(142.)

S. S. POTTER.

Improvement in Top Rollers for Spinning Machines.

No. 122,779. Patented Jan. 16, 1872.

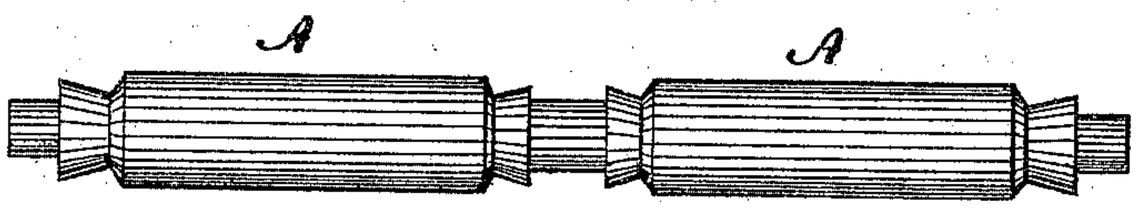

FIG. 1.

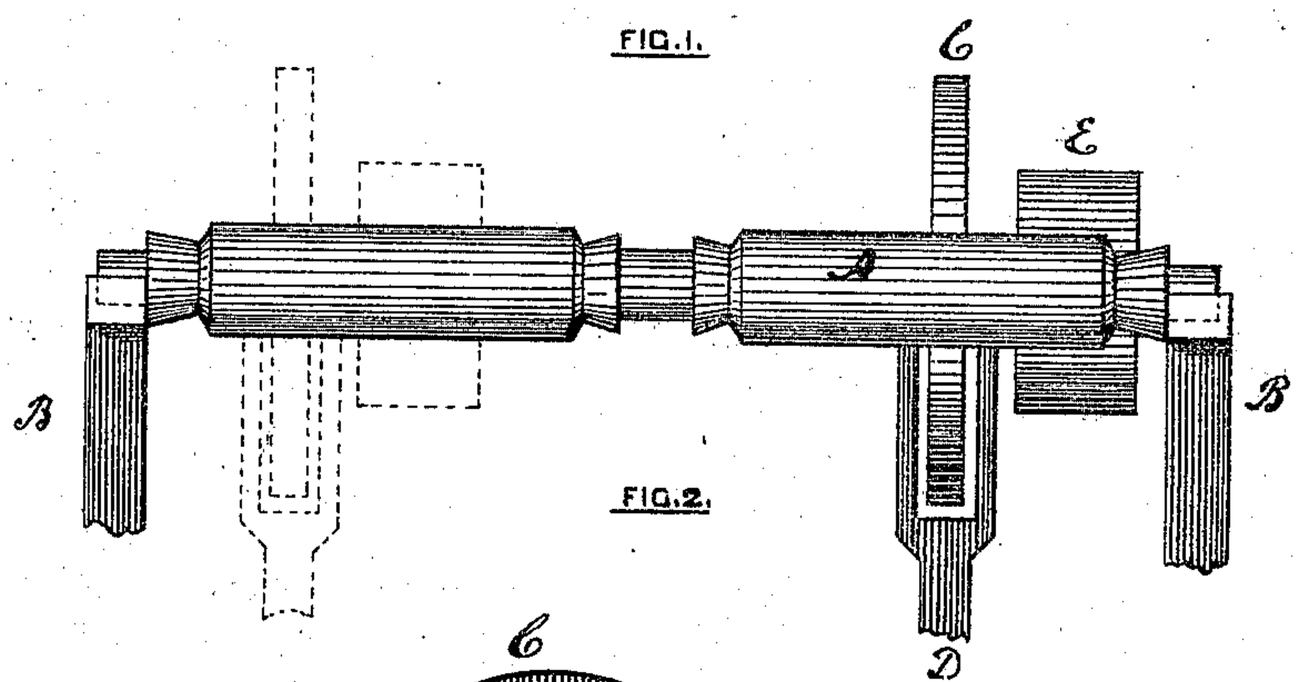

FIG. 2.

