B. A. CHILSON.

AUTOMOBILE PULLER.

APPLICATION FILED OCT. 13, 1917.

1,267,376. **Patented May 28, 1918.**

Fig. 1

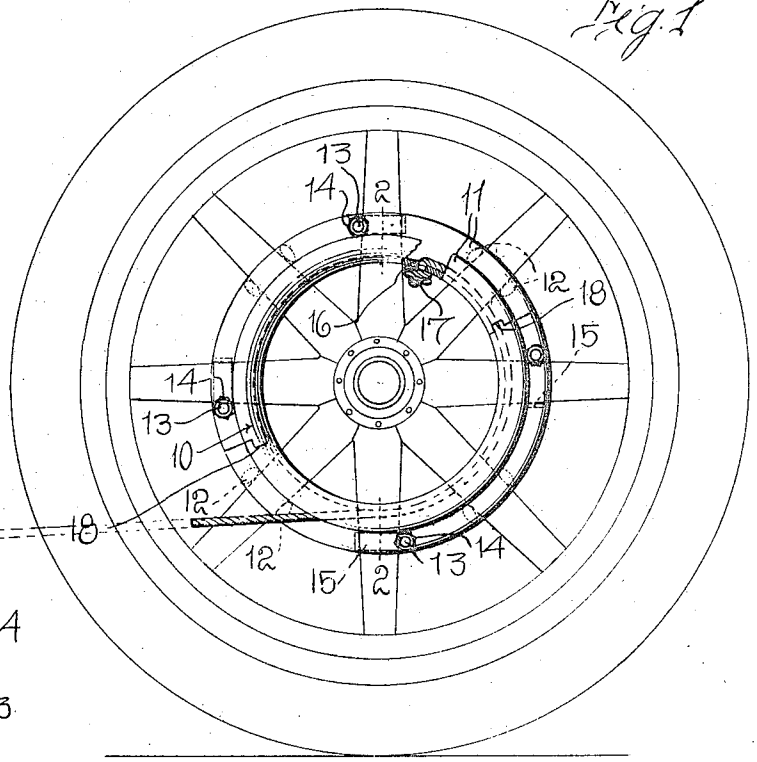


Fig. 2

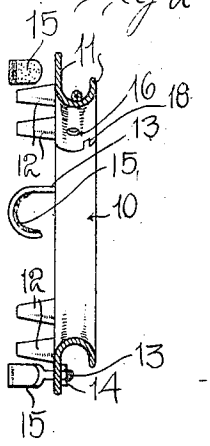


Fig. 3

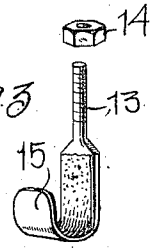
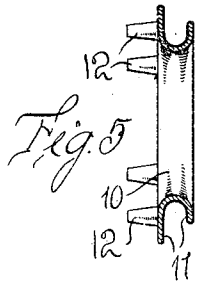


Fig. 5



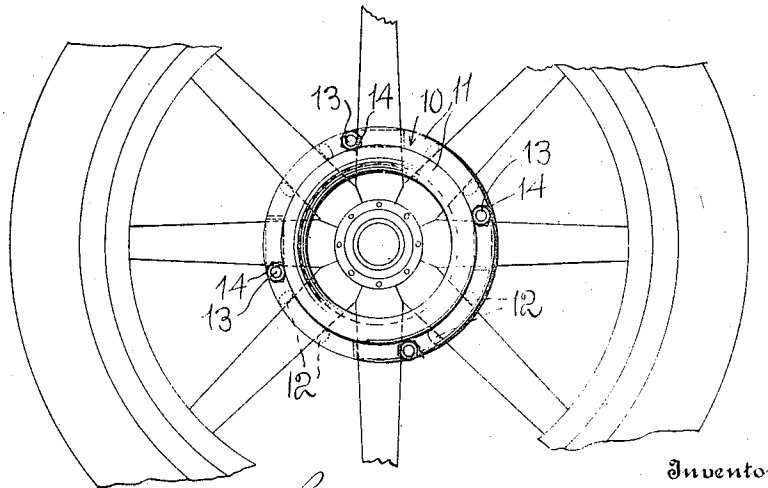


Fig. 4

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AUTOMOBILE-PULLER.

1,267,376. Specification of Letters Patent. Patented May 28, 1918.

Application filed October 13, 1917. Serial No. 196,475.

To all whom it may concern:

Be it known that BENN A. CHILSON, a citizen of the United States, residing at Covington, in the county of Kenton and State of Kentucky, has invented certain new and useful Improvements in Automobile-Pullers, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to means for pulling automobiles or like traction vehicles out of sand and mud holes, and particularly to devices of this character which include a winding drum operatively supported upon the rear wheels of the automobile to which drum a rope is connected extending to an anchor, the rotation of the rear wheels of the automobile causing the drum to wind up the cable and thereby drawing the machine forward.

One of the main objects of my invention is to provide a device of this character which is very simple and which may be, as a consequence, easily applied, easily removed and may be cheaply made.

A further object is to provide a device of this character which is extremely light and is capable of being made of compressed steel or like material.

Still another object is to provide means whereby the winding drum which I have devised may be readily connected to or disconnected from the spokes of the automobile wheel, and which will not require that the wheel be taken apart in order to apply the winding drum thereto.

A further object is to provide a winding drum made in two pieces for large wheels, so as to permit the drum to be readily carried without taking up too much room.

