G. N. TAYLOR.

YARN MOISTENING DEVICE.

APPLICATION FILED JULY 6, 1917.

1,240,625. Patented Sept. 18, 1917.

Fig. 1.

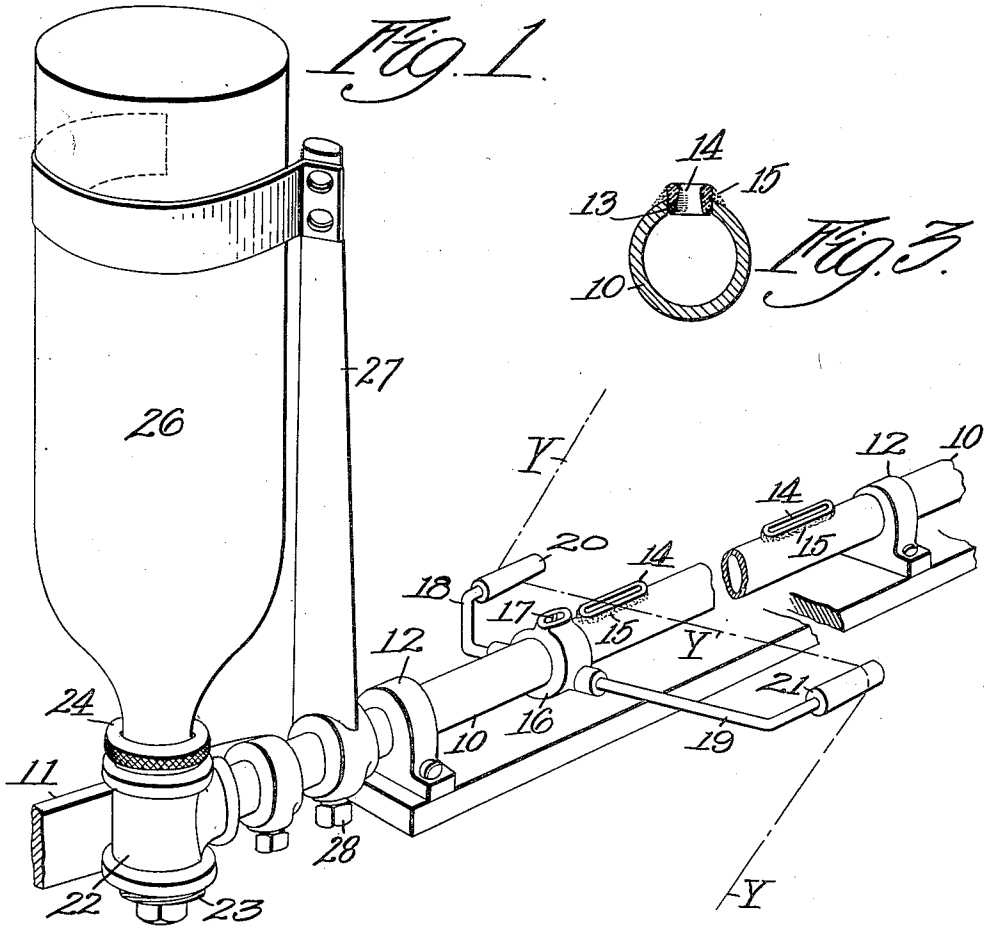
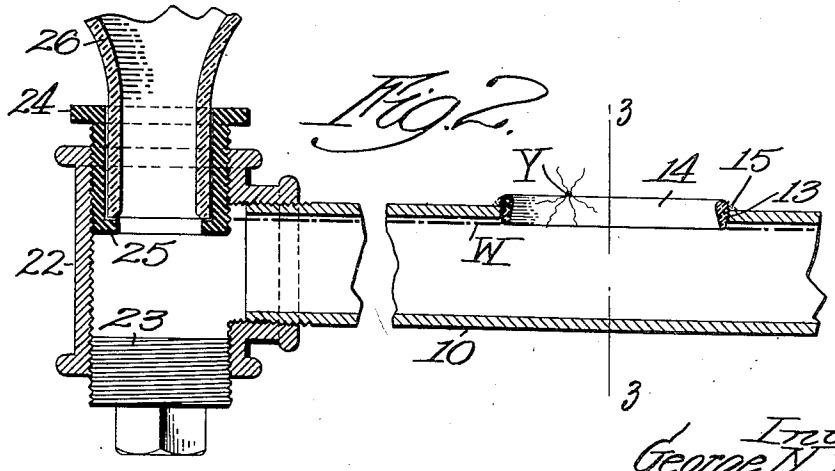


Fig. 3.

Fig. 2.



Witness:
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YARN-MOISTENING DEVICE.

1,240,625. Specification of Letters Patent. Patented Sept. 18, 1917.

Application filed July 6, 1917. Serial No. 179,082.

