Aug. 1, 1933. H. BLOUNT ET AL 1,920,181

REEL

Filed Sept. 30, 1930

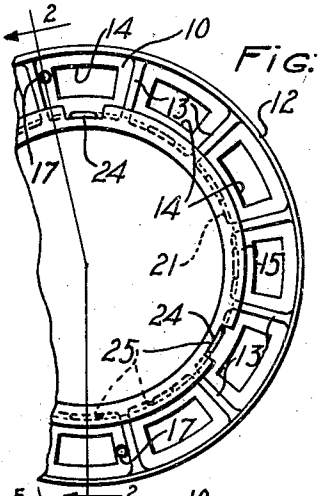


Fig. 1.

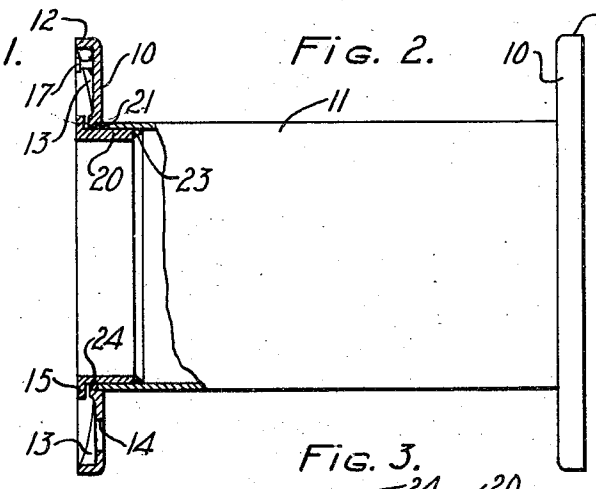


Fig. 2.

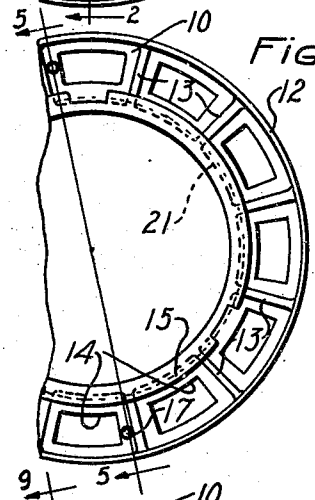


Fig. 4.

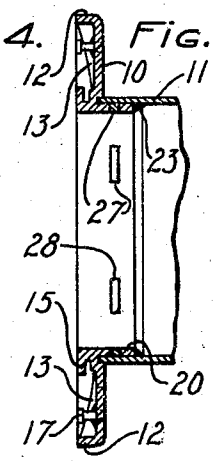


Fig. 5.

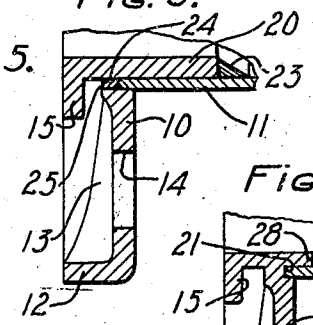


Fig. 3.

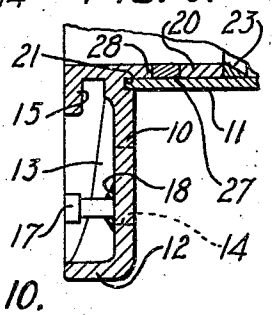


Fig. 6.

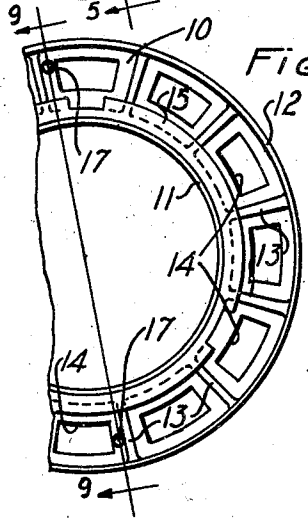


Fig. 8.

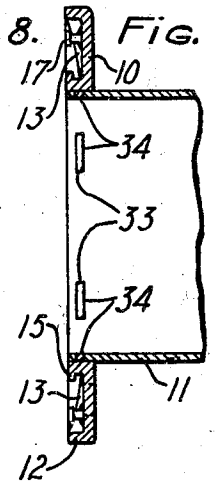


Fig. 9.

