

J. COOPER.
SLIVER FUNNEL FOR TEXTILE MACHINERY.
APPLICATION FILED FEB. 4, 1910.

984,195.

Patented Feb. 14, 1911.

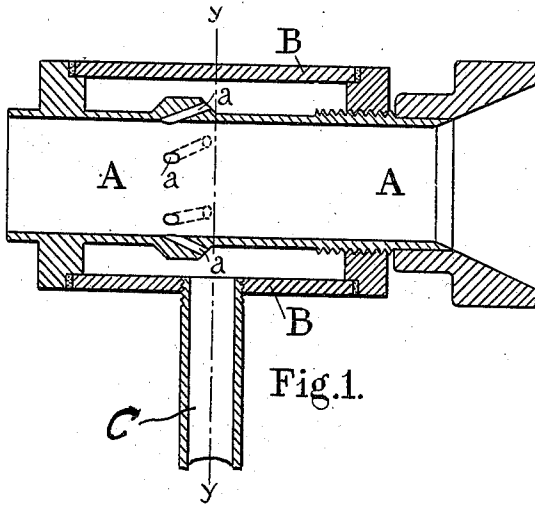


Fig. 1.

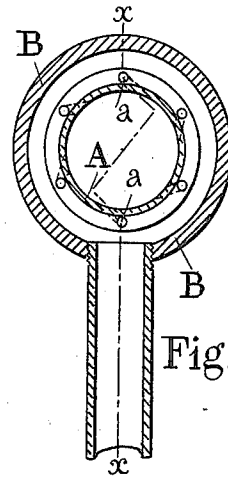


Fig. 2.

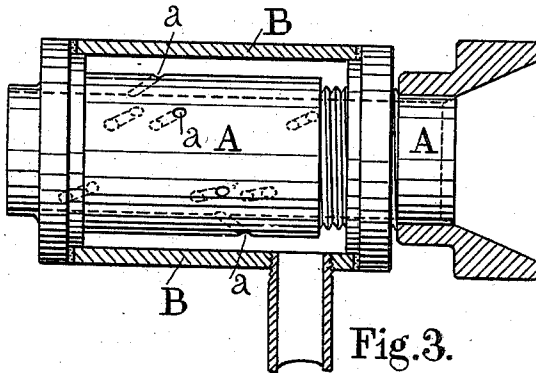


Fig. 3.

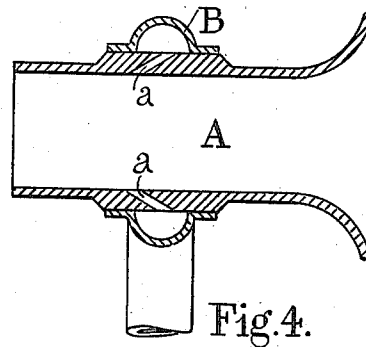


Fig. 4.

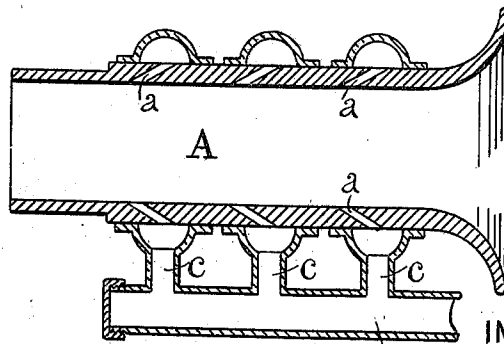


Fig. 5.

WITNESSES.

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UNITED STATES PATENT OFFICE.

JOSEPH COOPER, OF ILKLEY, ENGLAND.

SLIVER-FUNNEL FOR TEXTILE MACHINERY.

984,195.

Specification of Letters Patent.

Patented Feb. 14, 1911.

Application filed February 4, 1910. Serial No. 541,973.

To all whom it may concern:

Be it known that I, JOSEPH COOPER, a British subject, residing at Ilkley, county of York, England, have invented certain new and useful Improvements in Sliver-Funnels for Textile Machinery, of which the following is a specification.

This invention relates to funnels—such as are employed in various machines for treating fibers preparatory to spinning,—for collecting or drawing off the fiber in the form of a sliver from rollers or other parts of the machine. In treating of wool—especially—it is customary to give a rotary movement to the funnels in order to give a twist to the fibers to cause the latter to collect and hold together during their transference from one part of the machine to another or to a coiler.

This invention is designed to provide a funnel which will give the desired twist to the sliver without mechanical rotation and which will also be more efficient in gathering up and carrying forward the sliver.

It consists essentially in forming the funnel to receive a blast or current of air in the direction of travel of the sliver to which a whirling or spiral movement is given the fibers being carried forward and twisted to the desired extent by the current of air.

The invention will be fully described with reference to the accompanying drawings, forming part of the specification.

Figure 1 is a longitudinal section on line $x-x$ Fig. 2. Fig. 2 is a transverse section, on line $y-y$ Fig. 1. Fig. 3 is a longitudinal section of a modified form. Fig. 4 is a longitudinal section of another modification. Fig. 5 is a longitudinal section of another modification.

The funnel A is formed with a number of small air inlets or perforations a in its sides. The perforations or air inlets a are drilled or formed at an inclination to the longi-

nal axis and obliquely to the vertical axis to direct the air toward the outlet of the funnel, and at the same time to give a whirling or spiral movement to the air current around the interior of the funnel. The perforations or air inlets a may be arranged annularly or spirally around the exterior of the funnel.

Around the funnel to inclose the holes a a chamber is formed by a casing B into which air under pressure is introduced by a pipe C the air from there issuing through the holes a into the interior of the funnel, as in Figs. 1, 2 and 3.

If desired a separate perforated air tube C' may be carried along the exterior of the funnel A with thin tubes or openings c therein to connect with the air inlets a as in Fig. 5.

The induced current draws the fiber into the funnel and the whirling current set up therein twists it, carries it along and delivers it at the other end.

What I claim as my invention and desire to protect by Letters Patent is:—

A device for collecting and drawing off slivers comprising a funnel provided with air inlets disposed at an angle to the longitudinal axis and also arranged oblique to the vertical axis to direct currents of air forwardly in the direction of the longitudinal travel of the sliver and to impart to the currents a whirling motion, an inclosed air chamber in communication with said inlets, and means for supplying air under pressure to said chamber.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

JOSEPH COOPER.

Witnesses:

AUGUSTUS E. INGRAM,
RD. B. NICHOLLS.