Feb. 19, 1929. 1,702,242

A. A. BUREAU

REEL

Filed Dec. 12, 1925

Fig. 1.

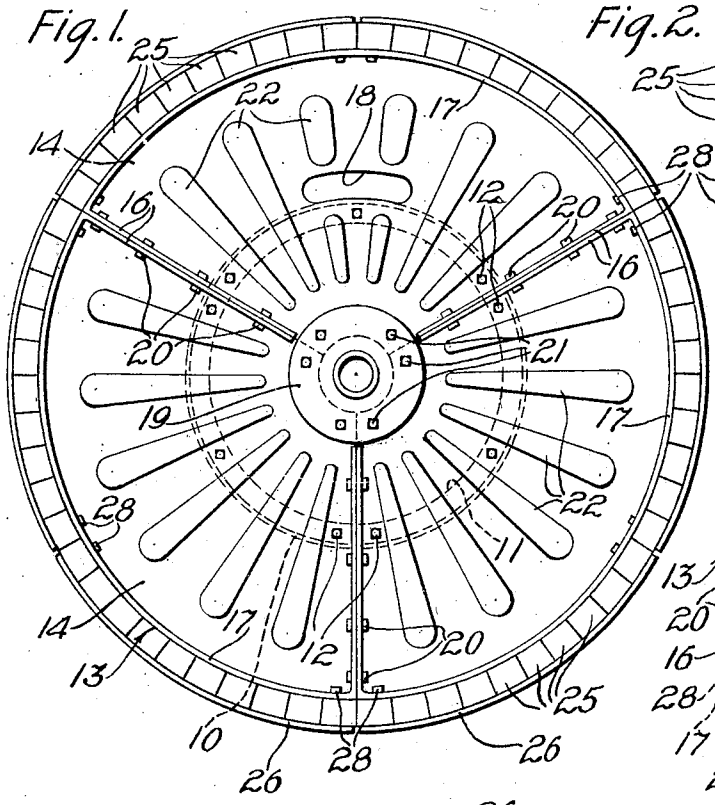


Fig. 2.

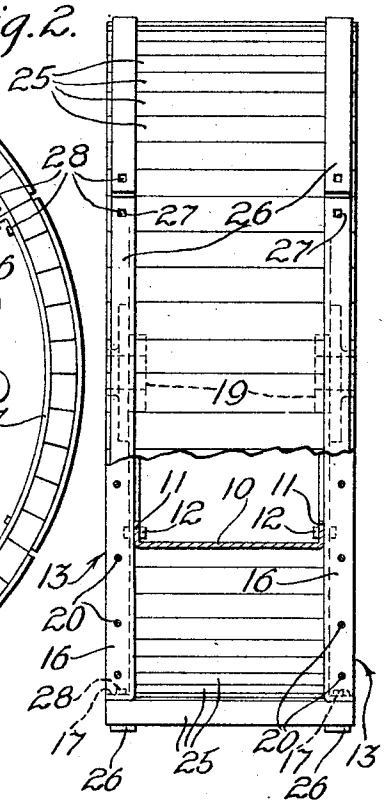


Fig. 3.

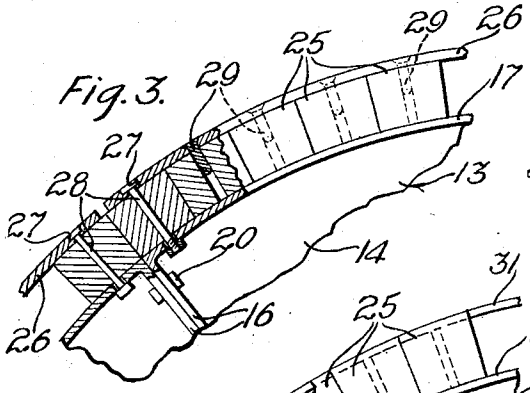


Fig. 4.

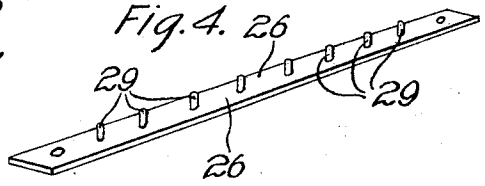


Fig. 5.

