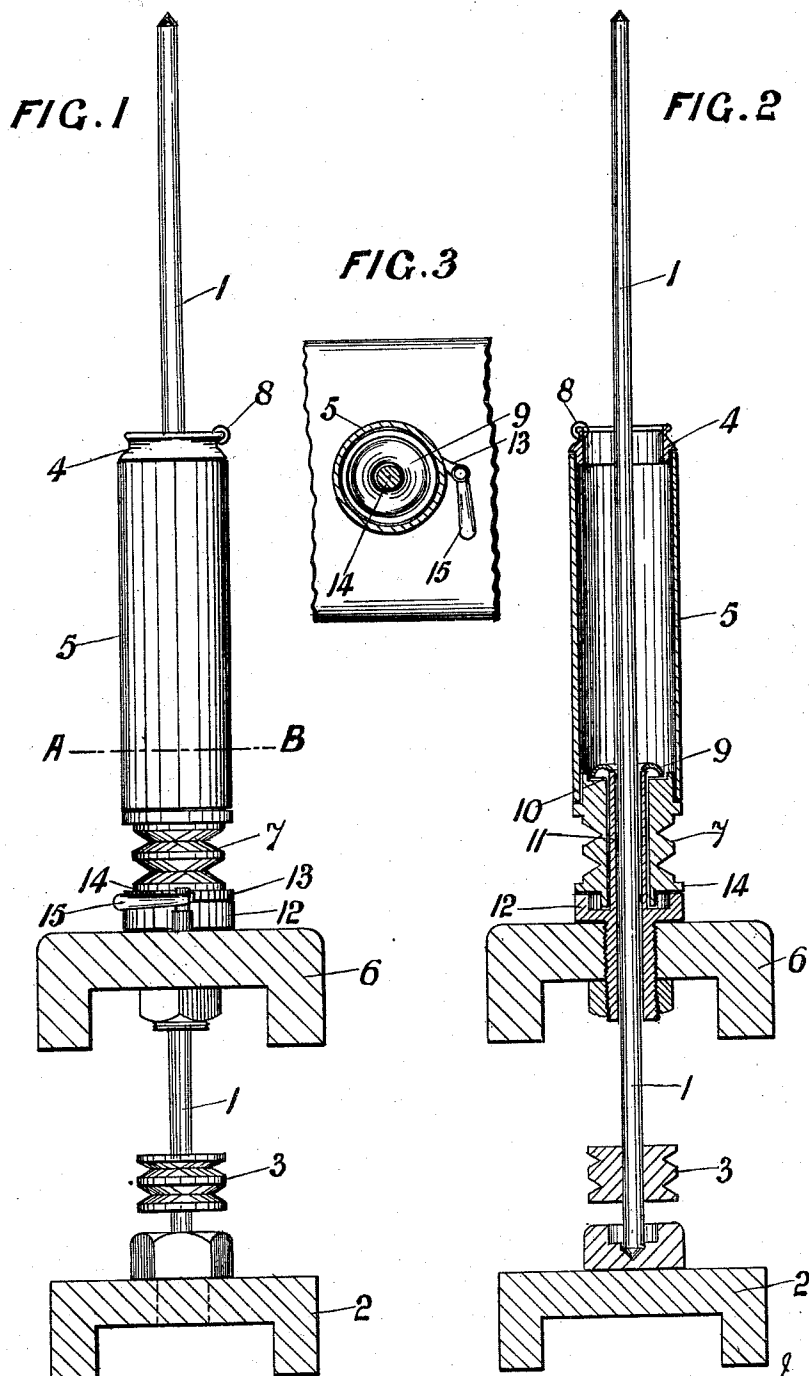


C. RENSHAW, L. FAIRHURST & G. H. CRANSHAW.
RING SPINNING MACHINE.

APPLICATION FILED JAN. 9, 1911.

1,005,877.

Patented Oct. 17, 1911.



Witnesses:

Walter Allen
H. M. Bates

Inventors:

Charles Renshaw,
Lewi Fairhurst, and
George H. Cranshaw
by Herbert W. Jenner, attorney.

UNITED STATES PATENT OFFICE.

CHARLES RENSHAW, LEVI FAIRHURST, AND GEORGE HULME CRANSHAW, OF
BLACKBURN, ENGLAND.

