

No. 851,366.

PATENTED APR. 23, 1907.

F. MOSSBERG.

REEL.

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2 SHEETS—SHEET 2.

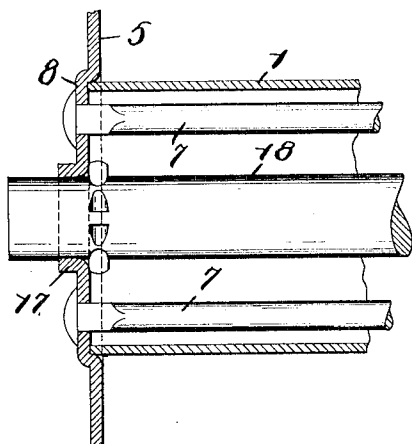


Fig. 9

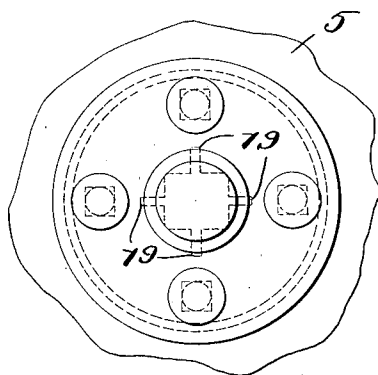


Fig. 10

WITNESSES:

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REEL.

No. 851,366.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, FRANK MOSSBERG, a citizen of the United States, residing at Attleboro, in the county of Bristol and State of Massachusetts, have invented certain new and useful Improvements in Reels, of which the following is a specification.

My invention relates to spools or reels of large size, such as are used for carrying wire, lead-covered telephone cables and the like, and which consequently, require to be very strongly and solidly constructed, in order to support the heavy loads and withstand the rough usage to which they are subjected.

Heretofore, reels for the described, and other similar purposes, have been constructed so far as I am aware, either wholly of wood, or partly of wood and partly of cast iron. Such reels are necessarily very heavy and consequently clumsy, and do not prove very satisfactory in practice.

The object of my invention is to improve the construction of reels of the class described by making the heads, which are necessarily of large diameter, and must be capable of supporting a great weight, out of sheet-metal which is pressed into shape to admit of ready and secure attachment of the hub to the heads, and to impart great rigidity and stiffness to the latter as well as to the whole structure. The heads are also provided with means whereby the reel may be mounted on bearings, so that it can be rotated, as for instance, while the wire or cable is being wound onto, or unwound from the reel.

The construction of my improved reel will now be described in detail, reference being had to the accompanying drawings, in which,

Figure 1 is an end view of a reel embodying my improvements; Fig. 2 is a central longitudinal section of the same; Fig. 3 is an end view of the hub of the reel; Fig. 4 is a partial, longitudinal section through the hub; Figs. 5, 6, 7, and 8 are cross-sections of the upper portions of one of the heads, showing the different forms in which the periphery thereof may be formed; Fig. 9 is a partial, central longitudinal section through a slightly modified construction of reel, and, Fig. 10 is an end view of the reel of Fig. 9.

The reel consists primarily in a hollow hub 1, made of a sheet-metal plate, preferably of steel, bent to form a cylinder, the resulting longitudinal seam being preferably secured by a butt-riveted joint, shown in Figs. 2, and 3, the same comprising a longitudinal strip 2,

secured to both edges of the seam by rivets 4. The strip and rivets, may however be omitted in some cases, as the cylinder forming the hub is sufficiently secured by the attachment of the heads as will be presently apparent.

The other component parts of my improved reel are the heads 5, 5, the central shaft 6, and the bolts 7 which secure the structure together. The two heads are exactly alike, so I will confine my description thereof to one of them. It consists of a large disk of sheet-metal, which is pressed in dies, in a well known manner, to form a central circular recess 8 therein of a diameter corresponding to that of the hub. The center of this recess is punched out, so as to leave a central aperture for the reception of the shaft 6, and a suitable number of equally-spaced holes are punched or drilled in the recessed portion near its edge, to receive the bolts 7, those in one disk being preferably punched square to keep the bolts from turning. During the pressing operation, the disk is also provided with a number of raised, radial ribs 9, which add greatly to the stiffness and strength of the heads. These may be omitted of course, where the heads will be strong enough without them for the purpose to which they are to be put.