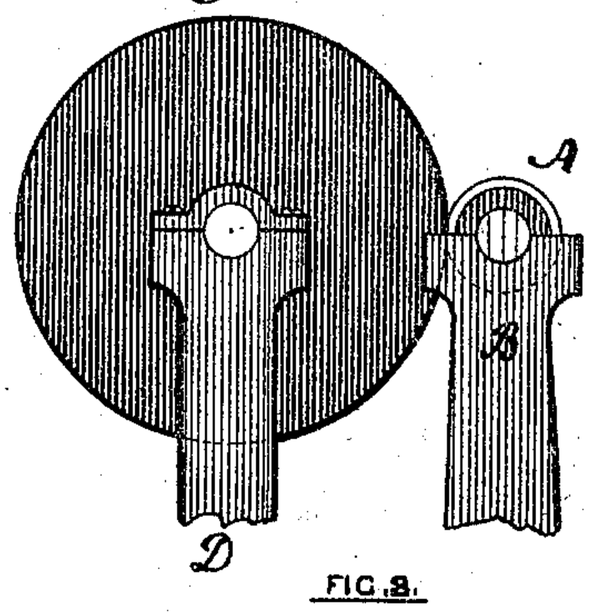

FIG. 3.

WITNESSES.

John D. Thurston

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Atty

UNITED STATES PATENT OFFICE.

STEPHEN S. POTTER, OF CRANSTON, RHODE ISLAND.

IMPROVEMENT IN TOP ROLLERS FOR SPINNING-MACHINES.

Specification forming part of Letters Patent No. 122,779, dated January 16, 1872.

To all whom it may concern:

Be it known that I, STEPHEN S. POTTER, of Cranston, in the county of Providence and State of Rhode Island, have invented a certain new and useful Improvement in the Manufacture of Top Rolls for Spinning; and I do hereby declare that the following specification, taken in connection with the drawing making a part thereof, is a full, clear, and exact description of the same.

My invention relates to that general class of top rolls which are clothed with strips of leather; and it consists in subjecting the peripheral surface of the covered and otherwise-finished roll to the action of rotary or other grinders, by which the exterior or drawing surface of the roll is smoothed, made truly cylindrical, and with its longitudinal exterior surface truly parallel throughout with the line of its axis.

Figure 1 represents a view of a top roller in perspective, full size. Fig. 2 is a view of the roller mounted in an apparatus adapted for grinding the surface. Fig. 3. represents the same in section.

A in all the figures represents one of my improved top rolls. It is readily distinguished from all leather-covered rolls heretofore known to me by reason of the peculiar appearance of the drawing-surface. The seam is barely distinguishable, and, while the hair-pits are clearly defined by their color, they are full and flush with the general surface. The surface is capable of a high finish, and the covered roll is truly cylindrical from end to end. The roll is covered in the usual manner with a strip of leather of suitable grade, and allowed to thoroughly dry and harden, after which it is mounted on standards B, which are provided at their upper ends with bearings for receiving the journals of the roll. C is a rotary grinding-wheel, clothed with sand or other suitable grinding matter, mounted on an arbor, supported by standard D, and provided with a driving-pulley, E. The standards B should be mounted on a carriage capable of a true longitudinal traverse motion, or a similar motion may be applied to the grinding-wheel, in order that the entire length of the roller may be subjected to the uniform grinding action. The grinding-wheel is rapidly revolved while the roll is slowly turned and moved longitudinally to and fro while in light contact with the grinding-wheel. When the surface is truly cylindrical further grinding is unnecessary. It has been practically demonstrated that my improved leather-covered rolls are more durable than rolls made in the usual manner on account of their maintaining an even and uniform pressure against the lower roll; and, therefore, the wear is more regular, and, for the same reason, the drawing action of my improved rolls is more even and true than any other rolls heretofore known with which I am acquainted.

I am aware that top rolls have been heretofore made of layers or washers of leather compressed upon an arbor and subsequently turned off to the requisite diameter. The surface of such rolls is of varying density or hardness, for each piece of leather varies in hardness from the compact outside of the leather to the spongy fleshy side. In my improved roll the surface is of uniform density throughout. In rolls as ordinarily covered the surface is more or less irregular. The extreme outer surface of the natural leather is of a semi-spongy character, while immediately underlying that it is firmer and harder; and by bringing this harder portion to form the drawing-surface the utility and durability of the roll is greatly increased.

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

The improved leather-covered top roll herein described, having its exterior or drawing-surface ground and made truly cylindrical and parallel throughout the entire length with the longitudinal line of its axis, as and for the purposes specified.

STEPHEN S. POTTER.

Witnesses:

JOHN D. THURSTON,

PETER F. HUGHES.

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