April 5, 1932. C. T. SIEBS ET AL 1,852,792

REEL AND THE TRANSPORTATION THEREOF

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Fig. 1.

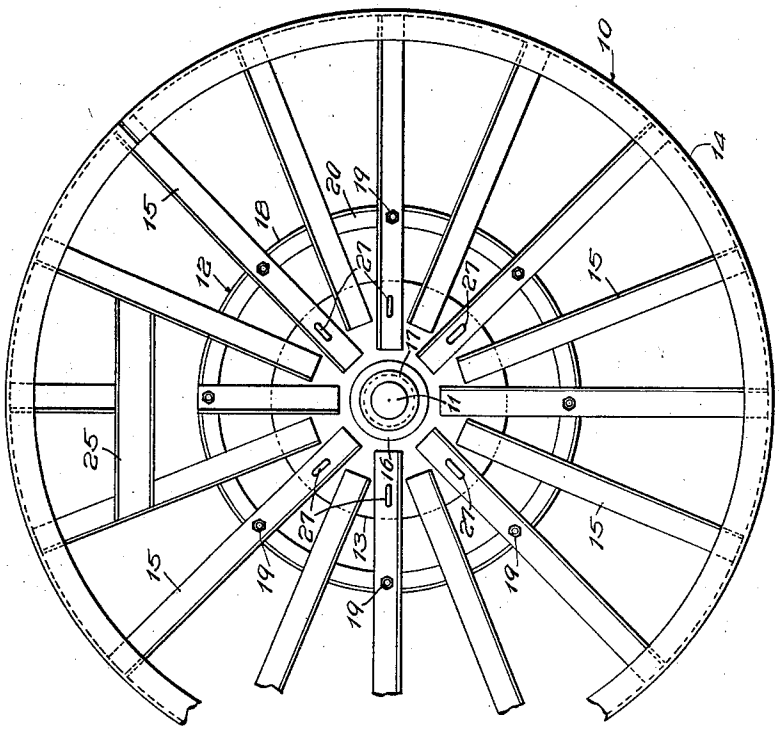

Fig. 2.

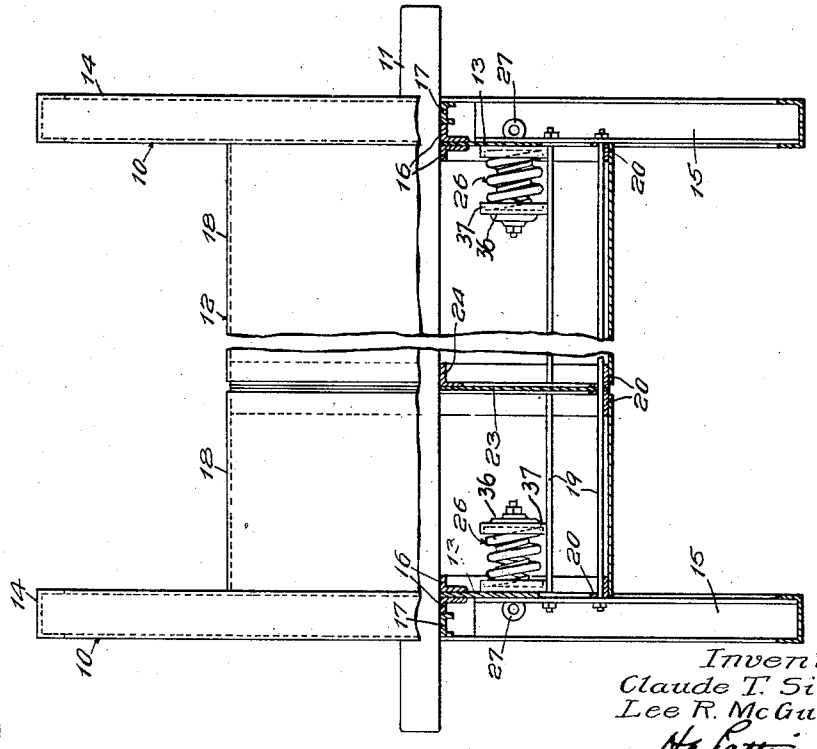

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Fig 3.