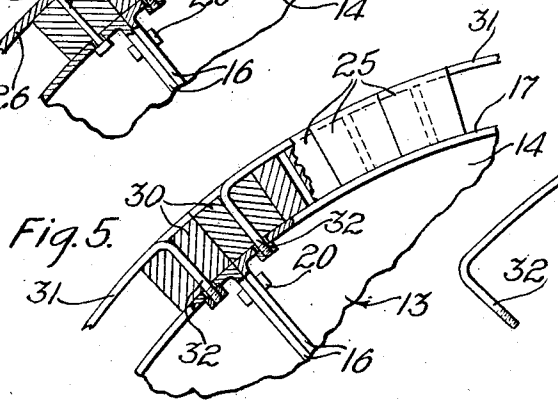
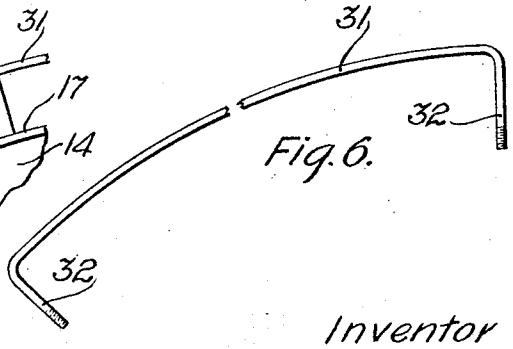


Fig. 6.



Inventor
Arthur A. Bureau
by A. A. Tatton
Att'y.

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UNITED STATES PATENT OFFICE.

ARTHUR ALFRED BUREAU, OF CHICAGO, ILLINOIS, ASSIGNOR TO WESTERN ELECTRIC COMPANY, INCORPORATED, OF NEW YORK, N. Y., A CORPORATION OF NEW YORK.

REEL.

Application filed December 12, 1925. Serial No. 75,025.

This invention relates to reels, and more particularly to reels adapted for use in connection with the storing and transportation of electrical conductors and the like.

The primary object of this invention is the construction of a reel particularly suitable for the aforementioned purpose which is durable, practical, inexpensive and which may be readily and efficiently assembled and disassembled.

In accordance with one embodiment of this invention there is provided a sectional metal reel provided with enclosing elements securely retained in position by a plurality of members, each embracing a plurality of the enclosing elements and secured to the reel.

Specifically, this invention contemplates the provision of a reel comprising a metal drum having sectional metal heads secured at opposite ends thereof and provided with enclosing elements, such as wooden lags, adapted to be secured to the peripheries of the reel heads by means of flexible metal bands, each band embracing a predetermined number of lags with opposite ends of the bands fastened to outwardly disposed peripheral flanges formed upon the heads. According to one embodiment, the bands or strips are provided with projecting lugs equivalent in number to the lags embraced between the securing bolts at opposite ends of the band or strip, the lugs extending into openings formed in the lags.

In accordance with another embodiment of this invention the lags are grooved adjacent their ends, and designed to be positioned therein is a flexible rod provided with angularly disposed threaded bolt ends which extend through openings formed in predetermined angularly spaced lags embraced by the rod and through openings formed in the peripheral flange of the reel head and secured thereto by nuts threaded onto the bolt ends of the rod.

Other objects and advantages of this invention will more fully appear from the following detailed description taken in connection with the accompanying drawings which illustrate the several embodiments thereof, in which

Fig. 1 is an end elevation of a reel embodying the preferred form of this invention;

Fig. 2 is a side elevation thereof, partly in section;

Fig. 3 is an enlarged detail end elevation, partly in section, of a portion of the reel illustrated in Fig. 1;

Fig. 4 is a detail perspective view of one of the flexible metal strips used in securing the lags to the heads of the reel;

Fig. 5 is a fragmentary detail end elevation, partly in section, of a reel showing another embodiment of this invention; and

Fig. 6 is an enlarged elevational view of the lag securing means illustrated in Fig. 5.

