April 18, 1933. L. R. McGUIRE 1,904,158

REEL AND METHOD OF ASSEMBLING REELS

Filed June 20, 1930

FIG. 1.

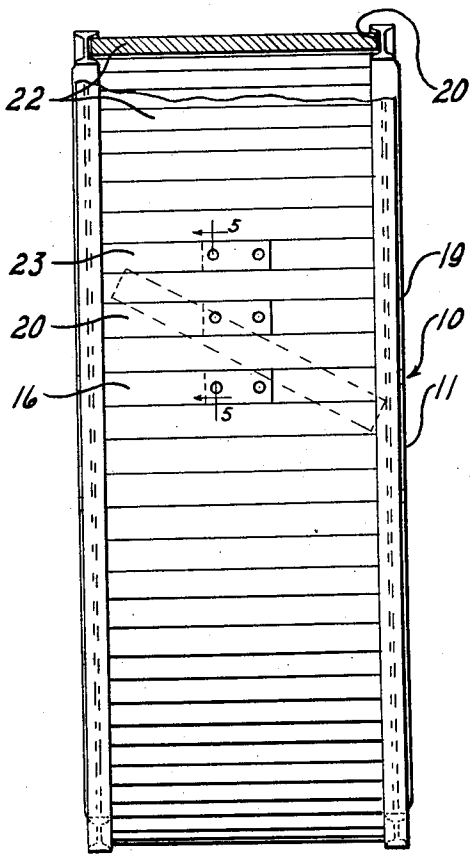


FIG. 2.

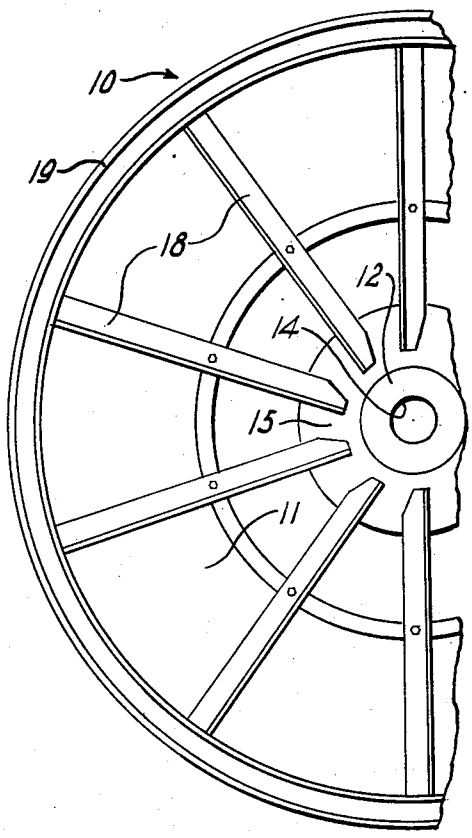


FIG. 3.

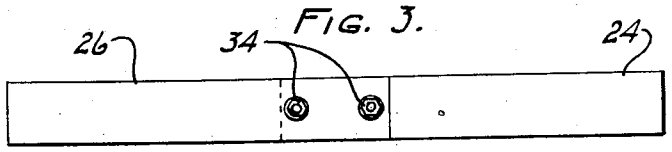


FIG. 4.

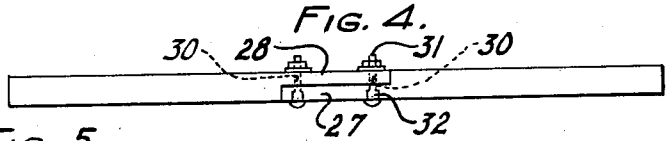
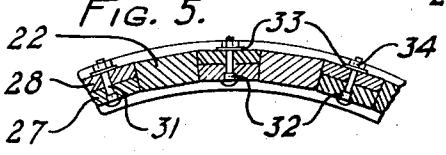


FIG. 5.



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REEL AND METHOD OF ASSEMBLING REELS

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This invention relates to reels and methods of assembling reels, and more particularly to reels for holding cable or other heavy material and methods of assembling such reels.

An object of the invention is to provide a reel of sturdy and economical construction adapted to be readily assembled and disassembled, and a method of assembling such a reel which will be facile and efficient.