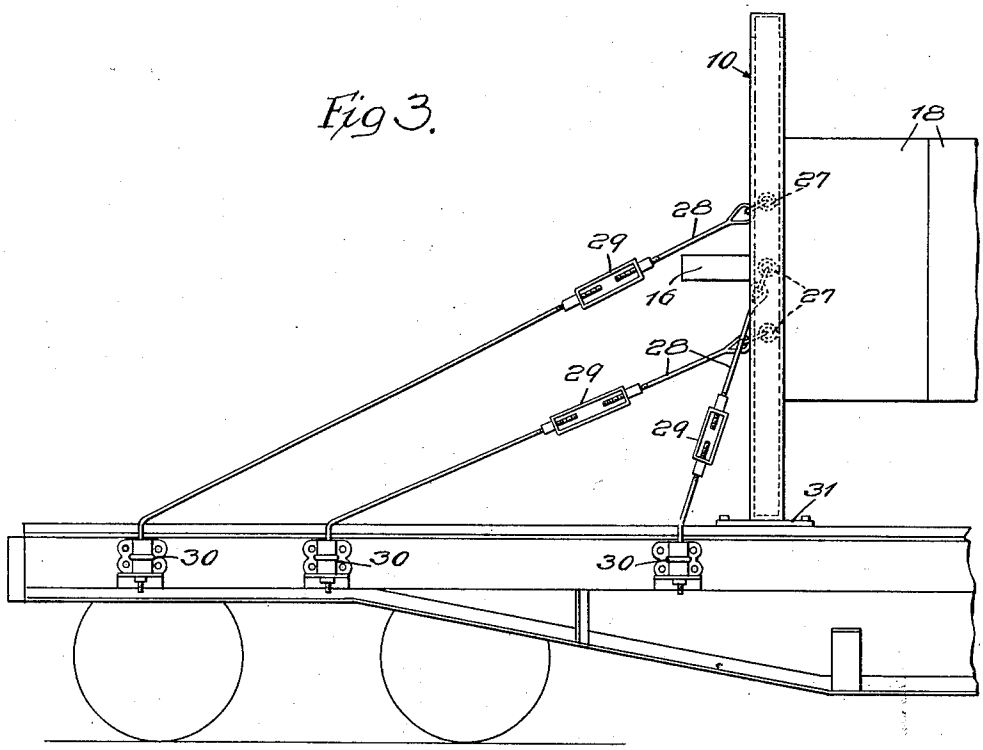

Fig 4.

