CABLE DRUM FOR MOTOR VEHICLES

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The invention described herein may be manufactured and used by or for the Government for governmental purposes, without the payment to me of any royalty thereon.

The present invention pertains to a novel cable drum or winch for motor vehicles. The object of the invention is to provide such a device in a readily removable or retractable form so that it need not permanently project outwardly from the wheel on which it is carried.

In one embodiment of the invention the drum consists of two identical and semi-circular sections. These are either hooked or bolted on the wheel in such position that their diameters coincide to form a complete drum. This construction is quickly attachable and detachable.

In another embodiment, a skeleton drum is provided, consisting of a plurality of fingers hinged to a side of the wheel in a circular series. In idle position they merely lie against the side of the wheel. In use they are swung outwardly from the wheel and fitted with a ring interlocking with their free ends to form a rigid structure.

The invention is fully disclosed by way of example in the following description and in the accompanying drawings in which:

Figure 1 is a diametrical section of the device applied to a wheel;

Figure 2 is an elevation of a modification;

Figure 3 is an elevation of another modification;

Figure 4 is an elevation at right angles to Figure 3; and

Figure 5 is a detail section, corresponding to Figure 3, of a modification.

Reference to these views will now be made by use of like characters which are employed to designate corresponding parts throughout.

In Figure 1 is shown a conventional automobile or truck wheel designated generally by the numeral 1 and having a disk 2. The disk has the usual series of openings or slots 3 and these are utilized to support a cable drum.

The drum consists of two identical parts or sections 4 which are semi-ring-shaped in elevation. When brought together on the diameter 5 they form a complete drum. Each member is suitably grooved at 6 in the periphery to form a sheave. The inner side wall 7 of each section is shaped to fit against the disk and is formed with hooks 8 at its outer edge to attach in the openings 3.

The split character of the device permits mounting in this manner, and when the sections are thus mounted, the diameters 5 coincide to form a complete drum. The first winding of a cable on the drum holds the sections together.

In the modification shown in Figure 2, the hooks are not used. Instead, a flange 10 is provided on each section to engage the outer end of the hub plate 11 and is formed with slots 12 adapted to receive the hub bolts 13 when loosened. After application of the sections in this manner, the bolts are tightened to hold the sections in place. The sections are further held together by the first winding of the cable as previously stated.

Figures 3 and 4 show a modified construction which is permanently carried by the wheel and is extended when it is to be used. The hub portion 15 of the wheel disk 16 carries a circular series of lugs 16 to each of which is pivotally attached a link or finger 17.

The outer or free end of each finger is formed with a notch 17′. When the fingers are equally extended, a ring 18 is inserted in the notches. A skeleton drum is thus formed, and the curvature of the fingers contributes to a sheave formation. This construction is especially suitable for front wheels where a permanently attached drum would be an obstacle. In Figure 5 the notch in each finger is replaced by a hook 17′a to receive the ring 18′.

By the use of any of the described devices, with the free end of the cable attached to a fixed object, a truck can pull itself out of mud, soft sand or the like or up a steep grade under its own power. The device is also useful as a winch.

Although a specific embodiment of the invention has been illustrated and described, it will be understood that various alterations in the details of construction may be made without departing from the scope of the invention as indicated by the appended claims.

What I claim is:

1. A drum comprising two semi-ring-shaped sections adapted to coincide at their exposed diameters, a radially extending flange on one side of each section, said flanges having parallel slots adapted to receive the hub bolts of a powered wheel, with the diameters coinciding.

2. In combination, a wheel hub having a circular series of bolts, a drum comprising two semi-ring-shaped sections adapted to coincide at their exposed diameters, a flange on one side of each section, said flanges having slots extending to the exposed diameters of the sections and adapted to receive said bolts, with said diameters coinciding.

3. In combination, a wheel, a plurality of
fingers pivotally attached to a side of said wheel in a circular series, and a detachable ring mounted upon the outer ends of said fingers when swung away from said wheel.

4. In combination, a wheel having a disk, a plurality of fingers pivotally attached to said disk in a circular series, and a detachable ring mounted upon the outer end of said fingers when swung away from said disk.

5. In combination, a vehicle wheel comprising an annular disc having a generally axially extending portion and a generally radially extending portion, said radially extending portion having a plurality of spaced apertures near the periphery thereof, a wheel rim mounted on said axially extending portion, a drum adjacent the outboard side of said annular disc comprising a plurality of complementary semi-ring-shaped sections adapted to cooperate to form an annular ring, and a plurality of radially inwardly turned hooks on the axially inboard edges of said sections adapted for insertion in said apertures and engageable with the annular wheel disc to support the drum thereon and to permit removal thereof.

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