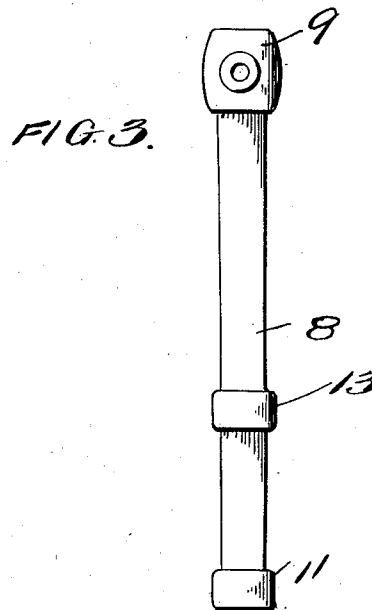
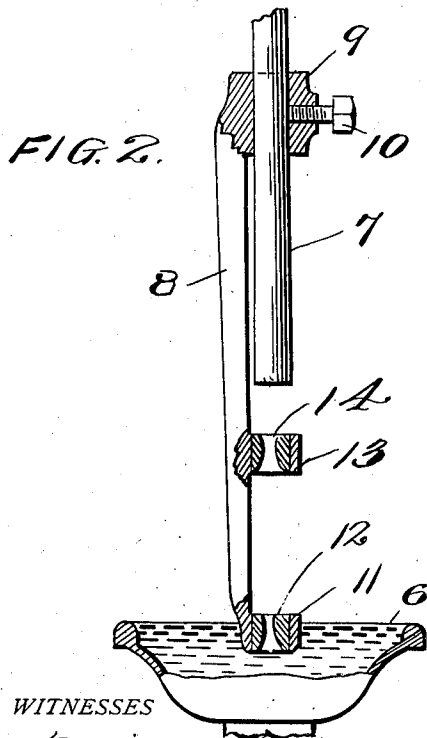
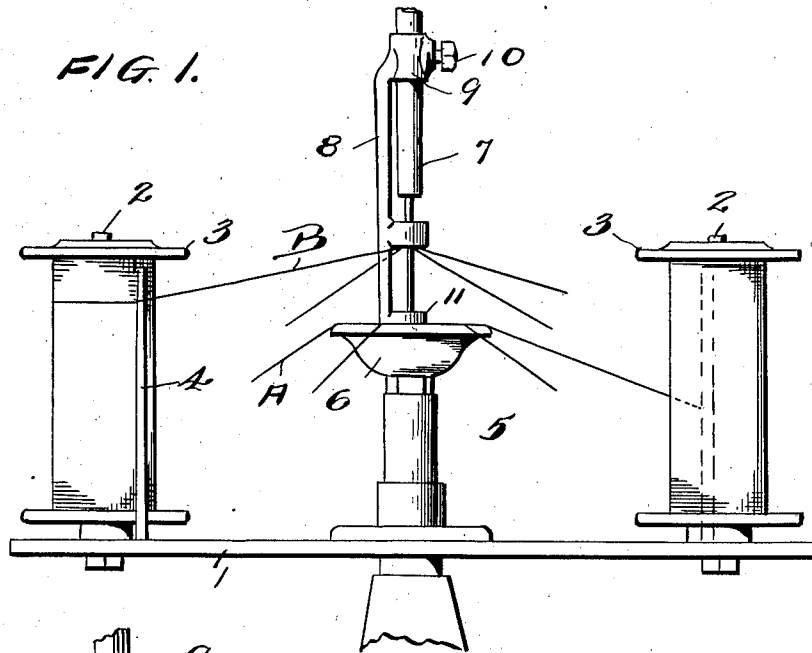


S. Y. AUSTIN & R. DALLIS.
 TWISTING MACHINE.
 APPLICATION FILED MAR. 18, 1912.

1,050,786.

Patented Jan. 21, 1913.

2 SHEETS-SHEET 1.



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2 SHEETS-SHEET 2.

FIG. 4.

