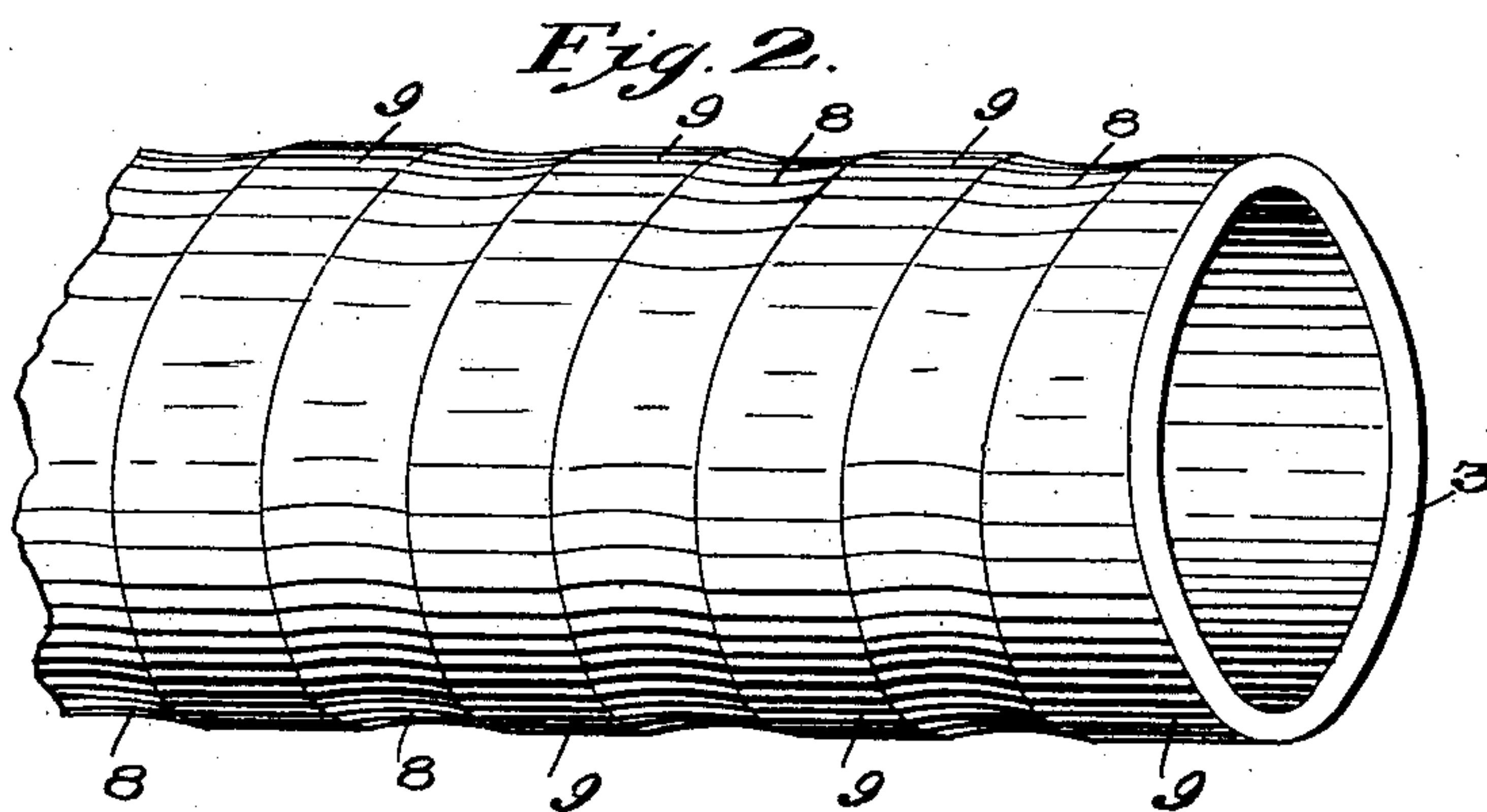
