

No. 656,605.

Patented Aug. 21, 1900.

S. S. MILLER.

APPARATUS FOR PLACING INNER TUBES OF PNEUMATIC TIRES ON MANDRELS.

(Application filed May 15, 1899.)

(No Model.)

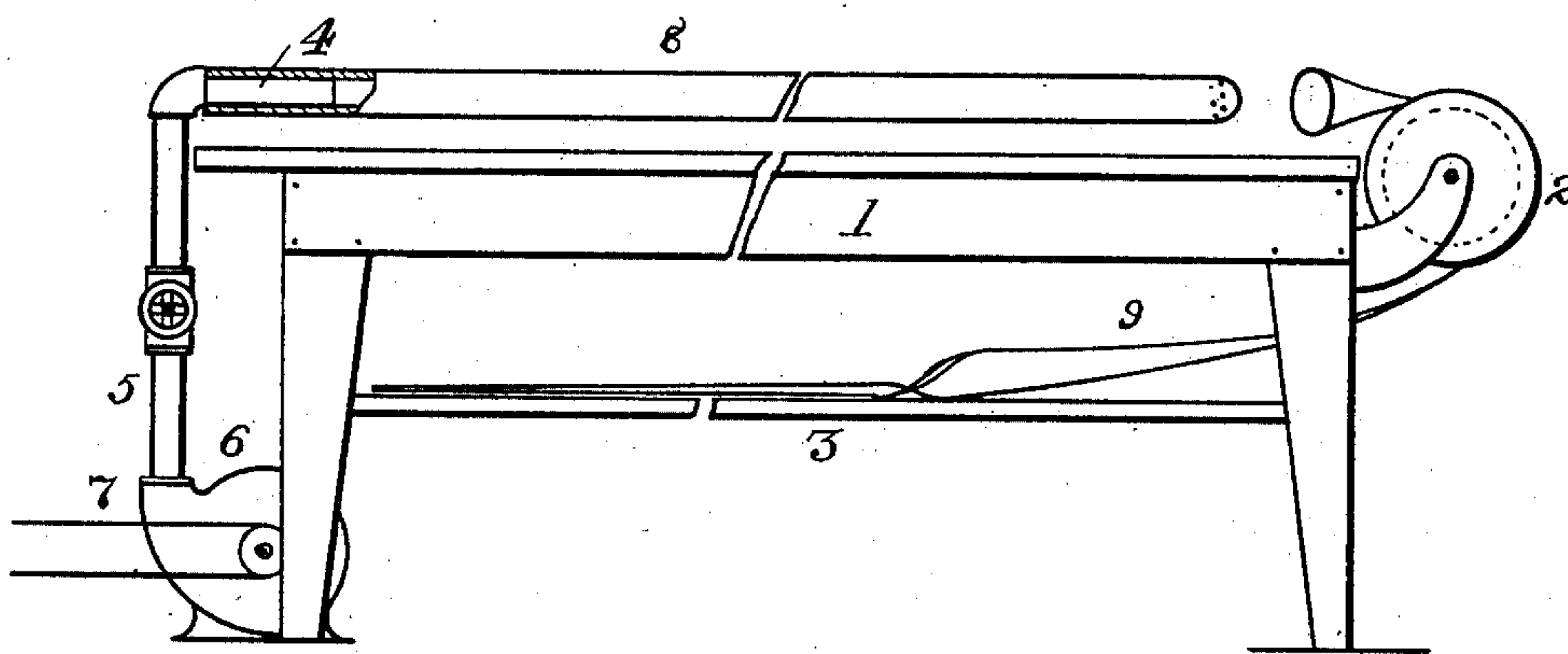


Fig. 1.

