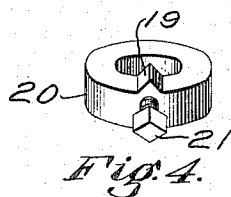
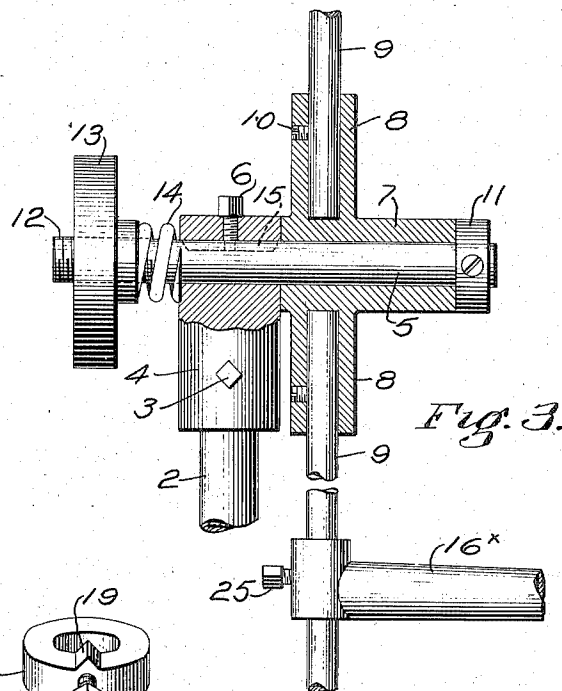
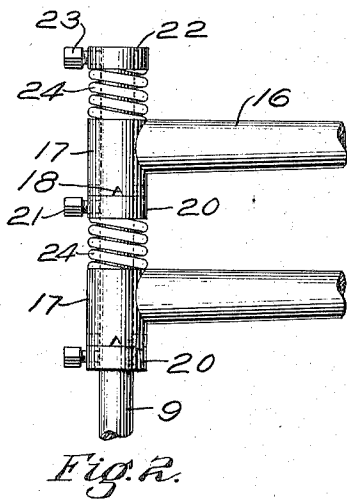
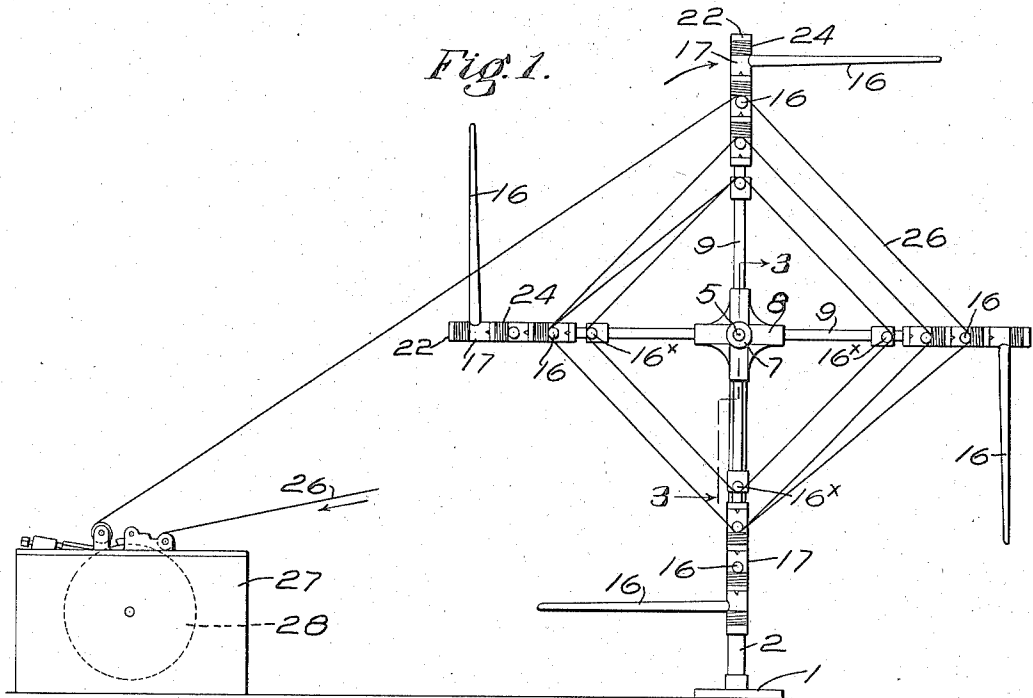


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FABRIC SUPPORTING REEL.
APPLICATION FILED SEPT. 29, 1909.

957,991.

Patented May 17, 1910.