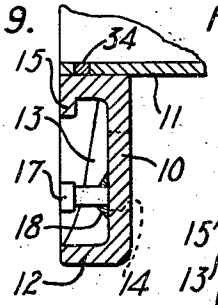


Fig. 10.

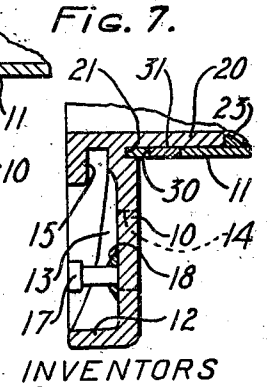


Fig. 7.

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UNITED STATES PATENT OFFICE

1,920,181

REEL

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Application September 30, 1930
Serial No. 485,373

6 Claims. (Cl. 242—77)

This invention relates to reels, and more particularly to metallic reels for holding strand material, such as wire and the like.

An object of the invention is to provide a reel of simple and inexpensive construction, and having a high degree of strength and durability commensurate with its weight.

The invention contemplates the provision of a reel comprising a metallic drum and a pair of metallic heads, preferably composed of cast steel, welded to opposite ends of the drum. The heads are formed with external projecting peripheral flanges and radial reenforcing ribs. An annular channel is provided on the outer face of each of the heads for receiving several turns of the inner and outer end portions of the wire wound on the reel, to thereby facilitate the connection of the inner end of the wire on one reel to the outer end of the wire on another reel and thus permit the continuous withdrawal of wire.

In one embodiment of the invention, annular grooves are provided in the inner faces of the heads for receiving the ends of the drum, and the heads are formed with inwardly projecting hub portions which extend within the drum. A continuous ring or fillet of welding material is deposited in the annular shoulder formed by the end of the hub portion and the inner surface of the drum to thereby secure the head to the drum. Additional welding material deposited through spaced slots in the heads and fused with the ends of the drum serves to further secure the heads to the drum. In an alternative form of the invention, the hub portions of the heads are formed with spaced slots for receiving welding material which is fused with the drum to thereby secure an intimate bond between the heads and the drum. In a slightly modified construction, spaced slots for receiving welding material are provided in the drum instead of in the hub portion of the head. In another embodiment of the invention, the drum extends through the heads and its ends are flush with the outermost surface of the heads. Welding material deposited in spaced slots in the drum is fused with the head to thereby secure the heads to the drum.

Other features and advantages of the invention will become apparent from the following detailed description, reference being had to the accompanying drawing, wherein

Fig. 1 is a fragmentary end elevational view of a reel embodying the features of the invention;

Fig. 2 is a side elevational view thereof, partly in section on line 2—2 of Fig. 1;

Fig. 3 is an enlarged fragmentary section showing one method of attaching the heads to the drum;

Fig. 4 is a fragmentary end elevational view of another form of reel embodying the features of the invention;

Fig. 5 is a fragmentary section on line 5—5 of Fig. 4;

Fig. 6 is an enlarged fragmentary section showing the method of attaching the heads to the drum of the reel shown in Figs. 4 and 5;

Fig. 7 is a fragmentary section showing an alternative method of attaching the heads to the drum;

Fig. 8 is a fragmentary end elevational view of an alternative reel construction embodying the features of the invention;

Fig. 9 is a fragmentary section on line 9—9 of Fig. 8, and

Fig. 10 is an enlarged fragmentary section showing the method of attaching the heads to the drum of the reel shown in Figs. 8 and 9.

Referring now to the drawing, it will be observed that a reel embodying the features of the present invention comprises a pair of metallic end members or heads 10—10 secured to opposite ends of a metallic drum 11. The heads are preferably formed of cast steel and are provided with externally projecting peripheral flanges 12—12 and a plurality of spaced radial reenforcing ribs 13, 13. The weight of the heads is reduced considerably by providing open spaces or slots 14, 14 intermediate the reenforcing ribs 13. Each of the heads is formed with an external annular channel portion 15 for receiving several turns of the inner and outer end portions of the wire contained on the reel. This facilitates the connection of the inner end of the wire contained on one reel to the outer end of the wire contained on another reel to thereby permit the continuous withdrawal of wire. One or more headed pins or buttons 17 are welded, as indicated at 18, to the outer faces of the heads 10, and serve as a means for fastening the ends of the wire to prevent displacement thereof.

