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E. M. BUTLER

1,498,151

TROUBLE CAR ATTACHMENT

Filed March 22, 1922

Fig. 2

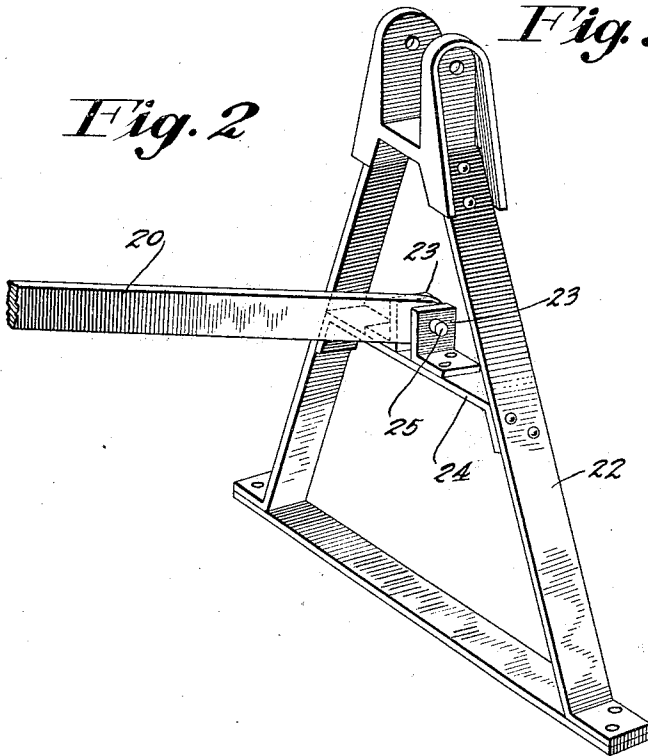


Fig. 3

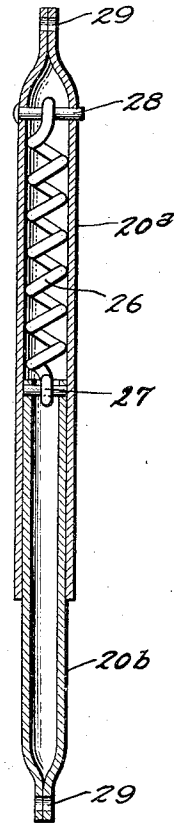
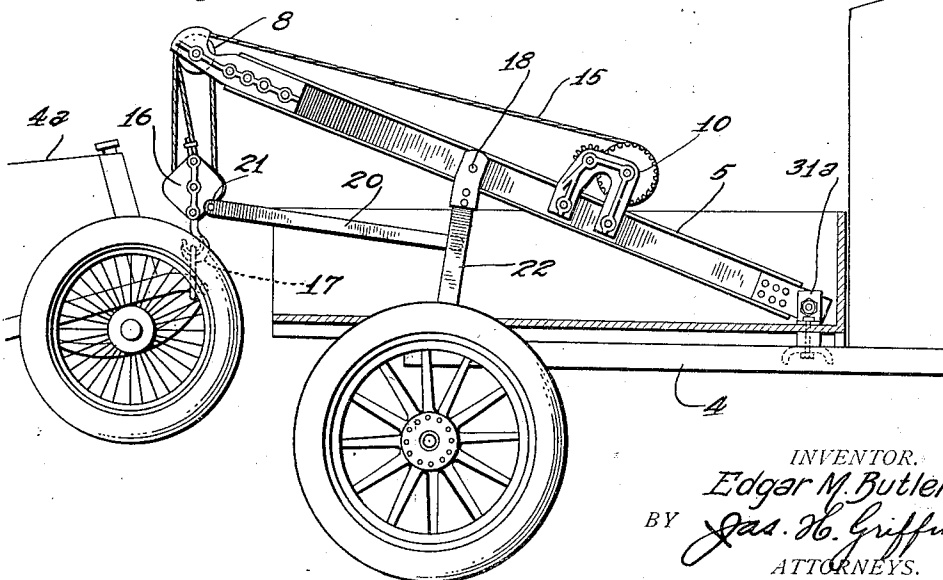


Fig. 1



INVENTOR.
Edgar M. Butler
BY *Geo. H. Griffin*
ATTORNEYS.

