

S. Wilson.
Twisting Heads.

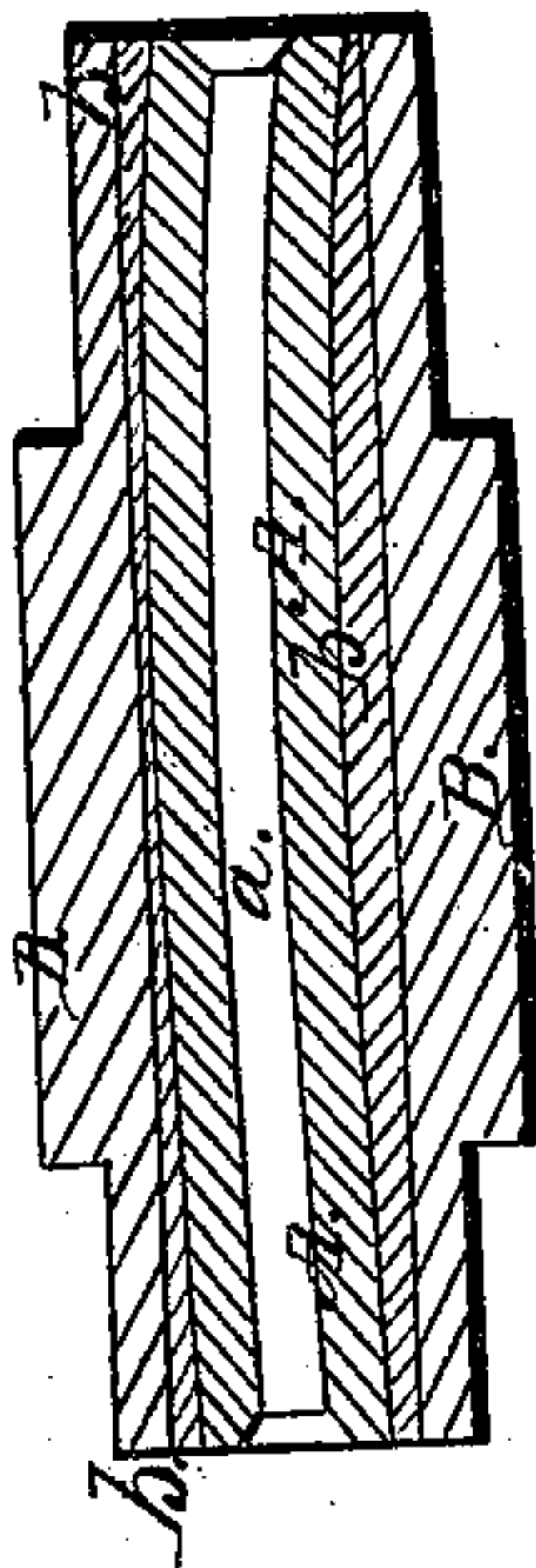
N^o 37,538.

Patented Jan. 27, 1863.

Fig. 2.



Fig. 1.



Witnesses.
J. W. Corbin
Chas. A. Fisher.

Inventor.
S. Wilson
per J. W. Corbin & C.
attys.

UNITED STATES PATENT OFFICE.

SILAS WILSON, OF AUBURN, NEW YORK.

IMPROVEMENT IN CONDENSING-TUBES.

Specification forming part of Letters Patent No. 37,538, dated January 27, 1863.

To all whom it may concern:

Be it known that I, SILAS WILSON, of Auburn, in the county of Cayuga and State of New York, have invented a new and useful improvement in tubes for finishing or condensing cardings of wool or other fibrous material; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a central longitudinal section of a tube with my improvement. Fig. 2 is a transverse section of the same.

Similar letters of reference indicate corresponding parts in both figures.

The tubes commonly employed for finishing and condensing into ropings the slivers received from the doffer of a wool-carding machine have their central passage straight, and are furnished at one end of the said passage with a bail through which the revolution of the tube is made to produce the twist of the roping. This bail is liable to some objections, to wit: Owing to the high velocity at which the tubes rotate, it produces a strong current of air, and it also produces a short bend of the roping, and prevents it from leaving the tube at the center of motion, and by these means there is produced a lateral vibration or tremulous motion of the roping, which tends to produce such a separation and curling of the fibers that the roping will not draw uniformly. This motion also tends to throw the adjacent ropings against each other, and cause their breakage. Again, when a roping breaks, it cannot be introduced through the tube and bail without stopping the machinery.

The object of my invention is to dispense with the bail and accomplish all that is desired of it by means which are not liable to the same objections; and to this end it consists in making the passage through the tube with a curvature, as hereinafter described.

The invention also consists in lining the tube with a curved piece of glass tubing,

which affords a convenient mode of obtaining the longitudinally-curved passage, and which wears better and smoother than a passage formed in the metal of which the external portion of the tube is composed.

The curvature of the passage *a* is best illustrated in Fig. 1. The ends of the said passage are intended to be concentric with the axis of the spindle, and the point of greatest eccentricity produced by the curvature should be at about the middle of its length. The curvature should be as nearly as practicable in the form of an arc of a circle to make it as gradual as possible and avoid any sudden bend. The passage may be simply countersunk at its ends to take off sharp edges, or may be tapered to make it larger at the end through which the sliver enters. When a glass lining-tube, *A*, is used, the easiest way of producing the curvature of the passage will be to bend such tube before inserting it in the main tube *B*, and the latter tube should be bored throughout larger than the exterior of the lining-tube, which, after being inserted in the bore of the main tube, is secured by pouring fusible metal *b* around it. The bending of the tube causes the roping in passing through the tube to rub against one side of the interior of the passage *a* at the middle of its length and upon the opposite side near each end, and so causes the tube to produce sufficient friction upon the roping to give it the desired twist, but not sufficient to injure it in any way.

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

1. Constructing the tube with a curved passage, substantially as and for the purpose herein specified.

2. Lining the tube *B* with a curved piece of glass tubing, *A*, substantially as herein described.

SILAS WILSON.

Witnesses:

JACOB R. HOW,
JOHN WILKIE.