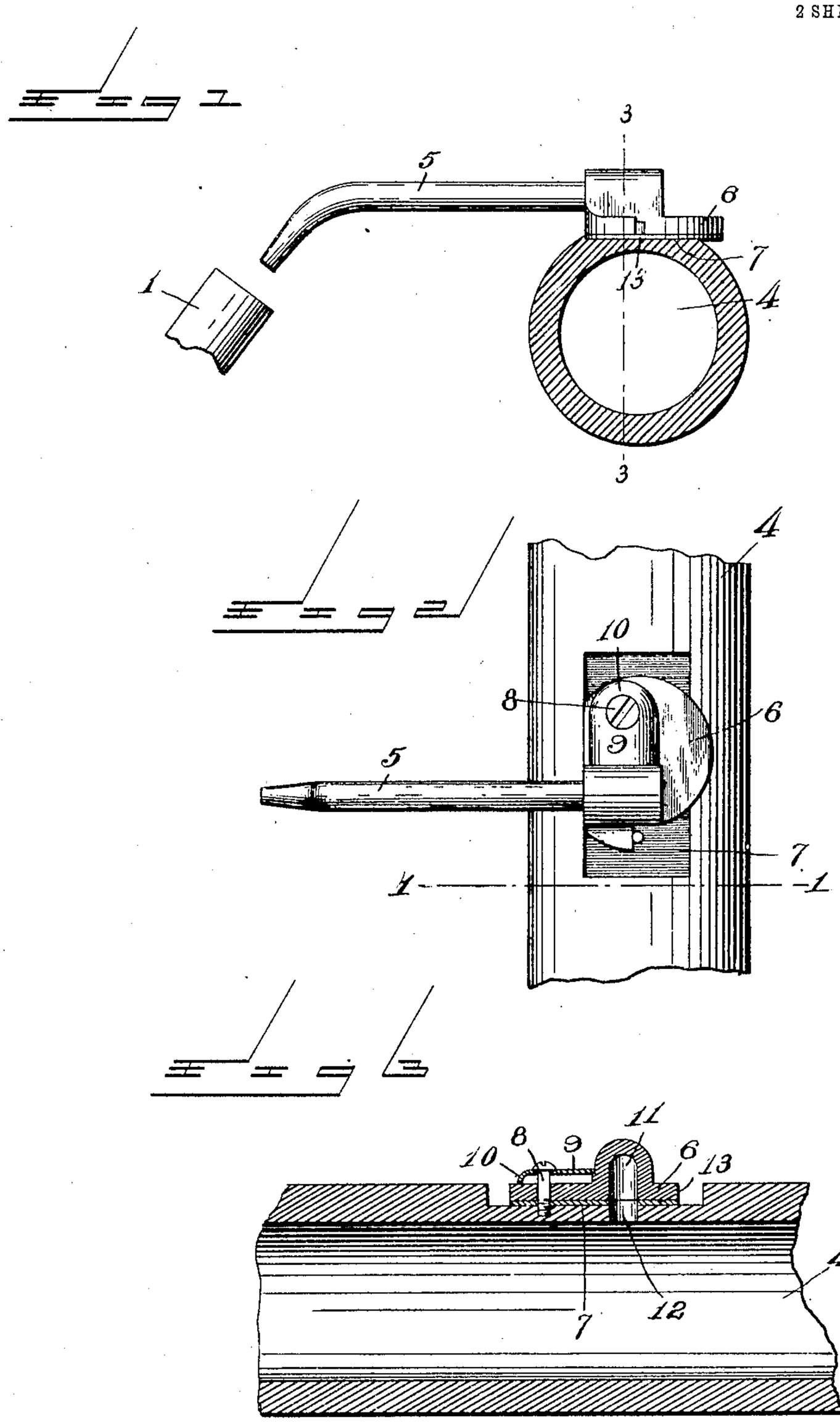
No. 871,910. PATENTED NOV. 26, 1907.

F. A. BREEZE.

PNEUMATIC THREADING DEVICE FOR SPINNING MACHINES.