The periphery of the disk may be left flat; as shown in Fig. 5, or it may be turned at right angles to the plane of the disk, to form a flange 10, Fig. 6. This flange may be formed concave in cross section, as represented at 11 in Fig. 7, in which case it is adapted to serve as a pulley, so that the reel, when pivotally supported, may be rotated by a belt or rope. Again the edge of the disk may be curled over, as shown at 12 in Fig. 8, so that it is angular in cross section.

The shaft 6 is greatest in diameter in its central portion 13, has short end portions 14 of reduced diameter, and journals or trunnions 15 at the ends of the latter. The diameter of the portions 14 corresponds to that of the central apertures in the recesses 8, and in assembling the parts, the heads are slipped over said portions 14 up against the shoulders formed between them and the central portion 13, and the hub 1, which has previously been placed around the shaft, is engaged at its ends by the central recesses 8, which just fit over it. Then the bolts 7 are inserted in the holes formed for them in the recessed portions of the heads.

When the nuts 16 are tightened up on said bolts the heads 5 firmly clamp the hub 1 between them and are themselves securely clamped to the shaft 6.

- 5 The modification shown in Figs. 9 and 10 consists in bending outwardly the edges of the central aperture in the recessed portions 8 to form a flange or short sleeve 17, to give the heads additional support, and in
10 using a shaft 18 of uniform diameter, a bearing for the inside of each head being formed by punching up the metal from both directions at four equidistant places on the periphery of the shaft, so as to form four lugs
15 or projections 19, which act in effect as a shoulder, against which the heads are secured by the bolts 7.

Having thus described my invention, and without desiring to limit myself to the exact
20 form illustrated but to be fully protected in the general principles of my invention,

What I claim is,

1. A reel of the class described, the same comprising a hollow, cylindrical hub, circular
25 sheet-metal heads, each provided with a concentric offset of such a diameter as to engage and support the ends of said hub, a shaft passing axially through said hub and heads and carrying means bearing against
30 the inside of the said offsets of said heads, and means to secure said parts together.

2. A reel of the class described, the same consisting of a hollow cylindrical hub, sheet-metal heads having central circular recesses
35 pressed therein to receive the ends of said hub, a shaft passing axially through said heads and having means bearing against the inside faces of said heads, and bolts passed through said heads and within said
40 hub to secure the same together and to said shaft.

3. A reel of the class described, the same

consisting of a hollow cylindrical sheet-metal hub, sheet-metal heads having central circular recesses pressed therein to fit over
45 the ends of said hub and having radial ribs pressed therein, a shaft of uniform diameter passing axially through said heads and provided with projections punched up there-
50 from to engage and support said heads internally and bolts passed through said heads within said hub to secure the same together and to said shaft.

4. A reel of the class described, the same consisting of a hollow cylindrical sheet-metal
55 hub, sheet-metal heads having central circular recesses pressed therein to fit over the ends of said hub, said recesses having central outwardly flanged apertures, a shaft of uniform diameter passing through said ap-
60 ertures, projections punched up from the surface of said shaft to form a bearing for the inside surfaces of said heads, and bolts passing through said heads within said hub to secure said parts together.

5. A reel of the class described, the same consisting of a cylindrical hub, pressed-steel
65 heads shaped to engage the ends of said hub and having their peripheries bent to form a belt-race and means to secure said heads and
70 hub together

6. A reel of the class described, the same consisting of a cylindrical hub, pressed-steel
75 heads shaped to engage the ends of said hub, said heads having their peripheries flanged over and means whereby the reel may be rotatably mounted.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

FRANK MOSSBERG.

Witnesses:

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