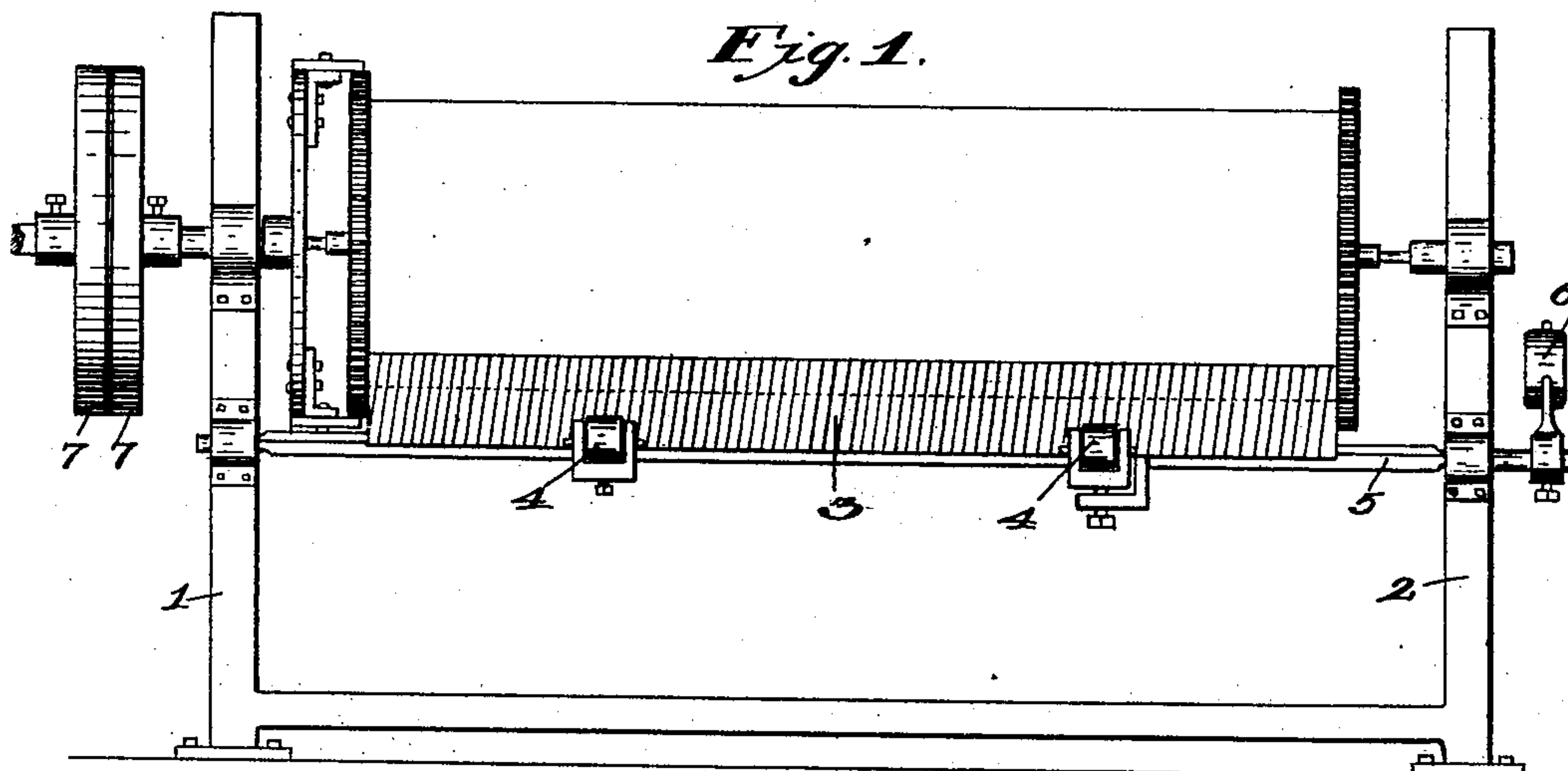