APPLICATION FILED OCT. 27, 1904.

2 SHEETS—SHEET 1.



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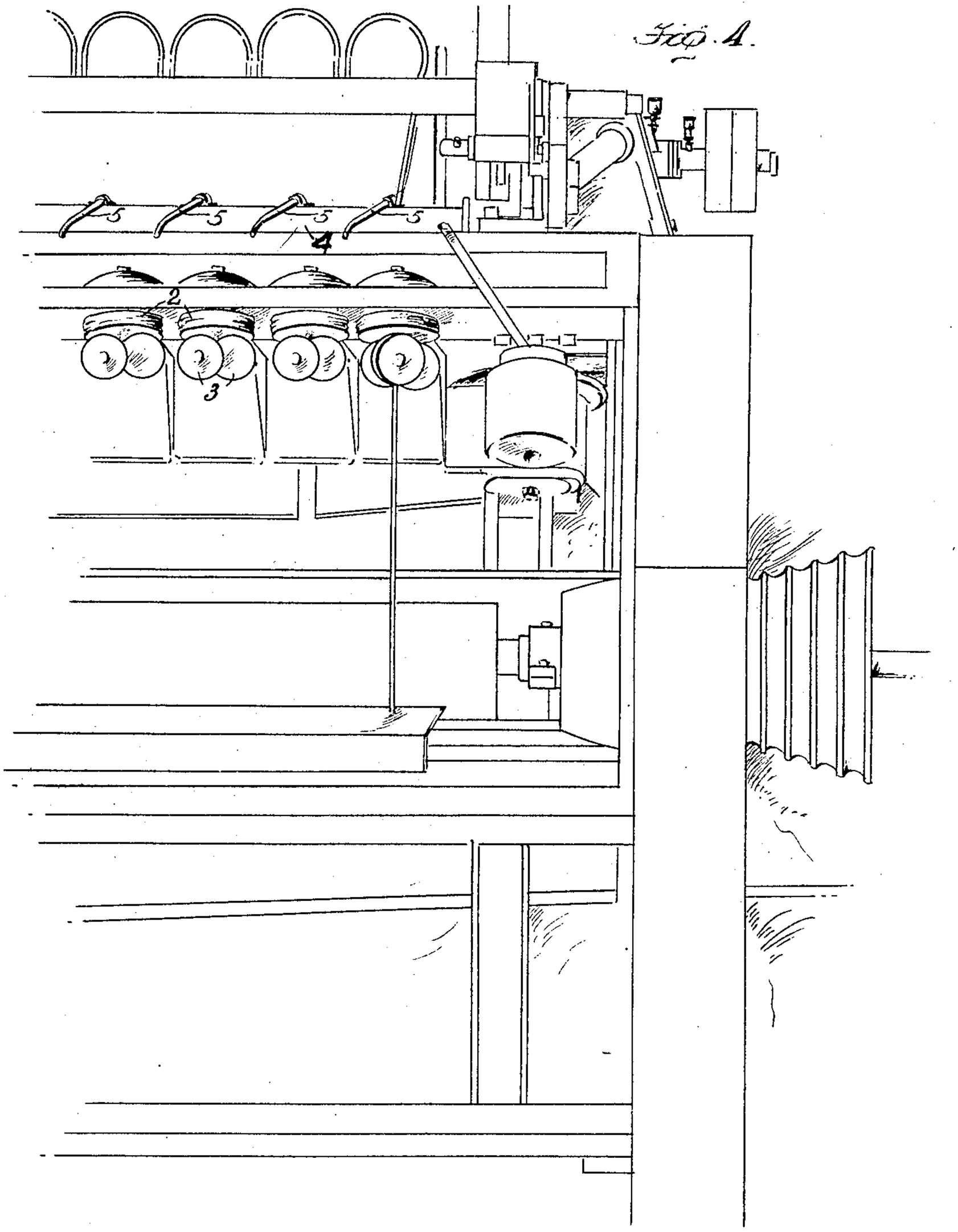
2 SHEETS—SHEET 2.

