

June 23, 1953

F. R. SCHAEFER ET AL

2,642,990

CABLE REEL AND LAGGING

Original Filed Sept. 15, 1945

2 Sheets-Sheet 1

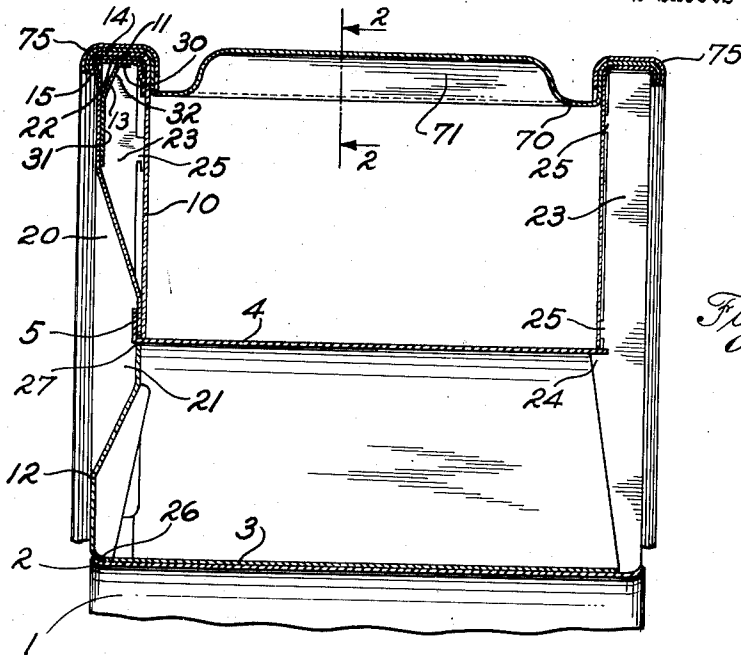


Fig. 1

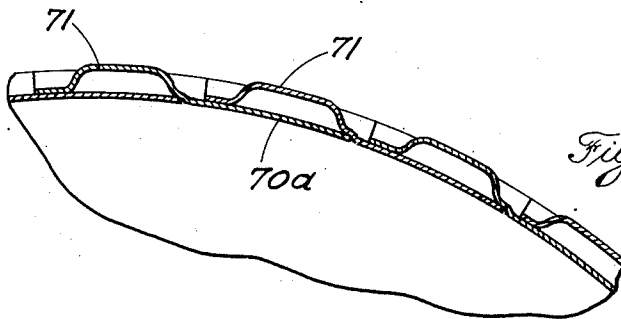


Fig. 2

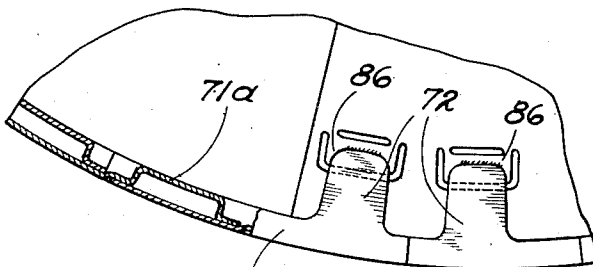


Fig. 3

INVENTORS
FREDERICK R. SCHAEFER
& RAY W. EMERY.
BY

Richy & Watts
ATTORNEYS

June 23, 1953

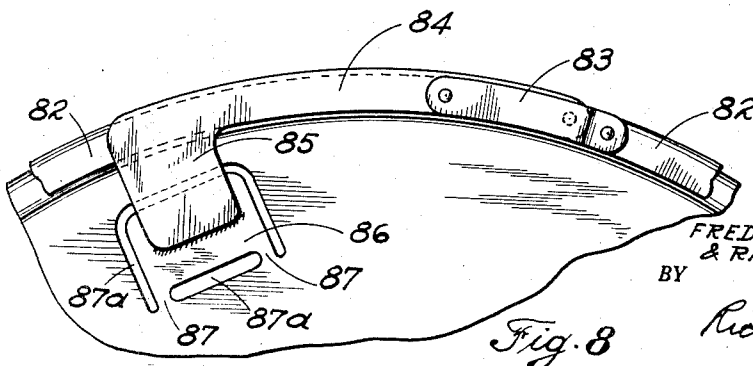
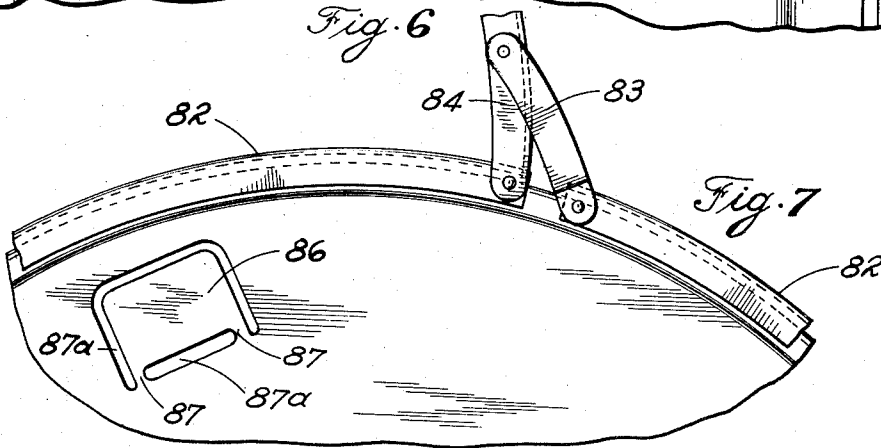
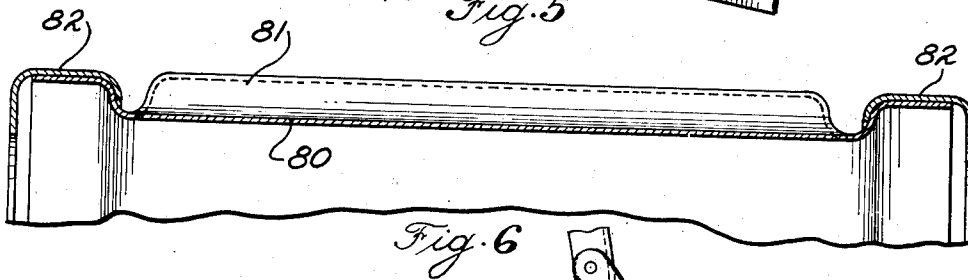
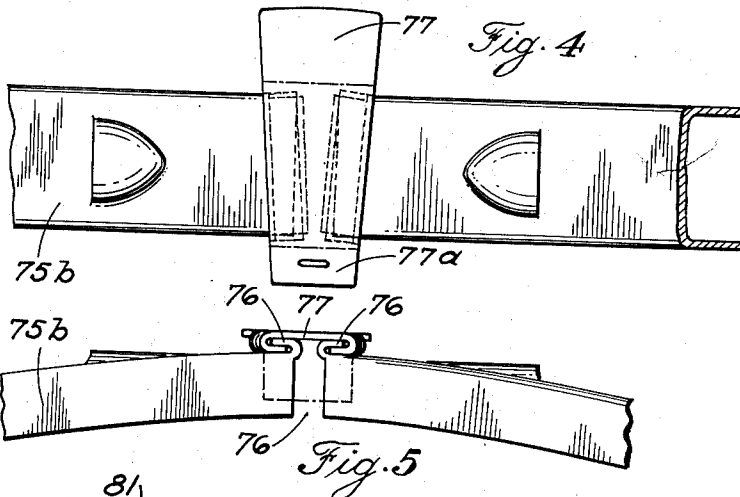
F. R. SCHAEFER ET AL

2,642,990

CABLE REEL AND LAGGING

Original Filed Sept. 15, 1945

2 Sheets-Sheet 2



INVENTORS
FREDERICK R. SCHAEFER
& RAY W. EMERY.

BY

Richy Watts
ATTORNEYS

UNITED STATES PATENT OFFICE

2,642,990

CABLE REEL AND LAGGING

Frederick R. Schaefer, Youngstown, and Raymond W. Emery, Warren, Ohio, assignors to Republic Steel Corporation, Cleveland, Ohio, a corporation of New Jersey

Original application September 15, 1945, Serial No. 616,498. Divided and this application September 20, 1949, Serial No. 116,754

2 Claims. (Cl. 206—59)

1

The present invention relates generally to the reel art and particularly to new lagging for such reels.

Reels embodying the present invention comprise a small number of inexpensive parts or assemblies including a hub and ends. The ends comprise sheet metal assemblies which are secured to the hub and may carry bushings or be attached to an inner hub. The peripheral portions of the ends are of reinforced construction and are adapted to fit lagging which may be connected thereto. Reels of this invention may be light in weight and yet strong enough for initial loading and for handling and shipping while loaded and may be so low in cost that they may be economically scrapped after their initial load is removed. They may also be heavier and stronger and suitable for repeated loading, handling and shipping.

The present invention will be better understood by those skilled in the art from the following description and from the drawings which form a part of the specification and in which,

Fig. 1 is a fragmentary, longitudinal section of a reel embodying the present invention;

Fig. 2 is a fragmentary, transverse, sectional view taken on line 2—2 of Fig. 1;

Fig. 3 is a fragmentary, partly sectional view of a modified form of lagging;

Figs. 4 and 5 are, respectively, fragmentary plan and elevational views showing a part of the lagging of Figs. 1 and 2 with one form of lagging securing means;

Fig. 6 is a fragmentary view similar to Fig. 1 but showing a modified form of lagging; and

Figs. 7 and 8 are fragmentary, side elevational views showing another form of lagging securing means in unlocked and locked position, respectively.

