Jan. 3, 1928. 1,654,939

A. LOEBS

TOW BAR

Filed May 3, 1926

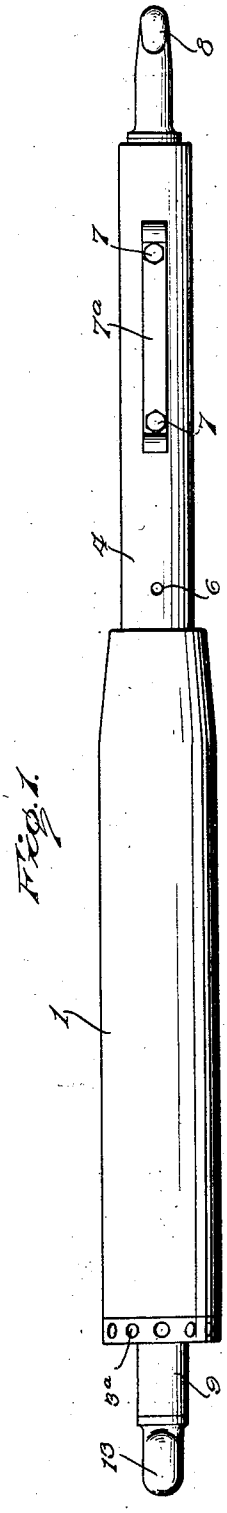


Fig. 1.

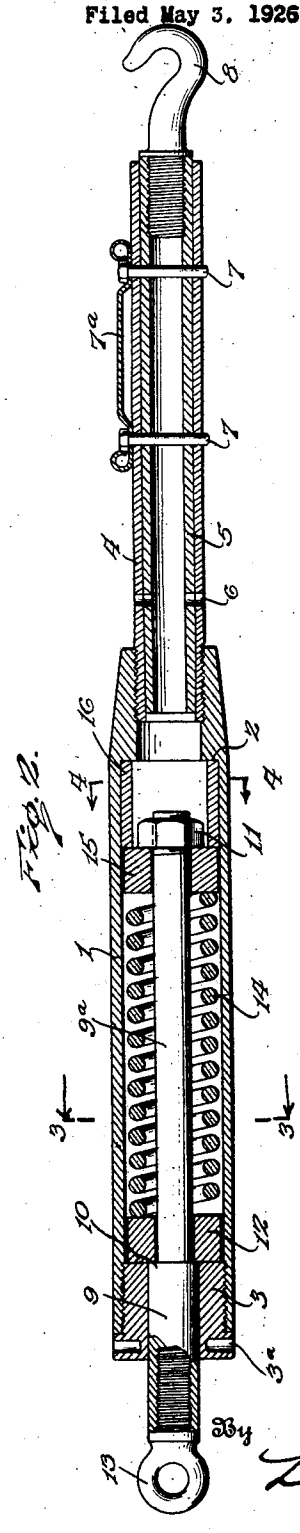


Fig. 2.

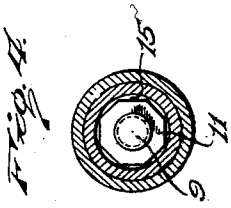


Fig. 4.

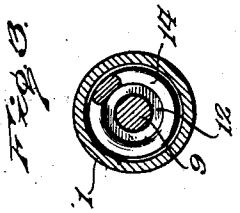


Fig. 5.

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UNITED STATES PATENT OFFICE.

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TOW BAR.

Application filed May 3, 1926. Serial No. 106,464.

The present invention provides a device whereby a vehicle may be drawn or backed as required when negotiating traffic in a congested section, thereby obviating the usual tow-line which does not admit of the driver of the towing vehicle having full control of the vehicle being towed.

Moreover, the invention provides a device which is yieldable both when pulling and backing, thereby obviating the jerks incident to the use of tow lines which cause the same to snap and break.

While the drawings illustrate a preferred embodiment of the invention it is to be understood that in adapting the means to meet specific needs and requirements, the design may be varied and such other changes in the minor details of construction may be resorted to within the scope of the invention as claimed, without departing from the spirit thereof.

For a full understanding of the invention and the merits thereof, reference is to be had to the following description and the drawings hereto attached in which:—

Figure 1 is a side view of a tow bar embodying the invention,

Figure 2 is a central longitudinal sectional view thereof,

Figure 3 is a transverse sectional view on the line 3—3 of Figure 2, looking in the direction of the arrows, and

Figure 4 is a detail sectional view on the line 4—4 of Figure 2, looking in the direction of the arrows.

Corresponding and like parts are referred to in the following description and designated in the several views of the drawings by like reference characters.