In accordance with the general features of the invention, a reel comprising oppositely disposed heads spaced by a cable supporting drum is provided with radially disposed spokes, each secured at its outer extremity to an annular channel member or lag receiving rim of continuous cross section. When the reel has been fitted with a sufficient number of standard lags to almost enclose it, leaving space for but three more lags, three closure lags are added. Each closure lag consists of two interfitting sections, the sections being fitted to the channel separately and then bolted together in a lap joint to form a complete lag.

A better understanding of the invention may be had from the following detailed description taken in connection with the accompanying drawing forming a part thereof, in which

Fig. 1 is a front elevation of a reel assembled in accordance with one embodiment of the invention;

Fig. 2 is a fragmentary side elevation of the reel shown in Fig. 1;

Fig. 3 is a plan view of one of the closure lags;

Fig. 4 is a side elevation thereof, and

Fig. 5 is a section taken on the line 5—5 of Fig. 1.

Referring to the drawing, wherein similar parts throughout the several views are indicated by identical reference numerals, a heavy cable reel, generally denoted by the numeral 10, comprises a pair of spaced heads 11—11, each having a hub 12 which may consist of ordinary metal piping, of a rounded and butt-welded plate or the like. The hubs are apertured at 14 for receiving upon occasion an axle (not shown) to permit rotation of the reel when suspended. A circular plate 15 is fitted upon each hub, and suitably secured thereto are the inner ends of a number of radially disposed spokes 18, 18. At the opposite ends the spokes are welded or otherwise suitably secured to an annular I member or grooved rim 19, having an inner groove 20 for receiving a number of conventional cable reel lags 22, 22.

It will be understood that both channel members 19 are of continuous I beam cross section throughout their entire extent, it being quite unnecessary, for reasons to be explained below, that any portion of the rim be cut out to permit insertion of the lags. The lags 22, as shown, are rectangular in shape and are of integral construction, consisting usually of wooden bars of rectangular cross section.

To supplement the integral lags 22 and facilitate the assembling of the reel, three split closure lags 16, 20 and 23 respectively are provided, each consisting of a right hand section 24 and a left hand section 26. Each section is provided with reduced projecting portions 27 and 28, respectively, which, when the lag sections are lap joined in proper position, as best shown in Figs. 3 and 4, may be rigidly secured together. To accomplish this object, the reduced portion of each section is provided with a pair of aligned spaced apertures 30—30. A pair of carriage bolts 31—31, each having a square portion 32, are driven in the apertures 30—30 of the reduced portion 27, and are each provided with washers 33—33 and nuts 34—34 for tightening the joint between the sections.

In order to properly protect the material stored upon the reel it is desirable that the reel be entirely enclosed with the lags. Although the standard lags 22, 22 are longer than the distance between the rims of the annular I beam members, this being necessary in order that they may not be accidentally dislocated after they are inserted in the channels thereof, the lags may be readily assembled in the reel by tilting them with respect to the axis of the reel, as shown in dotted lines (Fig. 1). One end of the lag is inserted in the channel behind the rim, and the lag is tilted to a parallel position with

respect to the axis of the reel after the other end is placed in the groove in the channel. The lag is then permitted to slide to the lowermost point in the periphery of the reel and a second lag 22 is inserted in the channels in like manner and permitted to slide to rest upon the first lag in the conventional manner. This process is repeated, more lags 22 being successively added to build up a group in abutting relationship and enclose the reel, until sufficient room remains for only three lags, or until the space between the first and the last lags 22 is too small to permit tilting of a standard lag sufficiently to permit insertion thereof behind the rims.

The remaining space is filled and the reel fully enclosed by use of the closure lags described above. The section 24, of the closure lag 16, bearing the bolts 31 secured therein is then inserted in the groove 20 of the right hand rim 19 with the portion 27 thereof lowermost and the shanks of the bolts beyond the square portion 32 projecting upwardly therein. The section 26 is then inserted in the groove 20 of the left hand rim 19, the reduced portion 28 thereof being uppermost. The sections 24 and 26 are then joined together by superposing the portion 28 upon the portion 27, permitting the bolts in the latter to project upwardly through the apertures in the reduced portion 28. This is accomplished without difficulty, since the bolts 31 are driven in the reduced portion 27 and will not be dislocated by pressure of the reduced portion 28. When thus assembled, the washers 33 are placed over the bolts and nuts 34 are tightened by means of a wrench or other suitable device, the bolts being prevented from simultaneously turning in the reduced portion 27 by reason of the square portions 32. The closure lag thus formed is of the same overall dimensions as the standard lag 22 and will be readily held in the channels 20, to all intents and purposes being as strong and as capable of protecting the material stored on the reel as the conventional integral type of lag 22.