The reel shown in Fig. 1 comprises an inner hub, an outer hub and two end assemblies or units. The inner hub 1 is a cylindrical tube with ends 2 which are flared outwardly during assembly with the end assemblies or units. It is surrounded by a sheet metal shell 3 which, at each end, abuts the end assemblies and acts as an axial stop and spacer therefor. The outer hub 4, on which an elongated article such as a cable or the like is to be wound, is a sheet metal cylinder of considerably larger diameter than the inner hub

2

1. The ends of hub 4 are recessed to provide projections 5 which are secured, as by welding, to the end assemblies and serve, together with the flared ends of hub 1, to hold the end units in place relative to the hubs.

Each end unit or assembly includes an inner, metal ring 10, an annular metal reinforcing angle 11, a segmental metal disk 12 and gussets 13. The ring 10 seats at its inner periphery on the outer surface of outer drum 4 and at its outer periphery is bent to form an axially extending flange 14 which, during assembly, is provided with an inturned flange 15. The angle 11 bears against and is secured to the inner surfaces of ring 10 and its flange 14.

The segmental disk 12 consists of a plurality of sector shaped units or segments 20. Each unit 20 is preferably formed from sheet metal and includes a flat face portion having peripheral flanges and a radially extending depression 21.

The outer peripheral flange 22 of unit 20 is shaped by being curved to nest within the flanges 14 and 15 of ring 10 and to bear on ring 10. The peripheral flanges 23 along the sides of unit 20, i. e., along radii of the end units, extend to and bear against the opposed surface of ring 10 for part of their lengths. These flanges are of greater axial extent within outer drum 4 and bear against the inner surface of that drum, as is indicated at 24. Each flange 23 is provided with tabs 25 which extend laterally therefrom and project through notches in the flanges of adjacent segments 20. The inner peripheral flange 26 of each segment seats on the outer surface of inner hub 1 and bears endwise against shell 3 on that hub. As will be noted from Figs. 2 and 3, the depressed portion 21 of segment 20 bears against the opposed surface of ring 10 and has openings 27 therethrough in line with the projections 5 of outer drum 4.

A gusset 13 is associated with each segmental disk 12. Each gusset includes an outer flange 30 which bears against, and is preferably welded to, the inner surface of the peripheral flange 22, an inner flange 31 which bears against, and is preferably welded to, the inner surface of the flat portion of segment 20 and an angularly extending part 32 connecting flanges 30 and 31.

The apparatus of Fig. 1 may be assembled as follows:

Reinforcing angle 11 is placed in ring 10 and is attached thereto, as by being welded to the ring and to its flange 14. The gussets 13 are placed in their segmental disks 12 and are attached thereto, as by welding flanges 30 and 31 thereto. Then the several thus assembled segmental units are placed on ring 10 and are attached thereto, as by welding tabs 25 to ring 10, and flange 14 is shaped at its edge to form flange 15 which grips the segments at their outer edges. One end of inner hub 1 is fitted into one end assembly and is deformed as at 2, to grip the outer side of the assembly. Shell 3 is slid onto hub 1 to abut that end assembly. The projections 5 of outer hub 1 are inserted through openings 27 in the end assembly and are bent over to clamp the assembly against the drum. Then the other end assembly is secured in place at the opposite ends of hubs 1 and 4 in a similar manner.

The lagging which is shown in Fig. 1 comprises a sheet metal band 70 which has substantially the same circumferential length as that of the reel ends and is of sufficient width to extend from the outside of one end assembly to the outside of the other end assembly. Between these end assemblies, the band 70 is preferably formed with transverse ribs 71 for added rigidity and at its edges is bent into U-shaped form to engage the outer periphery and the parallel sides of the end assemblies adjacent to their peripheries. Lagging rings 75 having channel cross sectional shape are provided to secure band 70 in place on the reel. These rings bear against the outer peripheral end parallel portions of the strip 70.

Fig. 2 shows a modification of the band 70. As appears from the figure, this band is segmental with each section overlapping part of a corresponding section on one side thereof and underlying part of a corresponding section on the other side thereof. These sections are secured together, as by spot welding or any other suitable manner, and when the sections are assembled and connected, portion 70a of one section underlies the open rib portion 71 of an adjacent section and in turn overlies a part of the adjacent section with its own open rib part 71. Also, if desired, the ribs may be reversed, i. e., the concave surfaces which face inwardly in Fig. 2 may face outwardly as shown at 71a in Fig. 3. This reversal constitutes the main difference between the bands 70 of Figs. 2 and 3.