No. 762,433.

PATENTED JUNE 14, 1904.

D. McTAGGART.
COMPRESSION ROLL FOR SLASHERS.
APPLICATION FILED JULY 8, 1902.

NO MODEL.



Witnesses

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UNITED STATES PATENT OFFICE.

DAVID McTAGGART, OF WORCESTER, MASSACHUSETTS.

COMPRESSION-ROLL FOR SLASHERS.

SPECIFICATION forming part of Letters Patent No. 762,433, dated June 14, 1904.

Application filed July 8, 1902. Serial No. 114,731. (No model.)

To all whom it may concern:

Be it known that I, DAVID McTAGGART, a citizen of the United States, residing at Worcester, in the county of Worcester and Commonwealth of Massachusetts, have invented a new and useful Improvement in Compression-Rolls for Slashers, of which the following is a specification accompanied by drawings forming a part of the same, in which—

Figure 1 is a view in end elevation of a portion of a slasher with my improved compressing-roll in operative position. Fig. 2 is an enlarged view of a portion of my improved compressing-roll.

Similar reference-figures refer to similar parts in the different views.

The object of my present invention is to provide a compressing-roll for slashers in which the pressure exerted upon the warp is confined to a limited area of its surface in contradistinction to its entire surface, as heretofore; and my invention consists in certain novel features of construction and combination of parts, which will be hereinafter described, and pointed out in the claims.

Referring to the accompanying drawings, 1 and 2 denote portions of the frame in which the rotating warp-beam is journaled, and 3 indicates my improved compressing-roll, which is adapted to enter between the heads of the warp-beam in the usual manner and revolve on antifriction-rollers 4 4, supported on angular shaft 5, weighted, as at 6, to impart the required pressure. Power is applied through friction-disks 7 7, and it is the intention that the compressing-roll should engage the warp over a limited area to avoid excessive resistance to the action of the disks. My improved compressing-roll therefore is provided with a series of shallow peripheral grooves 8 8, arranged parallel to each other and obliquely to the axis of the roll and separated suitable distances apart, so that the cylindrical body of the roll is preserved at intervening spaces 9 9 between the grooves. Each of said grooves 8 8 is substantially the same width as the intervening spaces 9 9, and they present concave surfaces whose width is many times their depth, the purpose of said grooves being simply to relieve the yarn strands on the warp-

beam from pressure without displacing the strands by the rotation of the roll. By this arrangement of the grooves the body portion of the compressing-roll traverses the warp in a zigzag back and forth and with each complete rotation of the compressing-roll passes over the entire transverse area, as the warp of course is constantly winding, and the compressing-roll is rotated by reason of the frictional contact of the warp thereupon in winding, so that although the entire surface of the warp is virtually traversed by the roll it is not engaged by a continuous superficial area at one time, the contact being successive rather than simultaneous across the width of the fabric. In this way the pressure of the compressing-roll is adequate for the purposes of winding, it entirely takes the tensile strain from the threads, and at the same time its pressure is not so great but that it may be resisted in applying the usual frictional power to drive the warp-beam.

I do not herein claim, broadly, spirally or obliquely grooved rolls in combination with a warp-beam, as such a compression-roll was shown in Letters Patent of the United States granted to me August 29, 1899, No. 631,876. The compression-roll therein shown, however, was provided with a series of narrow V-shaped grooves each adapted to receive a single yarn strand and traverse the same as it was presented to the winding-spool. In my present invention the rolls act only to compress the yarn strands after the winding has been completed, and grooves designed to engage and traverse the yarn strands would be impracticable. The grooved roll 3 of my present invention is provided with depressed surfaces of substantially the same width as the intervening undepressed sections of the roll, and the depressed portions present concave surfaces whose depth is but a small fraction of the width of the depression, so there is no tendency to displace the yarn strands after they have been wound upon the warp-beam.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The within-described compression-roll consisting of a roll adapted to rotate in contact with the warp upon the warp-beam, said

roll provided with shallow peripheral grooves placed obliquely to the axis of the roll with intervening obliquely-arranged spaces of substantially equal width and with the width of
5 said grooves many times their depth, whereby the area of pressure upon the warp is reduced, substantially as described.

2. The combination with a rotating warp-beam, of a compression-roll adapted to bear
10 against the warp on said warp-beam, said compression-roll having its surface formed of alternating grooves and cylindrical spaces of substantially equal width, and arranged obliquely to the axis of the roll, said grooves
15 presenting a concave surface of much greater width than depth, whereby the warp is not displaced by the rotation of the roll and means for pressing said roll against the warp, substantially as described.

20 3. The combination with the warp-beam of

a slasher, of a compression-roll bearing against the warp on said warp-beam and means for applying pressure to said roll, said roll having a series of shallow peripheral grooves arranged obliquely to the axis of the roll with
25 a series of intervening cylindrical spaces of uniform diameter, said spaces and said grooves being substantially equal in width, whereby the pressure exerted by said roll is confined to a limited area of its surface, said peripheral
30 grooves being concave and many times wider than their depth, whereby the warp-threads are not displaced by the rotation of the roll against the warp, substantially as described.

Dated this 17th day of June, 1902.

DAVID McTAGGART.

Witnesses:

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RUFUS B. FOWLER.