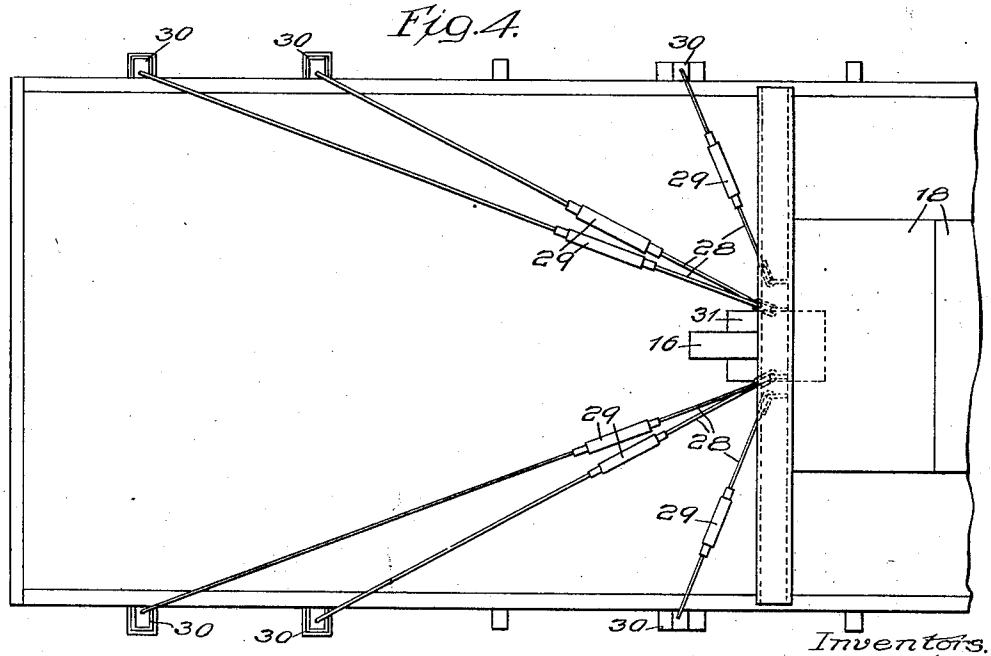

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Fig. 5.

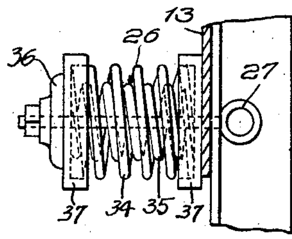


Fig. 6.

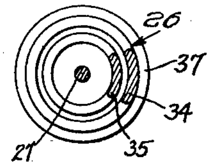
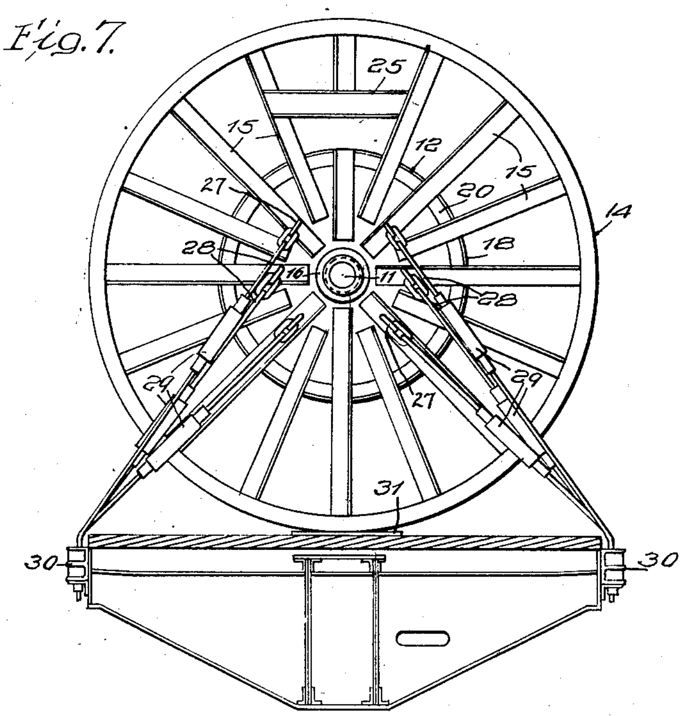


Fig. 7.



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UNITED STATES PATENT OFFICE

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REEL AND THE TRANSPORTATION THEREOF

Application filed October 12, 1929. Serial No. 399,146.

This invention relates to reels and the transportation thereof, and more particularly to large reels containing heavy strand material and their shipment or transportation.

Objects of this invention are to provide a variable length reel of rigid and economical construction which may be readily assembled and disassembled, and a safe and expeditious means for and method of shipping such a reel.

In accordance with these objects, one embodiment of the invention consists of a reel comprising a variable length composite drum consisting of interconnected, interchangeable metallic cylindrical, individual drums or sections joined end to end, the composite drum thus constructed being suspended by tie rods and a shaft extending between heads or wheels consisting of angle members secured or welded to hub plates and channel shaped rims. During shipment the reel is anchored to the car on which it is shiped by adjustable tie rods secured to side pockets of the car and to shock absorbers incorporated in the heads of the reel and the reel heads rest upon bearing plates attached to the car floor. The shock absorbers cooperating with the anchoring rods permit a limited resilient movement of the reel each time the car encounters an end jolt of sufficient force.