It is not essential that each ring 75 should be in one piece. In Fig. 3, the ring 75a consists of a plurality of pieces (only one being shown), these several pieces surrounding the reel. Each segment has radial extensions 72 at each end which may be welded to weakened parts of the reel ends, such as those shown at 86.

In the modification shown in Figs. 4 and 5, the locking ring 75b is transversely split, as at 76, the end extensions 76 thereof are reversely bent and are preferably inclined slightly to each other so that the U-shaped key 77 may engage with the extensions and force them toward each other thereby clamping the locking ring against strip 70 and securing it in place on the end assemblies. The narrower end 77a, or both ends, of key 77 may be bent down to prevent dislodgement and may be welded to the strip if desired.

Figs. 6, 7 and 8 show another modification of lagging and securing means. In this modification, the lagging consists of a sheet metal band 80 which is of greater width than the axial length of the reel and which is transversely developed, as at 81, for rigidity and strength. At its edges,

this band lies adjacent to the inner sides of the ends and extends across the thread of the end assemblies. Channel strips 82 are provided for each reel and each strip 82 bears against the outer sides of the reel ends. The means for locking the strips 82 to a reel includes short links 83 pivoted to one end of each of channels 82 and longer links 84 pivoted to the opposed ends of the channels, the shorter links being pivoted at their ends to the longer links. Links 84 have right angled projections 85 at their free ends which may be welded to a weakened portion 86 of one of the reel segments when the link 84 is in lagging locking position. This portion 86 of the segment is preferably connected to the segment only by short portions of metal as is indicated at 87, the remainder of these portions being separated from the reel by slots 87a.

When the lagging of this modification is assembled with a reel, the strip 80 is placed in position with the rings 82 surrounding the peripheral portions of the end assemblies of the reel. Then links 84 are depressed toward the reel, thereby actuating links 83 and forcing the ends of the rings toward each other and clamping the rings and strip on the reel. When extensions 85 of links 84 are in position over portions 86 of the reel, they may be welded to those portions. To remove the lagging it is only necessary to sever the short metal portions 87 and thereby break the connection between parts 86 and the reel segments. Then the levers 84 may be pivoted in a reverse direction with resultant separation of the ends of strip 80 and rings 82, whereupon the lagging may be removed from the reel to expose the cable or other material wrapped on the drum of the reel.

This application is a division of our copending application, Serial No. 616,498, filed September 15, 1945.

It will be understood by those skilled in the art that many modifications of the lagging construction hereinabove illustrated and described may be made without departing from the spirit of the present invention or the scope of what is claimed.

What is claimed is:

1. A device for handling a coiled article comprising a metal reel including a hub and disk-like end assemblies connected thereto at its ends, a length of sheet metal lagging encircling said reel, said lagging including a body portion spanning the space between said end assemblies, portions extending outwardly from the side edges of said body portion and being engageable with the inner sides of said end assemblies, and flange portions extending in opposite directions from the side edges of said outwardly extending portions and being engageable with the outer peripheries of the end assemblies, split rings encircling said flange portions of the lagging, and securing means attached to said rings and serving to urge the ends of said rings toward each other and to press the outwardly extending portions and the flange portions of the lagging against the inner sides and outer peripheries of the end assemblies, respectively.

2. Reel lagging for a reel having axially spaced ends comprising a sheet metal band having length and width dimensions suitable for encircling said reel ends and spanning the space therebetween and edges shaped to engage the outer peripheries and inner sides of said ends and means for locking said band in place on a reel, said locking means comprising split, channel-shaped rings corresponding in shape to the shape

2,642,890

5

of the edges of said band and adapted to surround and engage the edges of said band and means to contract said rings and clamp said band on said reel ends and retain said rings in contracted position, said last-named means comprising wedges having sliding engagement with the opposed ends of the ring for urging the ends of a ring toward each other when moved transversely of the rings.

FREDERICK R. SCHAEFER.
RAYMOND W. EMERY.

Number
1,849,977
1,913,477
1,981,140
5 2,023,172
2,215,076

Number
10 671,146

6

Name	Date
Decombe -----	Mar. 15, 1932
Daubmeyer et al. ----	June 13, 1933
Bureau et al. -----	Nov. 20, 1934
Hayward -----	Dec. 3, 1935
Ashe -----	Sept. 17, 1940

FOREIGN PATENTS

Country	Date
France -----	Aug. 31, 1929

References Cited in the file of this patent

UNITED STATES PATENTS

Number	Name	Date	
1,266,771	Corkell -----	May 21, 1918	15