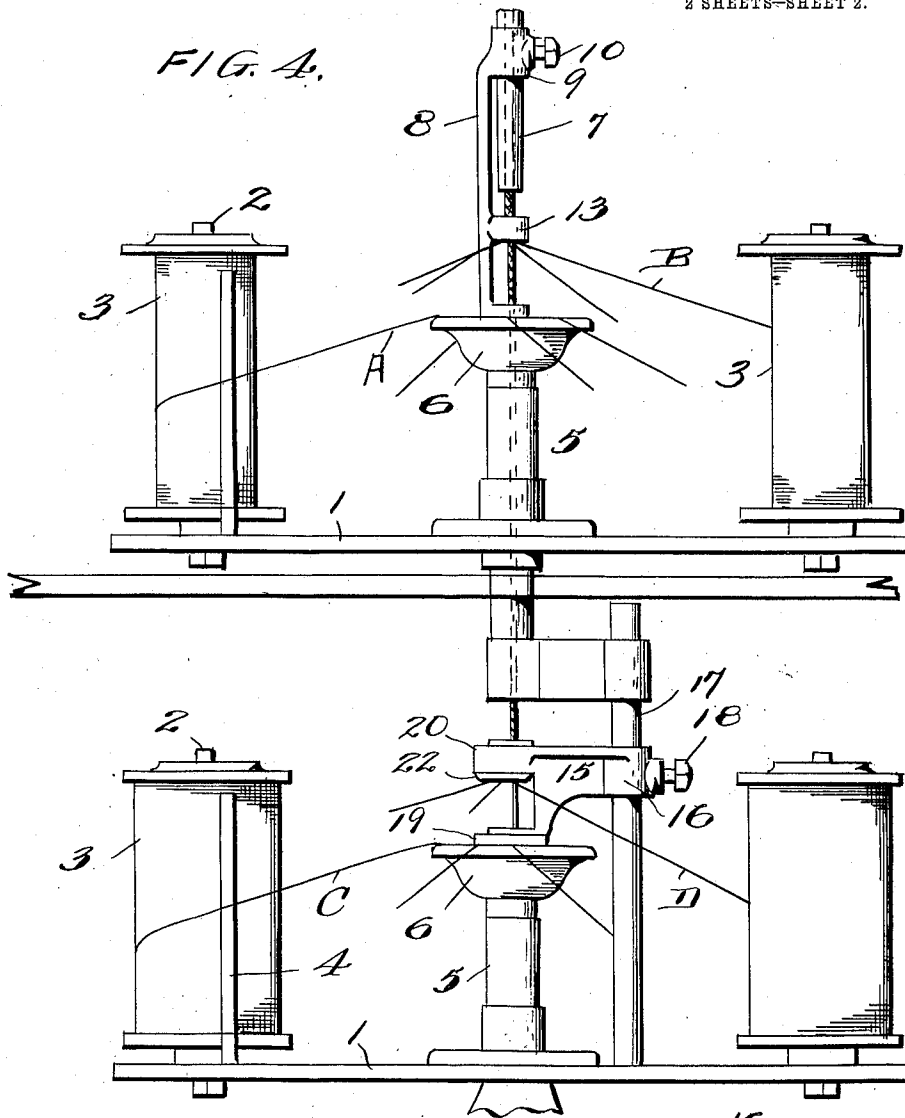
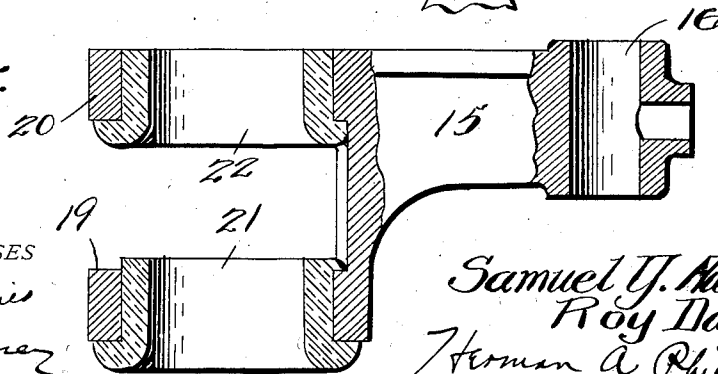


FIG. 5.



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TWISTING-MACHINE.

1,050,786.

Specification of Letters Patent.

Patented Jan. 21, 1913.

Application filed March 18, 1912. Serial No. 684,559.

To all whom it may concern:

Be it known that we, SAMUEL Y. AUSTIN and ROY DALLIS, citizens of the United States, residing at Lagrange, in the county of Troup and State of Georgia, have invented certain new and useful Improvements in Twisting-Machines, of which the following is a specification.

The present invention relates to improvements in twisting machines for making cord or twine.

In the manufacture of cord or twine, by means of the twisting machines as commonly used, it is desirable and necessary that the cord or twine be moistened to give added strength to the cord and, also to give the cord a smooth appearance, the latter characteristic resulting from the passage of the moistened strands through a compressor. In moistening the strands that are to be twisted into the manufactured cord or twine, if an excess moisture is present the manufactured cord is likely to become mildewed and is thus rendered worthless, while on the other hand if a paucity of moisture is applied to the strands as they are twisted into the cord, the cord or twine resulting is below the required standard for strength and appearance. It will thus appear that to produce the highest quality cord or twine, it is necessary that the quantity of moisture applied to the strands shall be governed and regulated, and it is the object of this invention to provide a machine by which the wet strands and dry strands, as they are being twisted into cord or twine shall be proportioned to produce the highest quality twine, so far as the factor of wetting the strands bears upon the manufacture of the cord.

A further object of the invention is the provision of means whereby a broken thread or strand may be incorporated or twisted into the cord in the process of manufacture, thus eliminating a broken end or ends in the finished article.

The invention consists essentially in the combination in a twisting machine, with its compressor or die, of an auxiliary guide for the strands, by means of which certain proportions of the strands that go to make up the twisted cord, may be moistened and combined with strands that are permitted to remain dry, to produce high grade material.