The device comprises a tube or casing 1 which may be of any length and diameter. The tube 1 is preferably contracted at one end to form an inner shoulder 2 and is interiorly threaded at both ends to receive a plug 3 and an adjustable extension comprising members 4 and 5. The member 5 has telescopic connection with the member 4 and each of the members 4 and 5 is provided in its length with a plurality of openings 6 which are adapted to register to receive pins 7 or like fastenings whereby the members are held in the required adjusted position. A flat spring 7^a receives the pins 7 and forms connecting means therefor and also serves to prevent displacement of the fastenings 7 when placed in position as shown in Figure 2. A draft hook 8 is fitted to the outer end of the member 5.

A draft bar 9 is slidable within the tube or casing 1 and operates through an opening formed in the plug 3. The draft bar 9 includes a reduced portion 9^a, a shoulder 10 being formed between the reduced portion 9^a and the main portion of the bar. The end of the reduced portion 9^a, remote from the shoulder 10, is threaded to receive a nut 11. A collar 16 is fitted within the end of the tube or casing 1 adjacent the shoulder 2. A draft eye 13 is fitted to the outer end of the bar 9.

A shock absorbing spring 14 is mounted upon the reduced portion 9^a of the draft bar and is enclosed within the tube or casing 1. A collar 15 is mounted on the threaded end of the reduced part 9^a of the draft bar. The collars 12 and 15 are loosely mounted upon opposite end portions of the reduced part 9^a and provide stops to sustain the end thrust of the spring 14. The stop-collar 12 is disposed adjacent the inner end of the plug 3 and the stop-collar 15 is located adjacent the end of the casing 1 provided with the shoulder 2. A sleeve 16 is disposed within the tube 1 and abuts the shoulder 2 and sustains the thrust of the spring 14 exerted against the collar 15. The end of the reduced portion 9^a of the draft bar bearing the nut 11 is adapted to enter the sleeve 16 when the device is compressed as when backing. The spring 14 is of the open coil type and is of a strength to yield under but give resistance to the force exerted when pulling or backing a vehicle.

The tow-bar is designed to replace the ordinary tow line and is interposed between the vehicle to be towed and the towing vehicle and may be coupled thereto in any preferred way by means of the hitching elements 8 and 13. When a pulling force is exerted upon the draft bar 9, it moves outward from the tube or casing 1 so as to compress the spring 14. When pressure is exerted upon the draft bar 9, as when backing the vehicle, the spring 14 is compressed. The stop collar 12 remains stationary and the stop collar 15 moves with the draft bar 9 when a pulling force is applied thereto. When the draft bar 9 is pushed into the tube 1, as when backing the collar 15 remains stationary and the collar 12 moves with the draft bar.

The tow bar provides in effect a rigid con-

nection between the vehicle being towed and the vehicle towing in contradistinction to the ordinary towline. As a result, the vehicle being towed may be positively controlled and drawn forwardly or backed, as required. The spring 14 neutralizes shock, whether a pulling force or a backing force is applied to the tow bar, as will be readily understood. The plug 3 may be tightened or loosened by means of a pin inserted in any one of the radial openings 3^a provided in its outer edge portion.

Having thus described the invention, I claim:

1. A tow bar comprising a tubular casing having one end portion provided with an internal shoulder, a sleeve loose in said casing and having one end bearing against said shoulder, a plug carried by the other end portion of said casing and formed with a bore extending axially of the casing, a draft bar extending into said casing through said bore and having its portion within the casing and beyond the inner end of said plug reduced in diameter to provide a shoulder, a nut threaded upon the inner end of said bar and slidably received in said sleeve, collars fitted loosely upon said bar within said casing, one collar bearing against said sleeve and the other bearing against the inner end of the plug and the shoulder formed upon said bar, a spring coiled about said draft bar with its ends bearing against said collars, and means carried by the outer end of said draft bar and the opposite end of said casing for connection one with a vehicle to be towed and the other with a towing vehicle.

2. A tow bar comprising a casing, a draft bar slidable longitudinally in said casing and having one end projecting from one end of the casing, means yieldably resisting longitudinal sliding of the draft bar and casing relative to each other, an extensible bar having an outer tubular section engaged with the other end of said casing and an inner section slidable longitudinally into and out of the outer section through the outer end thereof and having longitudinally spaced openings to register with openings in the outer section, pins passed through registering openings in the said sections and each having a head at one end, a spring strip extending longitudinally of said outer section with its intermediate portion spaced therefrom and its end portions bearing against the same and formed with openings receiving said pins, the extreme ends of the spring strips being rolled back upon themselves and bearing against side edge faces of the heads of said pins, and means carried by the outer end of said draft bar and outer end of the inner section of said extensible bar for connection one with a towing vehicle and the other with a vehicle to be towed.

In testimony whereof I affix my signature.

ALBERT LOEBS. [L. S.]