UNITED STATES PATENT OFFICE.

EDGAR M. BUTLER, OF BROOKLYN, NEW YORK.

TROUBLE-CAR ATTACHMENT.

Application filed March 22, 1922. Serial No. 545,717.

To all whom it may concern:

Be it known that I, EDGAR M. BUTLER, a citizen of the United States, residing at New York city, borough of Brooklyn, in the county of Kings and State of New York, have invented a certain new and useful Trouble-Car Attachment, of which the following is a specification.

This invention is an attachment adapted to be associated with trouble or service cars employed by garage owners in lending aid to motor cars when they become disabled on the road. It is the practice of garages to have service cars which are sent to the scene of accidents or breakdowns and are, in effect, portable workshops which permit of repair of minor breakdowns but are further usually provided with chain hoists, cranes or other analogous devices by means of which a wrecked car may be towed back to the garage. Most of these towing devices are so constituted that the front wheels of the car may be lifted free of the road for the purpose of facilitating towing of the car in the event of broken steering gear or broken front wheels. Such a trouble car is shown generally in my application Serial No. 475226 filed June 6, 1921.

In my said copending application, the hoisting and towing means associated with the trouble car is in the form of a rigid beam one end of which is anchored to the car at the rear of the driver's seat. The beam is maintained in an upwardly inclined position by means of a strut member and the out-board end of the beam is provided with one or more sheaves and intermediate the ends of the beam is mounted a winch. A rope or cable passes from the winch over the sheaves through the hoisting block provided with a catch hook. When the car is so damaged as to require towing the block and winch are utilized to lift the front of the car free from the pavement and said car is thereafter towed by the trouble car on which the beam is rigidly mounted.

The structure described has been found in practice to give highly efficient and satisfactory results in the towing of disabled cars but, my experience has shown that this structure is open to one disadvantage, namely, that when the front of the car is supported in lifted position by the block and cable there is a tendency on the part of the car being towed to lag or creep up on the tow or trouble car. Unless the block is

raised sufficiently high so as to give practically no slack in the cable there is a tendency on the part of the car being towed, when the tow car is braked, to creep forwardly to such extent that the end of the beam engages with the radiator of the car being towed with consequent liability of damage to the radiator.

The object of the present invention is to obviate this tendency in a simple, efficient and economical manner and without unduly encumbering the tow car or adding undesirable weight thereto.

In its preferred practical form, the invention contemplates the employment of a rigid or resilient member adapted to be associated with the block and anchored at its forward end to the strut of the tow or trouble car. In the preferred construction this member is in the form of a metal bar pivotally secured at one of its ends to the block and at its other end to the strut which maintains the beam in inclined position. By employing this rigid member objectional sway of the car being towed in a back and forth direction with relation to the tow car, is entirely obviated.

Features of the invention, other than those adverted to will be apparent from the hereafter detailed description and claims, when read in conjunction with the accompanying drawings.

The accompanying drawings illustrate different practical embodiments of the invention, but the constructions therein shown are to be understood as illustrative, only, and not as defining the limits of the invention.

Figure 1 shows the present invention as associated with a tow or trouble car, which car is shown in the act of towing a crippled car;

Figure 2 is a perspective view of a part of the construction shown in Figure 1; and,

Figure 3 is a central section of a modified form.

In the accompanying drawings, I have shown, for the purpose of illustration, the present invention as associated with a trouble car of the character described and claimed in my co-pending application heretofore referred to, in which 4 designates a trouble car. 5 is a rigid beam provided at its out-board end with one or more sheaves 8 and anchored at its inner end to the floor of the car by a bracket 31^a rigidly bolted

to the car floor. The beam 5 is maintained in an upwardly inclined position by means of a strut 22 which underlies the beam intermediate its ends and rests upon the floor of the car. This strut, which is of A-shape, is provided between its base and apex with a transverse brace 24 and is secured to the beam by a bolt 18. Mounted intermediate the ends of the beam and rigidly secured thereto is a winch 10 embodying, among other details of construction, a winding drum. A cable 15 wrapped about the winding drum extends therefrom to and over one of the sheaves 8, thence to and about the pulley of a block 16, thence to and over a second sheave 8 and passes down and is secured to the block 16 as clearly shown in Figure 1. The block has associated therewith a hook 17 to permit its ready engagement with lifting chains or other appliances associated with the car 4^a to be lifted and towed.