Witnesses:
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FABRIC-SUPPORTING REEL.

957,991.

Specification of Letters Patent. Patented May 17, 1910.

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To all whom it may concern:

Be it known that I, GEORGE T. McLEOD, a citizen of the United States, residing at Dedham, in the county of Norfolk and State of Massachusetts, have invented an Improvement in Fabric-Supporting Reels, of which the following description, in connection with the accompanying drawings, is a specification, like figures on the drawings representing like parts.

In the manufacture of boots and shoes it is common to provide an insole with a reinforcing strip of canvas, the insole and canvas being cemented together, and in an application filed June 11, 1909, Ser. No. 501,450, means was described and claimed for applying to one side of the canvas the cement or gum by which the canvas was subsequently attached to the insole.

The present invention relates to the means for supporting the canvas after it has been treated by the cement applying device, so that it may be dried and subsequently cut into the appropriate strips.

The aims and purposes of the present invention are to provide a suitable supporting means for the canvas which has been treated with cement or other adhesive material and to keep the plies of the reinforcing material from becoming stuck together, all of which will be made clear from the following description and accompanying drawings of one form of means for carrying the invention into practical effect.

In the drawings:—Figure 1 is a side elevation, showing an apparatus embodying the features of the present invention; Fig. 2 is a detail enlarged view, showing the means for connecting the supporting arms to the radial portions of the reel; Fig. 3 is a section on the line 3—3 of Fig. 1, the parts being shown on an enlarged scale; and Fig. 4 is a detached detail of one of the locks for the supporting arms.

Rising from a suitable base or support 1 is a standard 2, the upper portion of which has connected thereto by a suitable set screw 3, or otherwise, a bearing 4 in which is supported the fixed stud shaft 5, said shaft being suitably retained non-rotatably in the bearing 4 by means of a set screw 6, as will appear from Fig. 3.

Rotatably mounted on the stud shaft 5 is a sleeve 7 constituting, it may be, the hub portion of a reel and provided with radial

socket portions 8 of any desired number in which are received and fixed the ends of the radial spokes 9, suitable set screws 10 or other devices being employed for maintaining the radial spokes 9 in fixed relation with the sockets 8.

Secured to the inner end of the stud shaft 5 is a collar 11, said stud shaft projecting outwardly through its bearing 4 and being screw-threaded at 12. Threaded upon the screw-threaded portion 12 of the stud shaft 5 is a hand wheel 13 between which and the bearing 4 is interposed a spring 14. The stud shaft 5 has a groove 15 into which projects the end of the set screw 6, the construction being such that while the shaft 5 is prevented from rotating in its bearing 4, it is free to have endwise movement therein.

From the construction thus far described it will be apparent that by properly setting up the hand wheel 13 against the spring 14 the shaft 5 will be drawn to the left, Fig. 3, and the collar 11 be made to bear with more or less frictional resistance to movement against the face of the hub 7 of the reel, with the result that the reel, while free to rotate on the shaft 5, is prevented from too free rotation thereon.

Each of the radial spokes 9 forming part of the reel carries a series of supporting arms, said supporting arms being so connected to said spokes as to permit turning movement thereof under conditions as will presently appear, so that they may be moved into supporting position or out of such position as conditions require.

Having reference more particularly to Fig. 2, the supporting arms comprise the portions 16 connected to suitable hubs 17 loosely mounted on the radial spokes 9. Each of the hub portions 17 is provided with two or more notches 18, Fig. 3, which are adapted to engage locking toes 19 projecting from the collars 20 which are suitably secured non-rotatably on the spokes 9 by means of set screws 21, Figs. 2 and 4.

On the outer end of each of the spokes 9 is a fixed collar 22, preferably secured to spokes 9 by a set screw 23, and between such collar 22 and the adjacent face of the hub 17 of the supporting arm 16 there is interposed a spring 24, said spring preferably being of coiled form, as indicated in Fig. 2, and surrounding the radial spoke 9, as indicated in Fig. 2, the construction being

such that the hub 17 will be normally forced in a direction away from the end of the spoke 9, and when the locking toe 19 of the collar 20 is engaged with the recess 18 of the hub, such locking engagement will be maintained, as will be clear, so as to hold the supporting arm 16 in desired position.

Between each of the collars 20 and the adjacent hub 17 a similar construction is employed to maintain the recesses 18 in locking engagement with the toe 19 of the adjacent collar, as will be readily understood.

There may be two, three or more recesses 18 in each of the hubs 17, so that said hubs and perforce the supporting arms 16 connected therewith may be swung into the plane of the revolving spokes 9, as indicated in Fig. 1, and there locked, or they may be turned into a position at right angles to such plane, also indicated in Fig. 1, and supported in this position.