Referring to the drawings in detail, the numeral 10 indicates a metal drum having inwardly extending continuous annular flanges 11 at opposite ends. Bolted to each of the flanges 11, as indicated at 12, is a circular head 13 composed of three metal segments 14 (Fig. 1) provided with radially disposed flanges 16 and an arcuate flange 17. The segments, or sectors, are identical in all respects except that one of them is provided with a slot 18 which is located immediately beyond the surface of the drum 10 and through which the inner end of the conductor may be inserted and thus retained during the coiling thereof upon the drum. The segments 14 are bolted to each other and to an axial hub member 19, as indicated at 20 and 21 respectively, the member 19 forming a bearing for the reel when rotatably mounted upon a suitably supported shaft (not shown), extended therethrough, during reeling and unreeling operations. In securing the heads 13 to the flanges 11, the nut portion of the bolts may be integral with the flange. Each of the head segments 14 is provided with a plurality of embossed radial ribs 22 for adding rigidity thereto.

In the particular embodiments of this invention illustrated in the drawings, a plurality of enclosing elements, preferably composed of wood and commonly called "lags" are detachably secured around the peripheries of the heads 13 for the purpose of protecting an electrical conductor (not shown) which may be wound upon the drum 10. The enclosing elements and the means for securing them in position will now be described.

Referring to Figs. 1 to 4 inclusive which illustrate one form of this invention, numeral 25 indicates a plurality of wooden lags, all similar in size and shape, which as clearly indicated in Fig. 2 extend across the reel from the outer side of one head to the outer side

of the opposite head and entirely around the peripheries thereof, thus completely enclosing the conductor (not shown) which may be wound upon the drum 10. In the particular arrangement shown in the drawings, twenty lags are secured to the arcuate flange 17 of each segment 14 of each head by a pair of flexible metal strips or bands 26, preferably composed of spring steel, each of which, as illustrated, embraces ten lags. At both ends the strip is provided with an opening having a depressed square portion 27 (Fig. 3) formed in its outer surface for the entrance of the square head of a bolt 28, the threaded shank of which projects through alined openings provided in the lag and in the arcuate flange 17 of the segment respectively, the opening in the flange 17 being slotted to provide for slight variations. After threading a nut upon the bolt 28, the head thereof will be positioned within the square depression 27 substantially flush with the outer surface of the strip 26, so that when completely assembled the outer surfaces of the strips 26 form substantially continuous circular surfaces upon which the reel may be freely rolled. The lags 25 positioned intermediate the end lags, through which the bolts 28 extend, are securely held in predetermined alinement with the outer surfaces of the heads and in substantially abutting relation by means of equally spaced lugs 29 integral with the strip 26, the lugs projecting radially from the inner surface thereof and into openings provided in the lags.

The openings provided in the lags for the entrance of the bolts 28 and lugs 29 are similar and identically spaced from the ends and sides thereof, so that in assembling no particular lags need be selected for the ends of the strips in the bolting of the latter to the flange 17.

Figs 5 and 6 illustrate another embodiment of this invention, in which the lags 25, all similar in size and shape, are provided upon their outer surface with laterally extending grooves 30 in addition to the openings provided for the bolts 28 and lugs 29 in the hereinbefore described embodiment of this invention, the grooves coinciding with the centers of the openings. The lags 25, twenty in number, are detachably secured to the arcuate flange 17 of each segment 14 of each head by a pair of flexible metal rods or wires 31 which are engaged within the grooves 30, each rod embracing ten lags and being provided with angularly disposed threaded bolt ends 32 which extend through the openings in the lag and flange respectively and thereafter are bolted in position to clamp the lags to the flange 17 by threading a nut thereon. Openings are provided in all of the lags for the entrance of the bolt ends 32, although only the two end lags of each group of twenty need openings, for the same reason explained in connection with the hereinbefore described embodiment of this invention, that is, to obviate the necessity of selecting particular lags for the end positions of each group when assembling the same upon the reel.

A sectional metal reel of the type hereinbefore described is of particular utility in the transportation of electrical conductors, such as lead covered cable, which necessarily require a relatively large reel of great durability.