The present invention, which may be associated with a structure of the general character described, may differ in construction. That is to say, I may employ either a rigid spacing member or one which is resilient or more or less yielding. The simplest form of construction is shown in Figures 1 and 2 and embodies a rigid bar 20 perforated at both of its ends. One end of the bar is secured to the block 16 by means of a bolt 21, the block being preferably provided with a perforated lug to receive this bolt. The bar 20 is made of such length that when the car to be towed is in lifted position with one end of the bar secured to the block 16, said bar will project forwardly and lie between brackets 23 mounted on the transverse brace 24 of the strut 22 as clearly shown in Figure 2. The brackets 23 are perforated so as to permit the passage of a pin or bolt 25 through said brackets and through the perforations in the adjacent end of the bar 20.

In practice, it is preferred to remove the pin or bolt 25 during the act of raising or lowering the car 4^a but after the car 4^a has been elevated as desired, the bar 20 is brought into the position shown in Figure 1 before any attempt is made to tow the damaged car.

It will be apparent that after the bar 20 is in place longitudinal sway or creeping of the car 4^a toward and away from the car 4 during the towing of the former by the latter cannot occur and when the bar 20 is employed as specified the car 4^a may be towed without damage thereto.

In the preferred embodiment of the invention the in-board end of the bar 20 is preferably anchored to the strut member 22 in the manner specified though, if desired, it may be anchored directly to the car 4, to the beam 5, or to any other convenient part.

Instead of employing a rigid bar 20 as

described I may provide for slight yielding in the spacing member by incorporating in this construction, one or more springs so that its length may automatically slightly vary to take up sudden thrust or tension and thus obviate jar or undue strain. A simple form of resilient spacing member is shown in Figure 3 in central section and may embody two telescoping sections 20^a and 20^b, the former of which houses a spring 26. One end of the spring is secured to a pin 27 mounted in the inner end of the section 20^b and the other end of the spring is secured to a pin 28 mounted on the section 20^a. The spring shown is a combined tension and compression spring, so as to normally hold the sections in neutral position and to yieldably resist thrust as well as tension. The free ends of the respective sections are perforated as shown at 29 to permit their ready attachment to the block 16 and pin 25.

The assembly described embodying either the rigid or resilient spring member, is found in practice to give unusually meritorious results and entirely overcomes many of the disadvantages heretofore present in the towing of one car by another. These disadvantages have been particularly present in the past when it was desired to tow a car with the front thereof in elevated position.

I have referred to the elevation of the front of a car to be towed, but it will be understood that the rear of a car to be towed may be elevated instead of the front thereof. Accordingly, the expression in the claims relative to the front of the car is not to be considered as excluding the elevation of the rear of the car. Moreover, in the claims I have employed the words "hoisting cable" generically to include a chain, rope or other analagous hoisting means.

In the foregoing specification, I have set forth the invention in its preferred practical forms, but, I am aware that the structure shown is capable of modification, within the range of equivalents, without departing from the invention which is to be understood as broadly novel as is commensurate with the appended claims.

Having thus fully described the invention, what I claim as new and desire to secure by Letters Patent is:

1. A trouble car embodying means for hoisting and supporting the forward or rear portion of a car to be towed, and a spacing member separate from the hoisting and supporting means and secured at one of its ends to the hoisting means adjacent the point of attachment of the hoisting means with the car to be towed and fixedly secured at its other end to the trouble car, whereby the spacing member is secured to the trouble car against relative longitudinal movement

and serves to preclude the car to be towed from creeping or lagging with respect to the trouble car during the towing of the former by the latter.

- 5 2. A trouble car embodying a beam, one end of which is anchored to the trouble car, a strut resting on said car and cooperating with the beam intermediate its ends to support the beam in inclined position with its
10 upper end projecting beyond the back of

the trouble car, hoisting means associated with the outboard end of the beam and embodying a block having associated therewith means to engage the car to be towed, and a spacing member one end of which is secured 15 to the strut and the other end of which is secured to the block.

In testimony whereof I have signed the foregoing specification.

EDGAR M. BUTLER.