The innermost supporting arm 16* is preferably fixed to its radial spoke 9 by means of a set screw 25, Fig. 3, whereas the remaining series of the supporting arms 16 are preferably connected to the spokes 9 in the manner hereinbefore pointed out.

As indicated in Fig. 1, the fabric 26, which is to be coated with cement or adhesive material, passes into the tank 27 about the supporting roll 28 and emerges from said tank with its outer surface coated with cement or adhesive material. In this condition its end is attached to one of the fixed supporting arms 16* of the reel, the remaining supporting arms being turned into inoperative position or into the plane of the reel, as indicated in Fig. 1, so that they will not be in the way of a proper winding of the coated fabric upon the supporting arms 16*. After the reel has been rotated once, the next supporting arm 16 on each radial spoke is turned into operative position at right angles to the plane of rotation of the reel, and there locked by the slot 18 and locking toe 19, as hereinbefore indicated, and the reel given another rotation to wind the fabric thereon, as indicated in Fig. 1, whereupon the next arm radially outward on each spoke 9 is turned into operative position and the reel given further rotative movement.

It will be noted that the reel may be disposed with relation to the cement applying tank 27 so that the fabric 26 passing from said tank may be wound directly on the supporting arms as they are successively turned into operative position after each single rotation of the reel, and that, when the supporting arms are turned into their inoperative position, they do not contact with the fabric 26 on its way from the cement tank 27 to the reel, nor otherwise obstruct the free rotative movement of the

reel. It will also be apparent that by the frictional retardation imparted to the reel as a whole the fabric extending between the reel and the cement tank may be maintained taut and free from wrinkles or other undesirable conditions.

In its best form the invention contemplates that the supporting arms shall be of such length from the hub portion 17 that the narrow fabric or canvas strip may be wound on each set of arms in helical form, that is, the different winds or layers on each set of arms may be disposed in planes at varying distances from the hub portions 17 so that they will not overlap or come in contact and consequently will not stick together.

What is claimed is:

1. In a reel for supporting a strip of fabric with the plies thereof separated, the combination of a supporting standard, a shaft sustained thereby, a hub rotatable on said shaft, a series of radial spokes projecting from said hub, a series of supporting arms loosely mounted on said spokes, and means for locking said supporting arms in operative or inoperative position with respect to the plane of rotation of said reel.

2. In a reel for supporting a strip of fabric with the plies thereof separated, the combination of a supporting standard, a shaft sustained thereby, a hub rotatable on said shaft, retarding means acting to prevent free rotation of the reel, a series of radial spokes projecting from said hub, a series of supporting arms loosely mounted on said spokes, and means for locking said supporting arms in operative or inoperative position with respect to the plane of rotation of said reel.

3. In a reel for supporting a strip of fabric with successive plies thereof in separated relation, the combination of a support, a hub having a series of radial spokes, a series of supporting arms loosely mounted on said spokes in separated relation, and locking means acting separately on each supporting arm to hold it in either operative or inoperative position.

4. In a reel for supporting a strip of fabric with successive plies thereof in separated relation, the combination of a support, a hub having a series of radial spokes, a series of supporting arms loosely mounted on said spokes in separated relation, a series of collars having locking tongues fixed to said radial spokes, and springs for normally forcing the locking tongues into locking engagement with the supporting arms to hold the latter in position to wind the cloth thereon or in a position to permit the reel to rotate while the cloth is being wound on other supporting arms.

5. In a reel for supporting a strip of fabric with the successive plies thereof in separated

rated relation, the combination of a support, a shaft non-rotatably and endwise movably sustained thereby, a reel having a hub on said shaft, a collar secured to the shaft and bearing on the hub, means for yieldingly moving the shaft endwise to regulate the frictional retarding effect of said collar, and supporting arms movable into and out of operative position carried by said hub.

6. In a reel for supporting a strip of fabric with the successive plies thereof in separated relation, the combination of a support, a shaft 5, a hub 7 on said shaft and 15 having radial spokes 9, a fixed supporting

arm 16* and a series of loose supporting arms 16 carried by each of said radial spokes, a locking collar 20 having a locking finger 19 and coacting with each of said loose supporting arms, and a spring 24 for 20 holding each supporting arm in locking relation with its coacting locking collar.

In testimony whereof, I have signed my name to this specification, in the presence of two subscribing witnesses.

GEORGE T. McLEOD.

Witnesses:

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BEULAH A. HOLDEN.