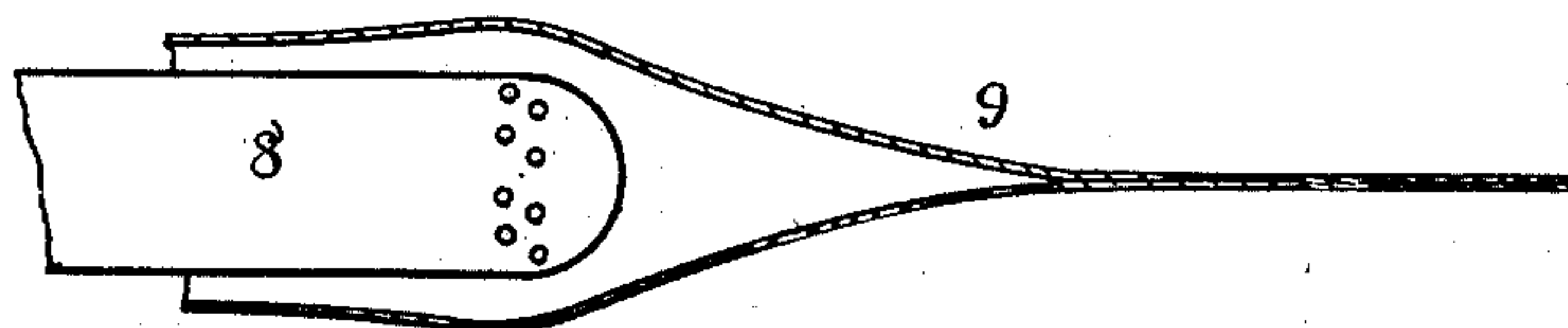


Fig. 2.

Witnesses:

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APPARATUS FOR PLACING INNER TUBES OF PNEUMATIC TIRES ON MANDRELS.

SPECIFICATION forming part of Letters Patent No. 656,605, dated August 21, 1900.

Application filed May 15, 1899. Serial No. 716,895. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN S. MILLER, a citizen of the United States, residing at Akron, in the county of Summit and State of Ohio, have invented a certain new and useful Improvement in Apparatus for Placing Inner Tubes of Pneumatic Tires on Mandrels, of which the following is a specification.

My invention has a general relation to the manufacture of pneumatic rubber tires for bicycles of the class that has an inner lining or tube of rubber on which the subsequent layers are placed in building up the tire, and it has especial relation to improvements in devices for placing the inner lining on the mandrel on which the tire is built. In making such tires difficulty is found in placing this inner tube on the mandrel owing to the thinness of the material and its cohesive character, which frequently results in tearing this inner tube.

The object of my invention is to provide means by which this operation may be quickly and easily performed without tearing or straining the tube.

To the aforesaid object my invention consists in the peculiar and novel construction, arrangement, and combination of parts hereinafter described and then specifically pointed out in the claims, reference being had to the accompanying drawings, forming a part of this specification.

In the accompanying drawings, in which similar reference-numerals indicate like parts in both views, Figure 1 is an elevation of my improved apparatus; and Fig. 2, an enlarged view of a part of the air-tube and a portion of an inner tube, illustrating the operation of my device.

Referring to the figures, 1 is a table of sufficient length to permit the operation of the hollow mandrel, at one end of which table is a roller 2 to permit the free movement of the rubber tubes 9 from an under shelf 3. At the opposite end of the table a pipe 4 extends a short distance horizontally over the table and is connected with means for forcing a blast of air through it. This air-blast may be produced by any well-known means; but for the purpose of showing a complete operative machine it is here shown connected by a pipe 5 with a fan 6, arranged to be driven by a belt 7 from any available source of power.

The inner mandrel 8, on which the rubber tube is to be placed, is a tube or pipe, smooth on the outside, adapted to slide on the pipe 4 and having the opposite end rounded and perforated. In operation the mandrel 8 is dusted with powdered soapstone and one end placed on the pipe 4, a blast of air being forced through it by the fan 6, which is constantly running. One of the inner tubes 9 is then drawn from the lower shelf 3 around the roller 2, the end opened by hand, and the perforated end of the mandrel 8 inserted. The operation of the air-blast is to immediately inflate the tube 9, as illustrated in Fig. 2, and it is then drawn forward gently and quickly by hand on the mandrel until it has reached the desired position thereon. The mandrel, with the tube thereon, is then removed, to be used in building up the rest of the tire, and another mandrel substituted. In operation a number of mandrels are employed, being successively substituted as each one is covered, and thus a great number can be covered with great rapidity and without injury or strain to the inner tube.

I claim as my invention—

1. The combination with a pipe having an open end, and means of forcing a blast of air through said pipe, of a hollow mandrel to enter the inner tube of a rubber tire, having one end adapted to fit on said pipe, and the other rounded and perforated substantially as shown and described and for the purpose specified.

2. The combination with a supporting-table of a pipe open at one end, extending over one end of the table, a roller at the opposite end around which to draw inner tubes for pneumatic tires, and a hollow mandrel adapted to enter said inner tube, having one end adapted to form a detachable connection with said pipe, and with the other end rounded, and means for forcing a current of air through said pipe and mandrel, substantially as shown and described.

In testimony that I claim the above I hereunto set my hand.

STEPHEN S. MILLER.

Witnesses:

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