 2, 1866.

Fig. 1.

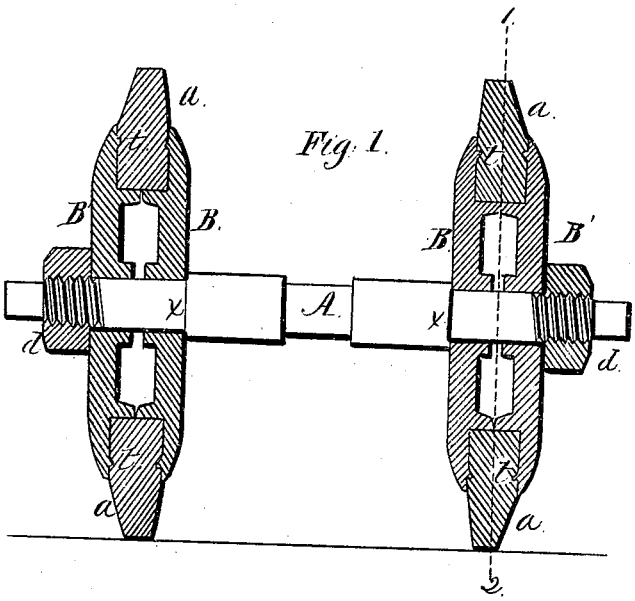
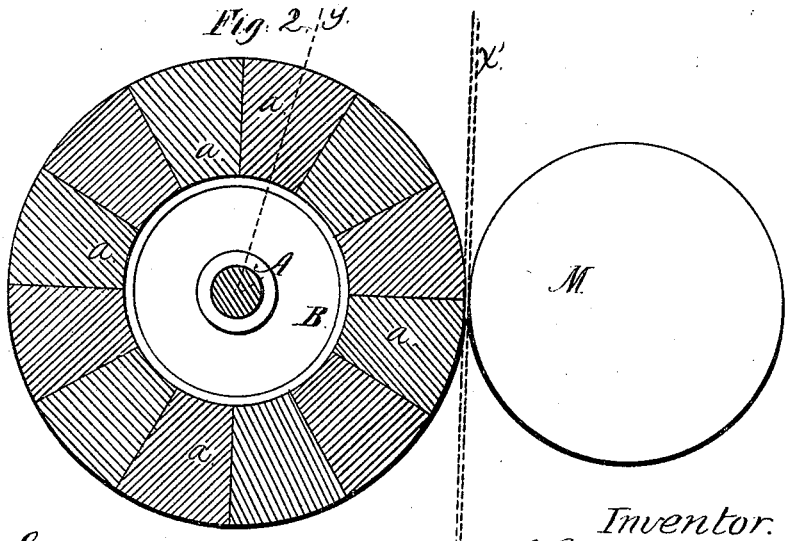


Fig. 2.



Witnesses:

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UNITED STATES PATENT OFFICE.

HENRY HALL, OF LAMBERTVILLE, NEW JERSEY, ASSIGNOR TO HIMSELF AND THOMAS FINLEY, ISAAC SCHLICHTER, AND THOMAS HALL, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN DRAWING-ROLLERS FOR SPINNING HEMP, FLAX, &c.

Specification forming part of Letters Patent No. **51,895**, dated January 2, 1866.

To all whom it may concern:

Be it known that I, HENRY HALL, of Lambertville, Hunterdon county, New Jersey, have invented an Improvement in Drawing-Rollers for Spinning Hemp, Flax, &c.; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon.

My invention consists of a drawing-roller composed of annularly-arranged segments of wood, with its grain in the direction described hereinafter, (the said segments being confined between plates,) so that the periphery of the roller shall be of uniform hardness and much more durable than that of an ordinary wooden drawing-roller.

In order to enable others to make and use my invention, I will now proceed to describe its construction and operation.

On reference to the accompanying drawings, which form a part of this specification, Figure 1 is a sectional view of my improved drawing-rollers for spinning hemp, flax, &c.; Fig. 2, a section on the line 1 2, Fig. 1.

Before describing my invention it will be well to allude to the usual drawing-rollers employed for spinning hemp, flax, jute, and other fibers. Two rollers are used for each strand, one of wood, the other of iron, the rollers being pressed toward each other by weights or otherwise, and the strands of fibers passing between the peripheries of the two rollers. In making the wooden rollers it was usual to cut them from a log and to reduce them to true circular disks by turning them in a lathe. In a roller thus made the direction of the grain of the wood is such that the periphery must be hard in some places and soft in others. As the roller has to act on very tough fibers, the periphery is soon seriously affected, the hardest portion remaining entire, while the soft portion yields and splits off, and this is the case even when a compact and tough wood, such as maple, is used.

The object of my invention has been to overcome this difficulty.

In the drawings, A represents a spindle to which two of my improved drawing-rollers are attached, each roller consisting of two circular plates, B and B′, of cast-iron, between which are confined a series of segments, *a a*, of wood, arranged in the annular form represented in Fig. 2. The plate B bears against the shoulder *x* of the spindle, and a nut, *d*, bears against the plate B′, so that on tightening the nut the wooden segments are securely confined between the two plates, there being no possibility of withdrawing the segments from between the plates, owing to projections *t* on the latter which penetrate the wood. After the segments have been thus secured the peripheries of the rollers are turned perfectly true in a lathe.

In arranging the segments care should be taken that the grain of the wood be as nearly as possible in the direction of radial lines *y*, drawn from the center of the roller, Fig. 2, so that the periphery (between which and that of the roller M the fibrous strand *x′* passes) will be of uniform hardness, none other than the end grain of the wood being presented at the periphery.

I have found in practice that drawing-rollers thus constructed are much more durable, even if the wood of the improved roller be poplar or other light wood cheaper than maple.

I claim as my invention and desire to secure by Letters Patent—

A drawing-roller composed of annularly-arranged segments of wood with its grain in the direction described, and confined between plates, all substantially as and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

HENRY HALL.

Witnesses:
JOHN WHITE,
W. J. R. DELANY.