RING-SPINNING MACHINE.

1,005,877.

Specification of Letters Patent.

Patented Oct. 17, 1911.

Application filed January 9, 1911. Serial No. 601,633.

To all whom it may concern:

Be it known that we, CHARLES RENSHAW, LEVI FAIRHURST, and GEORGE HULME CRANSHAW, residing at 100 Taylor street, Blackburn, in the county of Lancaster, England, have invented certain new and useful Improvements in or Connected with Ring-Spinning Machines; and we do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in or connected with ring spinning frames or machines for spinning cotton, silk, worsted, wool and other fibers, and of the class in which the ring and traveler are mounted upon or carried by an independently driven tube or cylinder whereby the drag or strain on the yarn is reduced and fine counts can be produced.

The present invention comprises an elongated spindle driven by a whirl directly applied to it and a long collar or sleeve on the spindle and supported by the lifter rail and on the collar or sleeve and supported in an oil cup in the lower part of the collar or sleeve is the base of a whirl carrying a tube or cylinder on which is the ring and traveler. A curved washer is employed to prevent the oil flying from the oil cup or collar or sleeve onto the spindle and a brake or retarding device is applied to the whirl of the tube or cylinder to facilitate threading the yarn through the traveler.

Referring to the drawings which form a part of this specification:—Figure 1 is a view in elevation of the improved device. Fig. 2 is a sectional view of Fig. 1. Fig. 3 is a sectional plan view on line A. B. of Fig. 1.

According to this invention we employ an elongated spindle 1 of ordinary construction and carried on a spindle rail 2 and driven by the whirl 3 and a band in the ordinary manner. The ring 4 is mounted on the top of a tube or cylinder 5 carried on the lifter rail or on a fixed rail 6. The tube or cylinder 5 is provided with a whirl 7 and is driven by

a band from a cylinder or drum in any well known manner. The ring 4 is provided with a traveler 8 as ordinary, and the spindle 1 is concentric with the tube or cylinder 5 and ring 4, and the spindle rail 2 and spindles thereon may be raised and lowered and the tubes or cylinders 5 and rings 4 remain on the same plane, or the spindle rail 2 and spindles remain on the same plane and the rail 6 and tubes or cylinders 5 and rings 4 be raised and lowered in the ordinary manner.

The spindles 1 and tubes or cylinders 5 and rings 4 thereon are driven from independent cylinders or drums by means of cords or bands in the usual manner.

Inside the tube or cylinder 5 is a curved washer 9 which prevents oil from the cup 10 flying up the spindle 1.

The whirl 7 forming the base of the tube or cylinder 5 rotates upon the long collar or sleeve 11 forming a part of the oil cup 12 bolted to the rail 6 the base of the whirl 7 resting in the oil cup 12.

The spindle 1 and tube or cylinder 5 may be driven in the same direction at different speeds or in reverse directions according to the amount of drag required which when the ring 4 is driven in the same direction as the spindle 1 can be reduced to a minimum.

To facilitate threading the yarn through the traveler 8 each tube or cylinder 5 is preferably provided with a checking or stopping device or brake (see Fig. 3) which may be in the form of a catch or pawl 13 brought into mesh with the serrated edge of the flange 14 on the base of the whirl 7 the catch or pawl 13 being provided with a thumb piece or lever 15 by which it can be moved when necessary.

Having now described our invention what we claim as new and desire to secure by Letters Patent is:—

The combination, with a rail, and an oil-cup secured thereto and provided with a tubular bearing, of a whirl journaled on the said bearing and receiving oil from the said oil-cup, a cylinder secured to the said whirl, a ring provided with a traveler and

mounted on the said cylinder, a long spindle journaled in the said bearing and projecting above the said ring and cylinder, a curved washer arranged over the said bearing and
5 preventing the oil from rising up the spindle, means for supporting the said spindle and operating to drive it independent of the said cylinder.

In testimony whereof we affix our signatures, in presence of two witnesses.

CHARLES RENSHAW.

LEVI FAIRHURST.

GEORGE HULME CRANSHAW.

Witnesses:

ROBERT VALENTINE JENNINGS,

HARRY METCALF.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."