A clear understanding of the invention will be had by referring to one specific embodiment thereof as illustrated in the accompanying drawings disclosing a reel and shipping means embodying features of the invention and which may be employed in the practice of the improved method, and wherein

Fig. 1 is an elevational end view of the reel;

Fig. 2 is a longitudinal view of the reel, partly in section, with a portion of the drum broken away;

Fig. 3 is a side elevational view of one end of the reel and the structure for securing the reel to a railroad car;

Fig. 4 is a plan section of the securing structure as shown in Fig. 3;

Fig. 5 is an enlarged side view of one of the shock absorbers included in the securing structure;

Fig. 6 is a cross sectional view of the shock absorber, and

Fig. 7 is an elevational end view of the reel and securing structure.

Referring now to the drawings in which like numerals designate similar parts throughout the several views there is disclosed an all metal heavy duty type of reel for transporting armored cable or any other suitable strand material, this reel consisting principally of heads or wheels 10, a central shaft 11 and a composite drum or barrel 12. The heads or wheel 10 comprise annular hub plates or discs 13, channel shaped rims 14 and angle member spokes 15, the spokes 15 being secured to the hub plates 13 and the channel portion of the rims 14 preferably by welding, thus providing a rigid and economical type of head or wheel structure.

The shaft 11, preferably made solid and of cold rolled steel, is supported by flanges 16 provided on the hub plates 13, the flanges 16 preferably consisting of angle rings welded to the hub plates. The shaft 11 may be held in position between the heads or wheels by collars 17 locked thereto in any suitable manner and abutting the flanges 16 of the hub plates.

The composite drum 12 consists of a plurality of cylindrical sheet metal sections or individual drums 18 interconnected end to end to provide a reel of the desired length for accommodating the armored cable. By thus sectionalizing the drum 12, the reel may be disassembled in order to occupy the minimum amount of space for return transportation and storage as well as provide a built up or extendible type of reel of desired length, and the individual sections or drums 18 are constructed similarly and interchangeably in order that the reel may be assembled without difficulty. For interconnecting the sections 18 end to end and supporting the composite drum, tie rods 19 disposed symmetrically around the aixs of the reel extend between the heads 10 and are bolted to the spokes 15, the tie rods projecting through apertures in end flanges 20 provided on the individual drums 18, the end flanges 20 consisting preferably of angle rings welded to the sections

18. In order to reinforce portions of the tie rods 19 intermediate the heads 10, annular discs 23, only one of which is shown in the drawings, supported by the shaft 11 are interposed between and abutting the end flanges 20 of the adjacent sections 18, the edges of these discs having apertures registering with the apertures of the end flanges 20 through which the tie rods 19 extend and being provided with central flanges 24 which bear upon the shaft 11.

A portion of one of the spokes 15 is removed from near the drum 12 and a cross piece or channel member 25 is secured or welded thereto and to the two adjacent spokes to provide a space between the cross piece 25 and the drum for projecting the inner end of the cable or strand therethrough to secure the inner end in position.