Still another object is to provide a construction of this character including a drum from which the cable may be carried to an anchor, either disposed forward or rearward of the machine and thus the driving mechanism may be driven either forward or reversely and the automobile either hauled forward or rearward in order to disengage it from the mud or sand.

Other objects will appear in the course of the following description.

My invention is illustrated in the accompanying drawings, wherein:—

Figure 1 is a side elevation of an automobile wheel provided with my improved pulling attachment, the attachment being in elevation, but partly broken away;

Fig. 2 is a vertical section through the attachment on the line 2—2 of Fig. 1;

Fig. 3 is a perspective view of one of the spoke clamps detached;

Fig. 4 is a fragmentary side elevation of an automobile wheel showing the different form of attachment;

Fig. 5 is a diametrical section of the attachment as shown in Fig. 4.

Referring to these figures, it will be seen that my improved winding drum, as illustrated in Fig. 1, comprises an annulus of relatively thin metal, designated 10, which is transversely curved to provide oppositely disposed flanges 11, this annulus constituting the winding drum proper. This annulus is preferably made of relatively thin sheet steel, but I, of course, do not wish to be limited to this. One of the flanges 11 is provided with a plurality of pairs of inwardly extending studs 12, these studs being spaced from each other a suitable distance to receive a spoke between them. On large drums four pairs of studs may be provided, but on relatively small drums there may be less than four pairs of these studs 12. The same flange 11 which carries the studs is also perforated at a plurality of points for engagement with the shanks 13 of clamp bolts, these bolts carrying the nuts 14 and the shanks being laterally widened and then bent into the form of a hook, as at 15, and adapted to embrace a spoke. Preferably the inner faces of the clamp members 15 will be lines with felt, leather or other suitable material, so that these hooks will not scratch the varnish or paint on the wheels.

The winding drum is formed with a perforation 16 and when it is desired to use the winding drum, a cable of sufficient strength and flexibility and which may be made of any suitable material is extended through this perforation and knotted as at 17. The device is then ready to use.

For small automobiles, where the brake drums are relatively small in diameter, I preferably provide relatively small winding drums, which may be made in one piece, but for large machines, where the brake drums are relatively wide in diameter, I preferably make the winding drum in two pieces, as illustrated in Fig. 1, the joints between

these two sections of the winding drum being designated 18.

In the operation of this device either one or two of these winding drums may be used. If two are used, they are disposed on the two rear driving wheels and two cables are carried from the respective driving wheels and joined to form one cable extending forward to any suitable anchoring means, as for instance a stake or tree. The power is then applied to the rear wheels and the cable is wound up upon the wheels, thus drawing the machine up out of the rut, mud hole or sand in which it is lodged.

The principal advantage of my invention lies in its extreme simplicity and lightness and the ease with which it may be applied and removed. Where the winding drum is made in two sections, as in Fig. 1, it may be easily carried in a tool box, each section being only about 8″ by 16″. The smaller winding drum is about ten inches in diameter, which makes it, of course, very handy to carry. It will further be noted that the winding drum is itself connected immediately to the spokes and that no separate plate, ring, or other device has to be used in order to support the winding drum on the wheel. Furthermore, it will be seen that this device does not clamp upon the wheel hub, but extends concentrically to the wheel hub and engages the spokes. Furthermore, it will be noted that this device does not require that any portion of the automobile wheel be removed in order to apply the winding drum thereto.

The provision of the tongue and notch which forms the joint 18 enables the two sections of the annulus to very quickly line up and prevents the sections from being wrongly put together. It will also be seen that the annulus is very readily centered. The brake drum inside of the wheel forms a guide for the centering of the annulus and even if the device is not centered accurately, it makes no great difference.

It is to be noted that the bolts carrying the hooks 15 extend directly from the inner flange of the annulus so that the strain on said bolts is borne by the full strength of the material of which the annulus is formed and that this strain is in the direction of the material of which the annulus is formed and entirely circumferential, there being no flexing stress which would tend to bend or break the parts.

It will further be noted that because the studs 12 are tapered, the studs will bind on each side of the spoke with which they are engaged. It will also be noted that these studs extend from the inner flange of the annulus and that the same advantage is obtained, therefore, as for the location of the bolts 13 on the inner flange of the annulus.

Having described my invention, what I claim is:—

1. A pulling device for automobiles comprising a winding drum formed of relatively thin metal transversely curved to form lateral flanges defining a cable groove between them, one of said flanges being provided with pairs of inwardly projecting spoke engaging studs and with a plurality of bolts, each bolt being formed at its upper end to provide a flattened hook adapted to engage around the spoke of an automobile, said winding drum being adapted to receive a cable, the winding drum being formed at the bottom of the groove with a perforation extending to the interior face of the winding drum for the reception of the knotted end of a cable.

2. A pulling device for automobiles comprising an annulus formed to provide lateral flanges and a metal cable groove, one of the flanges being provided with laterally projecting pairs of studs adapted to embrace the spokes of the wheel and also provided with a plurality of bolts having terminal ends adapted to engage with the spokes of a wheel, said annulus being formed in a plurality of sections, each section at one end having a tongue projecting from the outer flange remote from the studs and with a groove at the other end into which the corresponding tongue fits.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

BENN AUSTIN CHILSON.

Witnesses:
W. J. HEITZMAN,
WM. R. BROWN.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."