A reel of this type may also be readily disassembled after the removal of the cable therefrom and packed in a minimum amount of space and returned to the manufacturer of the cable, thereby reducing the cost of their return when transportation charges are based upon the space required. The elements may be readily reassembled for future use. Furthermore, due to the novel manner of detachably securing the lags to the peripheral metal flanges of the heads of the reel, the cable wound upon the reel may be readily and efficiently enclosed for protection during storage or transportation and the lags may be removed without damage and repeatedly used.

It is also to be noted that the various groups of similar members which form the complete reel along with the peripheral enclosing housing are identical and can be interchanged one with the other, which thereby permits the assembly thereof in a minimum of time.

What is claimed is:

1. In a reel, a body member and heads spaced thereon, elements extending between the heads and supported thereon, and means common to a plurality of said elements for holding them in position, said means extending therearound and designed to be detachably secured to each of the elements and spaced portions of the heads.

2. In a reel, a body member and heads spaced thereon, having outwardly extending flanges, elements extending between the heads and supported upon the flanges thereof, and means for holding said elements in position, said means extending therearound and designed to be detachably secured to each of the elements and the flanges of the heads.

3. In a reel, a body member and heads spaced thereon, having outwardly extending flanges, means enclosing the space between the heads including a plurality of elements extending between the heads and supported upon the flanges thereof, and flexible means for interconnecting and holding said elements in position, said means designed to be detachably secured to each of the elements and the flanges of the heads.

4. In a reel, a body member and heads spaced thereon, elements extending between the heads and supported thereon, and flexible strips for holding said elements in position, said strips arranged to extend around the

outer surfaces of the elements and provided with a plurality of projecting members designed to detachably engage within openings provided in each of the elements for holding them in position, the ends of said strips detachably secured to the flanges of the heads.

5. In a reel, a drum and heads spaced thereon, enclosing elements extending between the heads and supported thereon, a plurality of flexible members for each head, each member embracing a predetermined number of elements, said members extending around the periphery of the head and detachably secured at opposite ends thereto and to the end elements of each group, and a plurality of studs carried by each of said members adapted to detachably engage within openings provided in the elements intermediate the end elements of each group.

6. In a reel, a body member and heads spaced thereon, elements extending between the heads and supported thereon, and strips designed to be secured to spaced portions of the heads and having means positioned in predetermined spaced relation for detachably engaging each of the elements.

7. In a reel, a drum, heads spaced thereon having outwardly extending flanges, elements extending between the heads and supported on the flanges thereof, and strips designed to be secured to spaced portions of the flanges and predetermined ones of the elements, and having means positioned in predetermined spaced relation for detachably engaging the other elements.

8. In a reel, a drum, heads spaced thereon having outwardly extending flanges, elements extending between the heads and engaging the entire peripheral surface of the flanges, and means common to a plurality of said elements for holding them in position, said means extending therearound and designed to be detachably secured to each of the elements and spaced portions of the heads.

9. In a reel, a drum, heads spaced thereon having outwardly extending flanges, elements extending between the heads and engaging the entire peripheral surface of the flanges, and strips designed to be secured to spaced portions of the heads and having means positioned in predetermined spaced relation for detachably engaging each of the elements.

10. In a reel, a drum and heads spaced thereon having outwardly extending flanges, elements extending between the heads and supported on the flanges thereof, and flexible means of a width corresponding to the width of the flanges designed to be secured to spaced portions thereof and having means positoned in predetermined spaced relation for detachably engaging the elements.

11. In a reel, a drum, heads spaced thereon having outwardly extending flanges, elements extending between the heads and supported on the flanges thereof, and flexible means of a width corresponding to the width of the flanges secured to said flanges only at widely spaced points for interconnecting and holding said elements in position.

12. In a reel, a drum and sectional heads spaced thereon having outwardly extending flanges, elements extending between the heads and supported on the flanges thereof, and a plurality of strips individual to each sector designed to be secured to spaced portions of the flanges of each sector of the head and having means positioned in predetermined spaced relation for detachably engaging a predetermined number of elements

In witness whereof, I hereunto subscribe my name this 25th day of November, A. D. 1925.

ARTHUR ALFRED BUREAU.