Fig. 1.



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PNEUMATIC THREADING DEVICE FOR SPINNING-MACHINES.

No. 871,910. Specification of Letters Patent. Patented Nov. 26, 1907.

Application filed October 27, 1904. Serial No. 230,248.

To all whom it may concern:

Be it known that I, FRANK A. BREEZE, a subject of the King of England, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful Pneumatic Threading Device for Spinning-Machines, of which the following is a specification.

My invention relates to a pneumatic device for threading spinning machines, and it consists in the constructions, combinations and arrangements herein described and claimed.

The object of my invention is to provide a simple and efficient means for passing the sliver, or other textile material, through the spinning tube and head during the operation of the spinning machine; whereby the sliver can be mended without stopping the machine.

My invention consists primarily in means for directing a jet of air, or other suitable fluid, through the spinning tube of a spinning machine, and discharging the jet from said spinning tube against the revolving rollers of the spinning head to prevent accidental lapping of the sliver around said rollers.

In the accompanying drawings, forming a part of this application and in which similar reference numerals indicate corresponding parts in the several views: Figure 1 is a sectional elevation, on the line 1—1 of Fig. 2; illustrating one embodiment of my invention; Fig. 2 is a detail plan view, showing one of the air nozzles and the adjacent portions of the air conduit; Fig. 3 is a sectional view on the line 3—3 of Fig. 1, and, Fig. 4 is a perspective view, showing a portion of a spinning machine with my invention applied thereto.

Referring to the drawings, 1 indicates a spinning tube and 2 indicates a spinning head provided with revolving rollers 3; these elements being common to existing types of machines.

An air conduit 4 is shown extending adjacent to the several spinning tubes 1 of a spinning machine, and provided with a plurality of nozzles 5 for directing jets of air through the several spinning tubes 1. Each nozzle 5 is shown carried by a valve-plate 6, which is pivotally secured on a flattened portion 7 of the conduit 4. I have shown such pivotal support comprising a screw 8 threaded into the conduit 4 and extending loosely through the valve-plate; a flat spring 9, provided with a curved portion 10, being confined beneath the head of said screw for insuring the proper pressure of the valve-plate against its flattened seat.

Each valve-plate 6 is provided with a channel 11 communicating with the bore of the nozzle 5 carried thereby. Each flattened portion 7 of the conduit 4 is provided with an aperture 12 in position to register with the corresponding channel 11 when the valve-plate is rotated on its pivot 8 to swing the nozzle 5 into position to discharge into the adjacent spinning tube 1. It will thus be seen that when the nozzle 5 has been shifted to discharge into the tube 1, air will be admitted to said nozzle through the aperture 12 and channel 11; and that, when the valve-plate 6 has been swung about its pivot 8 to remove the nozzle from operative position, the channel 11 will be swung out of registry with the aperture 12 and communication between the conduit 4 and nozzle 5 thereby cut off.

If desired, a packing 13 of leather, or other suitable material, may be interposed between the contiguous faces of the valve-plate 6 and its flattened seat 7, for insuring a satisfactorily tight contact therebetween.

My invention is adapted to be readily and cheaply attached to many existing types of spinning machines, and it provides a very efficient and convenient means for introducing a sliver, or other textile material, to said machine while in operation.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. The combination with a spinning machine provided with a series of spinning tubes, of a common air conduit, a series of independent nozzles mounted on said conduit, each of said nozzles being mounted for independent rotation to operative position for directing a jet of air from said common conduit through the adjacent spinning tube, and spring means for maintaining said nozzles in closed position, substantially as described.

2. The combination with a spinning ma-

chine provided with a spinning tube, a spinning head, and rollers carried by said head, of an air conduit, a nozzle rotatably supported on said conduit for directing a jet of air through said tube, and a spring plate for insuring a close contact between said tube and conduit, substantially as described.

In witness whereof I have hereunto set my hand in the presence of two witnesses.

FRANK A. BREEZE.

Witnesses:
JAMES G. B. MCAULEY,
JOHN H. EBERLE.