In order to ship such a heavy duty type of reel as that just described, which reel may in some cases occupy as much as an entire railroad flat car, the following structure is provided for protectively anchoring or securing the reel to the floor of the car. A plurality of shock absorbers 26 (Figs. 2 and 5) are symmetrically positioned about the ends of the reel inside of the hub plates 13 with central plungers or eye bolts 27 extending through the hub plates and the spokes 15, these plungers or eye bolts 27 each being held in compression by means of two concentric heavy type of spiral springs 34 and 35. The inner ends of the central eye bolts 27 are bolted to suitable washers 36, and a pair of metallic shields 37 enclose the ends of the springs. To the eye bolts 27 are connected tie rods 28 (Figs. 3, 4, and 7) made adjustable by turn-buckles 29 and these tie rods secure or anchor the reel to the car by being secured or bolted to the side pockets 30 thereof, the axis of the reel being disposed longitudinally of the car. Although the drawings show only one end of the reel anchored to the car, it will be understood that both ends are anchored by similar tie rods. In order to facilitate the action of the shock absorbers 26, metal bearing plates 31 are provided beneath the heads or wheels 10 and secured to the floor of the car by lag screws, and when the car receives a jolt from either end, the shock absorbers 26 and cooperating bearing plates 31, which may be lubricated, allow the reel to move somewhat longitudinally of the car to absorb the shock. The tie rods 28, of course, also prevent the reel from moving in a lateral direction. Thus, it is believed to be apparent that the shock absorbers 26, the tie rods 28, and the bearing plates 31 provide for resilient longitudinal movement of the reel over the car floor to overcome end shocks or jolts given the car during transit, and it is obvious that such shocks are in many cases more severe or intense than the vertically directed shocks sustained by the springs of the car.

From the foregoing description, it is therefore believed to be apparent that the invention provides a rigid and extensible type of reel which may be readily disassembled for empty shipment in a minimum amount of space and that the method provided herein for transportation efficiently and protectively secures and anchors the reel during transit.

It will, of course, be understood that the invention is not to be limited by the specific embodiment herein described and illustrated, but is to be limited only by the scope of the appended claims.

What is claimed is:

1. In a reel for shipping strand material, a pair of heads, a composite drum comprising a plurality of interchangeable cylindrical sections held between said heads, and means for resiliently securing the reel in position on a supporting member to overcome shocks encountered during transit, said last mentioned means comprising a resilient member located within said drum and means for connecting said resilient member to said supporting member.

2. In combination, a platform, a reel for shipping strand material, said reel comprising two heads, a drum held between said heads, shock absorbers located within said drum and secured to said heads for resiliently securing the reel in position on said platform, bearing plates located between said reel heads and said platform for cooperating with the shock absorbers and tie rods connected between said shock absorbers and said platform.

3. In combination, a reel for transporting strand material on a car, said reel comprising two heads, a drum held between said heads, shock absorbers located within said drum and secured to said heads for providing resilient movement of the reel when the car encounters a jolt, and adjustable tie rods for securing the shock absorbers to the car.

4. A method of shipping an extended reel on a car consisting in disposing the reel lengthwise of the car, and resiliently tying the ends of the reel thereto.

5. A method of shipping an extended reel on a flat car consisting in disposing the reel lengthwise of the car, and resiliently tying the ends of the reel to the sides of the flat car.

6. Apparatus for transporting reels consisting of a platform, a plurality of resilient members positioned about and secured to the ends of the reel and a tie member attached between the platform and each of the resilient members for anchoring the reel during transportation so that the axis of the reel is substantially parallel to the direction of travel of the platform.

7. Apparatus for transporting reels comprising a platform, a resilient member secured to one end of the reel, a plunger con-

trolled by the resilient member, and a tie member secured between the platform and the plunger for anchoring the reel to the platform during transportation so that its axis is substantially parallel to the direction of travel of the platform.

8. A method of preparing a reel having at least two heads for transportation which comprises placing the reel on a supporting member with its heads substantially perpendicular to the direction of travel and securing at least one of the heads to the supporting member by means of a resilient member.

9. In combination, a reel having at least two heads and a drum therebetween, a platform on which said reel is to be transported, and resilient means connected between said platform and at least one of said heads for securing said reel to said platform with the reel heads substantially perpendicular to the direction of travel of said platform.

In witness whereof, we hereunto subscribe our names this third day of October, A. D. 1929.

CLAUDE T. SIEBS.
LEE R. McGUIRE.