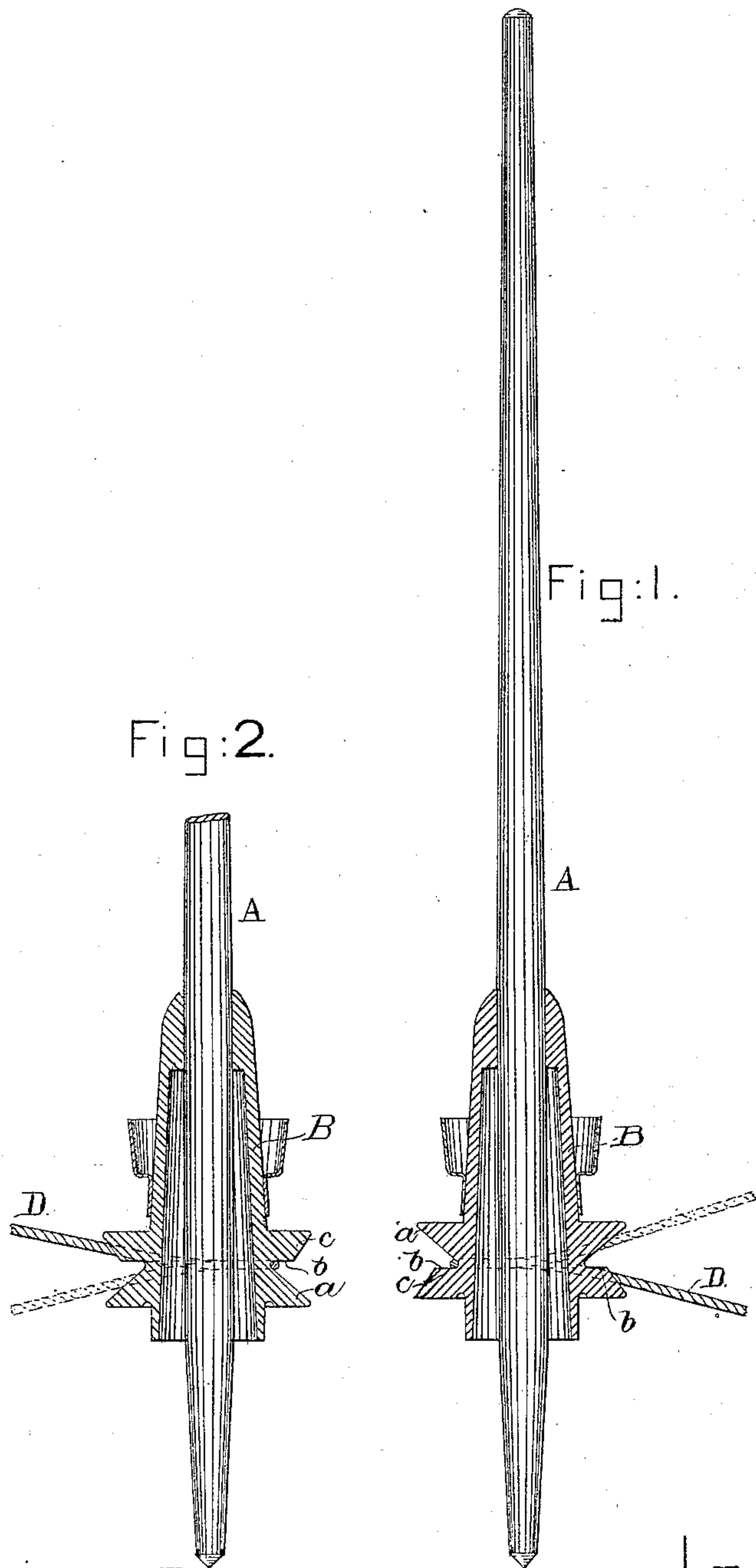


(No Model.)

C. L. L. EMERY.  
WHIRL FOR SPINNING SPINDLES.

No. 436,756.

Patented Sept. 16, 1890.



Witnesses.

*Edgar A. Goddard*  
*Frederick L. Emery.*

Inventor.

*Charles L. L. Emery*  
*by Lemmy & Gregory Attys.*

# UNITED STATES PATENT OFFICE.

CHARLES L. L. EMERY, OF BIDDEFORD, MAINE, ASSIGNOR OF ONE-HALF TO  
GEORGE DRAPER & SONS, OF HOPEDALE, MASSACHUSETTS.

## WHIRL FOR SPINNING-SPINDLES.

SPECIFICATION forming part of Letters Patent No. 436,756, dated September 16, 1890.

Application filed July 2, 1888. Serial No. 278,791. (No model.)

*To all whom it may concern:*

Be it known that I, CHARLES L. L. EMERY, of Biddeford, county of York, State of Maine, have invented an Improvement in Whirls for  
5 Spinning-Spindles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

This invention has for its object to improve  
10 the construction or shape of the whirl in such manner as to enable a comparatively slack band to be employed, and yet it will not injuriously slip on or run off the whirl in the direction of its length.

15 My improved whirl is of peculiar shape or construction—*i. e.*, starting from the small circular band-groove the exterior of the whirl on one side of the groove is tapered uniformly to the circumference of the whirl, while the  
20 metal of the whirl, starting from the other side of the band-groove, is shaped to present a substantially radial shelf at right angles to the bottom of the groove, said shelf extending outwardly for about one-half the distance  
25 between the bottom of the groove and the periphery of the whirl, the whirl from the outer edge of the said shelf being tapered uniformly to the periphery of the whirl, as will be described.

30 My improved whirl is of the minimum size and weight.

Figure 1 in section shows a whirl and a spindle in elevation, and Fig. 2 shows a like view of the whirl and spindle for the opposite  
35 side of the frame.

The spindle A, of usual construction, has secured to it, as herein shown, a sleeve-whirl B, the band-receiving portion of which is of peculiar construction or shape.

40 One half or end of the whirl has given to it the established taper, as at *a*, the smaller diameter of the taper terminating at the band-groove, at which point, preferably substantially the center of the length of the whirl,

the latter is provided with a radial or sub- 45  
stantially flat flange or rest, as *b*, which at a short distance from the bottom of the groove is tapered, as at *c*.

The whirl shown in Fig. 1 is adapted for use at one side of a spinning-frame; but for 50  
the other side of the frame the tapering portion *a* will be exactly reversed, as shown in Fig. 2. The radial flange or rest, starting, as shown, from the tapering portion *a*, makes a whirl of such construction as to enable the 55  
spindle to be rotated with a moderately slack band, and yet the latter will not slip on the whirl sufficiently to do harm and without running off the whirl at its upper or lower end.

I do not claim a whirl having two tapering 60  
surfaces, as in English Patent No. 3,094, old law, nor do I claim a whirl having a curved surface terminated by a flange, as in English Patent No. 506, of 1884.

I claim—

65 The herein-described spindle-whirl, it having a substantially central circular band-groove provided at one side with a tapering surface, as *a*, extending from the bottom of the groove to the circumference of the whirl, 70  
the other side of the groove extending in a straight line from the bottom of the groove at its smallest diameter for about one-half (more or less) of the distance from the bottom of the groove to the circumference of the whirl 75  
to form a surface *b* at right angles to the center of rotation of the spindle, and thence again tapered, as at *c*, in a substantially straight line to the circumference of the whirl, substantially as described. 80

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

CHARLES L. L. EMERY.

Witnesses:

LUTHER T. MASON,  
GORHAM N. WEYMOUTH.