To all whom it may concern:

Be it known that I, GEORGE N. TAYLOR, a citizen of the United States, residing at East Providence, in the county of Providence and State of Rhode Island, have invented a new and useful Yarn-Moistening Device, of which the following is a specification.

This invention relates to a yarn moistening device capable of general application but particularly designed for moistening woolen or worsted yarn during the winding operation.

The device depends for its principle of operation upon the fact that such yarn is covered with a great number of loose fiber ends which project in all directions, and furthermore that the yarn in passing through a winding machine is always twisting about its own axis to a greater or less extent.

Having these facts in mind, it is the object of my invention to provide an improved yarn moistening device in which the yarn is suitably guided adjacent a surface of water but without touching the same, the radiating loose fiber ends only engaging the water surface and thus absorbing the slight amount of water necessary to moisten the yarn.

With this general object in view, important details of my invention relate to the provision of a horizontal distributing pipe extending lengthwise of the winding machine, said pipe having a plurality of spaced openings therein, and to the provision of bushings firmly secured in said openings, said bushings being formed of porcelain or other smooth and wear-resisting material and furnishing a suitable surface over which the yarn is guided by devices provided for the purpose.

My invention further relates to certain arrangements and combinations of parts hereinafter described and more particularly pointed out in the appended claims.

A preferred form of my invention is shown in the drawings in which—

Figure 1 is a perspective view of my improved moistening device;

Fig. 2 is a vertical sectional view taken along the center of the distributing pipe, and

Fig. 3 is a transverse sectional view taken along the line 3—3 in Fig. 2.

Referring to the drawings, my improved moistening device includes a distributing pipe 10 extending horizontally lengthwise of the machine to which the device is applied. This pipe may be securely supported in position in any convenient manner as by arms 11 and brackets or stands 12.

The pipe 10 is provided with a series of spaced openings 13, said openings corresponding in position to the spacing of the spindles and related parts of the winding machine. Each opening 13 is provided with a bushing 14 preferably having the section and outline shown herein. Each bushing is firmly secured in an opening 13 and may be retained therein by an application of cement 15. A series of collars 16 are adjustably secured to the pipe 10 by set screws 17, one of these collars being provided for each opening 13 and bushing 14.

Each collar 16 has oppositely extending arms or rods 18 and 19 upon which guide rolls 20 and 21 are rotatably supported. The rolls 20 and 21 are so positioned that the yarn Y is drawn into contact with the outer or upper edge of the bushing 14, as shown in Figs. 1 and 2. When passing over the bushing in this position the radiating loose fibers engage the water surface W, thus taking up the necessary slight supply of moisture.

I will now describe the devices for maintaining the water supply at a predetermined level. In the form shown in the drawings a pipe fitting 22 commonly known as a T is threaded on to the end of the pipe 10, the downwardly extending passage being closed by a plug 23. A bushing 24 is threaded into the upwardly extending passage and is provided with a shoulder 25 upon which is supported a water receptacle 26. The receptacle does not form a close fit in the bushing, however, and air is permitted to enter the bushing around the neck of the receptacle. The receptacle is held in vertical position by an arm 27 secured by a set screw 28 to the pipe 10.

With this construction the water level in the pipe will be maintained at a point at which it just covers the opening in the neck of the receptacle 26, preventing the passage of air into said receptacle. As soon as the water level falls below the neck of the receptacle a certain amount of air is admitted to said receptacle and water flows out until the neck of the receptacle is again closed, the water being thus restored to its original level. By adjusting the bushing 24 the re-

ceptacle may be raised or lowered, thus regulating the water level to any desired point. The device is therefore entirely automatic in its operation and it is found to be peculiarly effective in actual use.

Having thus described my invention, it will be evident that changes and modifications can be made therein by those skilled in the art without departing from the spirit and scope of my invention as set forth in the claims, and I do not wish to be otherwise limited to the details herein disclosed, but what I claim is:—

1. A yarn moistening device having, in combination, a horizontally extended pipe, means to maintain water at a predetermined level in said pipe, said pipe having spaced openings therein, bushings fitted in said openings, and means to guide the yarn over said bushings and adjacent the surface of the water whereby said yarn is moistened.

2. A yarn moistening device having, in combination, a horizontally extended pipe, means to maintain water at a predetermined level in said pipe, said pipe having spaced openings therein, porcelain bushings fitted in said openings, and means to guide the yarn toward and away from said bushings and adjacent the surface of the water, whereby said yarn is moistened.

3. A yarn moistening device having, in combination, a horizontally extended pipe, a water reservoir, adjustable means effective to control the flow of water from said reservoir to said pipe, whereby the water level in said pipe may be held substantially at a predetermined point, said pipe having spaced openings therein, wear-resisting bushings cemented in said openings, a pair of guide rolls for each bushing, and means for supporting said rolls on either side of said pipe, said means being adjustably secured to said pipe.

In testimony whereof I have hereunto affixed by signature.

GEORGE N. TAYLOR.