In the accompanying drawings we have illustrated two examples of physical embodiment of our invention, constructed according to the best modes we have so far devised for the practical application of the principles, and which have proven highly efficient in actual operation in twisting machines.

Figure 1 is a view in elevation of so much of a twisting machine as is necessary to illustrate the principles of the invention as applied to a machine known as a medium high-ply twister. Fig. 2 is a sectional detail view, enlarged, of the die and its guide, and immediate connections. Fig. 3 is a front view of the combined die and guide. Fig. 4 illustrates the invention adapted for use on a maximum high-ply twisting machine, and Fig. 5 illustrates a sectional view of the modified device as used in the machine illustrated in Fig. 4.

In the drawings we have illustrated a standard type of twisting machine, in which the rotatable creel 1 carries a series of pintles 2 upon which the spools 3 are rotatably supported and from which the strands or fibers are guided over the guide rods or pins 4.

Supported upon, and adapted to rotate with the creel 1 is a pedestal or base 5 upon which the hollow basin 6 is mounted. This basin or cup is adapted to contain water or other liquid, and is fed from a suitable source of supply not shown, and, as is well known, is for the purpose of wetting or moistening strands or fibers in the process of twisting them into threads or cords. The cord or twine, after being twisted is drawn through the tube 7 and wound upon a reel as usual.

For the purpose of wetting or moistening certain strands to be twisted into thread we employ means for submerging the threads in the water contained in the basin 6. This means or device comprises a bracket arm 8 formed with an attaching sleeve 9; which, through the medium of the set screw 10 may be adjusted and secured on the tube. At its extreme lower end, the bracket is fashioned with an open ring or collar 11, in which a compressor or guide ring 12 having a restricted passage therethrough, is firmly seated. A suitable distance above the guide ring 11, a second ring 13, integral with the bracket 8, is lo-

cated and this ring contains the die 14, of usual or suitable construction.

In operation, it will be understood that the spools are rotating, and the threads are being drawn from their spools and twisted into cord or twine. It will be observed that strands, as A, are drawn from the spools and pass over the edge of the basin 6, into and through the water in the basin, and are twisted as they pass through the compressor 12. These twisted strands pass upwardly to and through the die 14, and in their passage therethrough are twisted with the strands B, which are drawn from their spools in dry condition, into the completed cord or twine. The passage of the wet strands through the compressor 12, and of the twisted wet and dry strands through the die 14 serves to compactly lay the strands in manner to produce highest quality cord.

It will be apparent that the proportion of wet strands to dry strands may be varied to suit conditions, by the simple operation of passing more or less of the strands A through the water in the basin 6. In this manner the desired and required consistency of the wetted or moistened cord, as a whole, may be prearranged and predetermined, and a uniformly excellent product result.

In Fig. 4, the adaptation of the invention to a maximum high-ply twisting machine is illustrated. In this form of the invention, there are two creels, the upper one showing substantially the same construction as Fig. 1, and the lower one wetting the strands C, while the strands indicated at D remain dry. These initial strands C and D, pass through the water and a guide, and through a die, respectively. For this purpose the form of the device is somewhat modified, and the bracket which is formed with the adjusting sleeve 16, may be secured on the upright post 17 by means of the screw 18. A pair of rings or holders 19 and 20 are fitted with the guide rings 21 and 22 respectively, and the ring 21 accommodates the wet strands C, while the ring 22 receives the dry strands D. Thus the high-ply cord is twisted, and it will be understood that the proportion of

wet strands C, as well as the proportion of the wet strands A, may be varied until the desired result is obtained in the consistency of the cord.

From the above it will be apparent that all the strands may be saturated with water, or that none of them are to be moistened, or that only the desired proportion will be saturated or submerged in the water basin.

A meritorious feature of the invention also resides in the ability of the device to eliminate objectionable ends of broken threads or strands. To overcome this trouble the broken end of yarn may be taken up, through the lower guide holder, and as the end passes through the die, it is securely bound down and twisted to the inside of the cord by the threads or strands entering above the guide and direct into the die.

Having thus fully described the invention, what we claim as new and desire to secure by Letters Patent is:—

1. In a twisting machine for making twine, the combination with spools containing strands and a basin containing water, of a bracket supported above the basin and having an integral guide ring in the water for directing a portion of said strands therethrough, and a second ring located above said guide ring for receiving saturated strands and certain dry strands direct from said spools.

2. In a twisting machine for making twine, the combination with spools containing strands and a basin containing water, of a bracket having a guide ring in the water for directing a portion of said strands therethrough, and a second ring located above said guide ring for receiving saturated strands, and certain dry strands direct from the spools, a sleeve having a restricted opening forming a compressor in the lower ring, and a sleeve forming a die with restricted opening therethrough in the upper ring.

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

SAMUEL Y. AUSTIN.
ROY DALLIS.

Witnesses:

I. B. GRIMES,
H. C. ASH.