In the embodiment of the invention shown in Figs. 1 to 7, inclusive, the heads 10 are formed with inwardly projecting hub portions 20 adapted to fit tightly within the ends of the drum 11. An annular groove or recess 21 is provided in the inner face of each of the heads adjacent the outer surface of the hub portion 20. These annular grooves are adapted to receive the ends of the drum, as best shown in Figs. 3, 6 and 7. The heads are secured to the drum by a con-

tinuous ring or fillet 23 of welding material deposited in the annular shoulder formed by the end of the hub portion 20 and the inner surface of the drum 11.

In the embodiment of the invention shown in Figs. 1 to 3, inclusive, the heads are further secured to the drum by welding material 24 deposited in slots 25, 25 (Fig. 1) formed in the heads, which slots communicate with the annular groove 21. The welding material 24 is fused with the end surfaces of the drum and the adjoining surfaces of the heads to form an intimate bond between the drum and the heads.

Another method of securing the heads to the drum is shown in Figs. 4 to 6, inclusive. In addition to the continuous weld 23, described above, welding material 27 is deposited in spaced rectangular slots 28, 28 formed in the hub portions 20 of the heads. In the construction shown in Fig. 7, spaced slots 30—30 are provided in the drum near each end thereof and welding material 31 deposited in these slots forms an intimate bond between the drum and hub portions 20 of the heads.

In the embodiment of the invention shown in Figs. 8 to 10, inclusive, the drum 11 extends through the heads 10 and its ends are flush with the outermost surfaces of the heads. The drum is provided with spaced slots 33, 33 near its ends and welding material 34 is deposited in these slots to secure the heads to the drum.

From the above description, it will be apparent that reels embodying the features of the present invention are of simple and inexpensive construction, consist of few parts, and have a high degree of strength and durability commensurate with their weights.

It is to be understood that the embodiments of the invention herein illustrated and described are merely representative of several useful forms of the invention which is capable of other modifications within the scope of the appended claims.

What is claimed is:

1. A reel comprising a drum, and a head having a hub provided with an annular groove for receiving an end of the drum, an inwardly projecting flange arranged to fit within the drum, an outwardly projecting flange, and spaced slots in the hub extending parallel to the drum and through the outwardly projecting flange to the drum for receiving welding material for securing the head to the end of the drum.

2. A reel comprising a drum, and a head having a hub provided with an annular groove for receiving an end of the drum, an inwardly projecting flange arranged to fit within the drum, an outwardly projecting flange and a slot in the hub parallel to the drum and through the outwardly projecting flange communicating with the groove for receiving welding material to secure the head to the end of the drum.

3. In a reel, a drum, a head having a hub, said hub having an external annular channel portion having a plurality of slots therein, an inwardly projecting flange arranged to fit within said drum and having an annular recess or groove to receive the end of said drum and a plurality of apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum, and a fillet of welding material in the apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum.

4. In a reel, a drum, a head comprising an external projecting peripheral flange, a hub, a face connecting said flange and said hub, said hub having an external annular channel portion having a plurality of slots therein, an inwardly projecting flange arranged to fit within said drum and having an annular recess or groove to receive the end of said drum and a plurality of apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum, and a fillet of welding material in the apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum.

5. In a reel, a drum, a head comprising an external projecting peripheral flange, a hub, a face having a plurality of apertures therein and connecting said flange and said hub, a plurality of spaced radial reenforcing ribs extending between said peripheral flange and said face intermediate the apertures in the face, said hub having an external annular channel portion having a plurality of slots therein, an inwardly projecting flange arranged to fit within said drum and having an annular recess or groove to receive the end of said drum and a plurality of apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum, and a fillet of welding material in the apertures connecting the external annular channel and the annular recess or groove for receiving the ends of the drum.

6. In a reel, a drum, a head comprising an external projecting peripheral flange, a hub, a face having a plurality of apertures therein and integral with the flange and the hub, a plurality of spaced radial reenforcing ribs integral with said peripheral flange and said face intermediate the apertures in the face, said hub having an external annular channel portion having a plurality of slots therein and flush with the external projecting peripheral flange, an inwardly projecting flange arranged to tightly fit within said drum and having and provided with an annular recess or groove to receive the end of said drum and a plurality of apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum, a continuous fillet of welding material between the inner surface of said drum and said inwardly projecting flange, and a fillet of welding material in the apertures connecting the slots in the external annular channel and the annular recess or groove for receiving the ends of the drum, fused to the end surface of the drum and the adjoining surface of the hub.

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