The addition of the closure lag 16 materially reduces the size of the remaining opening but does not materially increase the difficulties of assembling, it being necessary only to place adjacent thereto one of the standard lags, by sliding it downwardly from the main group, thus causing the closure lag 16 to be engaged between two standard lags. The second closure lag 20 is then inserted thereabove in the same manner as is described above in connection with the lag 16, and a second standard lag is slid into position next to the lag 20. Two closure lags having been added, sufficient room now remains for but one more. The assembling is concluded to completely enclose the reel by inserting the section 24 of the remaining closure lag 23 in the groove 20 of the right hand channel member. This section is held in position by means of a screw driver or other wedge type instrument (not shown) which, being inserted between the section 27 and fulcrumed upon the edge of the adjacent standard lag, serves to prevent the section 24 from falling into the interior of the reel. While the section 24 is so held, the section 26 is inserted in the groove 20 of the opposite annular member and the reduced portion inserted over the bolts 31—31, projecting upwardly from the reduced portion 27. The washers 33 and nuts 34 are then quickly applied to secure the two sections firmly together to form the final reel enclosing lag, and the wedge removed.

In removing the cable from the reel or gaining access to the reel for any other reason, the closure lags are first withdrawn by removing the nuts 34 and removing the section 26 from the bolts and then lifting the section 24 from the groove. The standard lags may then be tilted to a position corresponding with that shown in dotted lines in Fig. 1 to permit first one end and then the other thereof to be removed from the channel 20.

By utilizing the construction and method described above, it is rendered possible to rapidly and easily lag a reel in such a manner as to cause it to be entirely enclosed, and the removal of the lags is as easily accomplished; and the construction of the closure lags is such that it is not necessary to weaken the annular supporting members of the reel by cutting slots therein, as would be the case were all the lags used of the standard integral type.

What is claimed is:

1. In a cable reel, a member for supporting the reel having an unbroken channel therein, and a two part lag engaging the member for protecting the cable.

2. In a cable reel, a member for supporting the reel having an unbroken channel therein, and a structure for enclosing the cable and engaging the member comprising a plurality of lags and including a two part lag.

3. In a cable reel, a plurality of lags including a two part lag for enclosing the reel, and a channel member of continuous cross section for receiving the lags.

4. In a cable reel, a channel member for supporting the reel, a lag engaging the channel of the member for protecting the cable and having two interfitting sections, and means secured to one section and adapted to engage the other section for forming a complete lag.

5. In a cable reel, a head including a hub, members secured to the hub and radiating therefrom, an annular member having an unbroken channel secured to the ends of the radiating members, and a two part lag removably secured within the channel of the

annular member for protecting the cable.

6. In a reel, a head including a hub, spokes secured to the hub and radiating therefrom, and an annular member having an unbroken channel secured to the outer ends of the spokes, a plurality of lags engaging the channel of the annular member for enclosing the reel, and a plurality of two part lags for spacing the first mentioned lags.

7. In a cable reel, a member for supporting the reel having an unbroken channel, a plurality of two part lags and a plurality of integral lags engaged in the channel and arranged in alternate relationship with respect to the two part lags for enclosing the reel.

8. In a reel, a lag having two sections, each section having a portion lapping the corresponding portion of the other section, and means operative at the overlapping portions for securing the sections tightly together.

9. The method of assembling a reel having two broken channels which consists in inserting therein a plurality of integral lags arranged in abutting relationship until it is impossible to insert another integral lag into the remaining space, inserting a two part lag in abutting relationship with two of the integral lags and inserting a second two part lag in abutting relationship with one of said two integral lags.

10. The method of assembling a reel having two opposing endless channel members of unbroken cross section which consists in inserting therebetween in a tilting manner a plurality of integral lags which are longer than the space between the flanges of the opposing channel members, thereafter, arranging them in abutting relationship until there remains a space insufficient to permit the insertion of another lag, sliding the last two integral lags from the main group and therebetween in abutting relationship therewith inserting a two-part lag, and, on either side of said two integral lags in abutting relationship therewith and the ends of the main group of integral lags inserting a two-part lag to complete the enclosure of the reel.

In witness whereof, I hereunto subscribe my name this 10th day of June A. D., 1930.

LEE R. McGUIRE.