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R. E. MOORE

2,139,970

TOWING DEVICE

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Fig. 1.

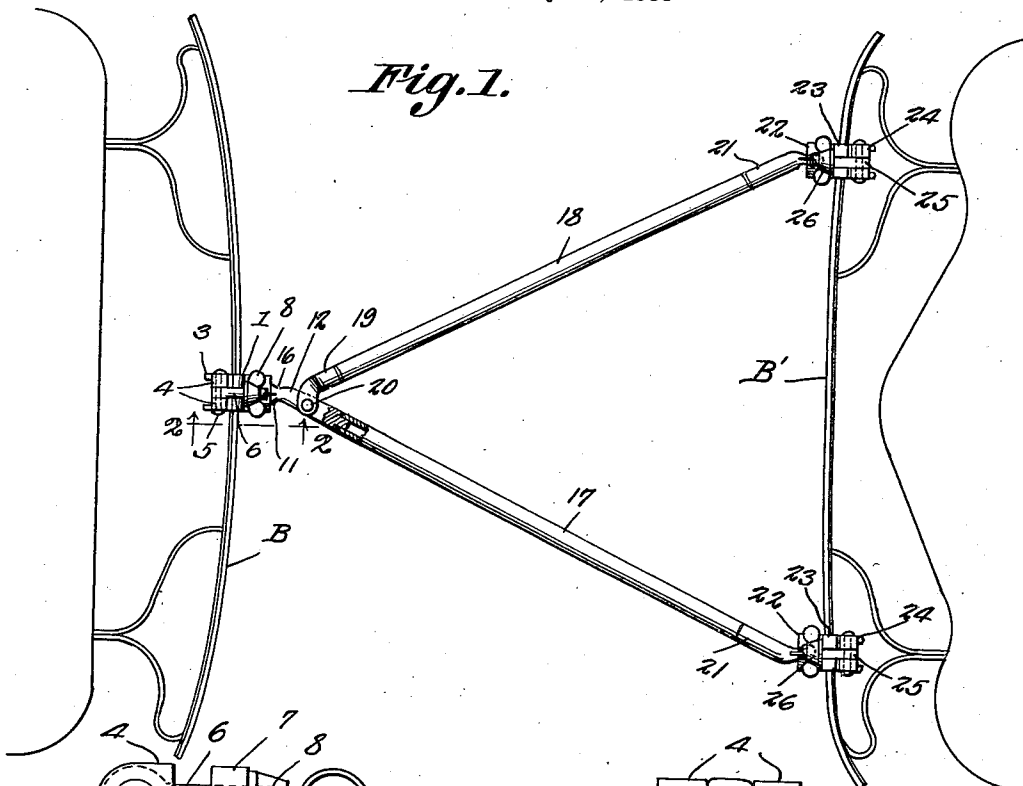


Fig. 2.

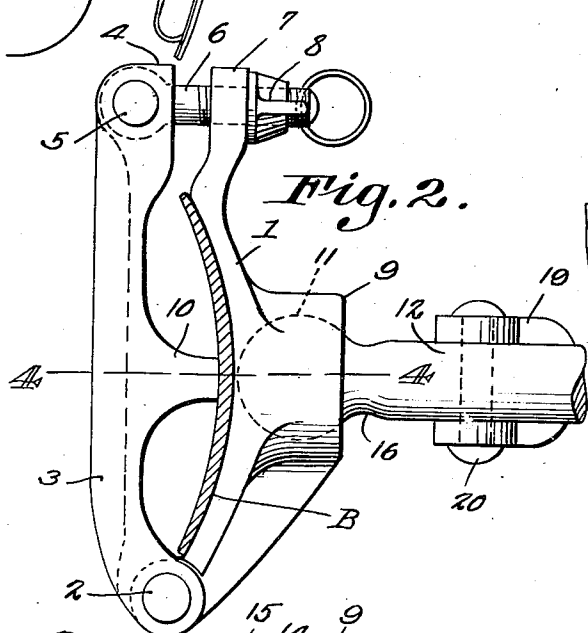
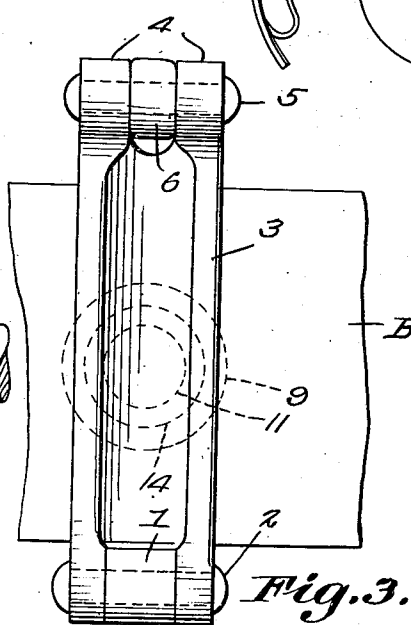
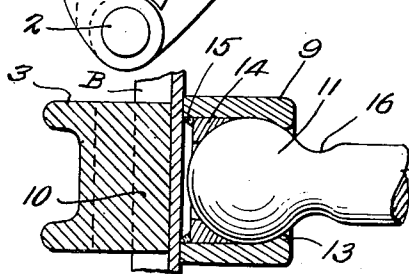


Fig. 3.



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Fig. 4.

ATTORNEYS.

UNITED STATES PATENT OFFICE

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TOWING DEVICE

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3 Claims. (Cl. 280—33.44)

This invention relates to a device to be used for towing automobiles, one of the objects being to provide a durable and compact device of this character adapted to be secured readily to the rear bumper of the towing car and to the front bumper of the car to be towed, the said device being adjustable readily for correct application to the cars.

A further object is to provide the towing device with new and novel means for fastening it to the bumpers so that it will be held against accidental displacement relative thereto.

Another object is to provide a towing attachment having universal connections with the cars so as to permit any necessary movement of the towed car relative to the towing car, this being especially advantageous in case of emergencies.

With the foregoing and other objects in view which will appear as the description proceeds, the invention consists of certain novel details of construction and combinations of parts hereinafter more fully described and pointed out in the claims, it being understood that changes may be made in the construction and arrangement of parts without departing from the spirit of the invention as claimed.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing

Figure 1 is a plan view of the towing device attached to the bumpers of two cars, a portion being shown in section.

Figure 2 is an enlarged section on line 2—2, Figure 1.

Figure 3 is a front elevation of the structure shown in Figure 2.

Figure 4 is a section on line 4—4, Figure 2.

Referring to the figures by characters of reference 1 designates an arcuate fixed jaw one end of which is hinged connected by a pin 2 to a movable jaw 3. This movable jaw is preferably forged where it engages the pin 2, as will be apparent by referring to Figure 3 and the opposite end of the movable jaw is also forked, as at 4, to receive a pin 5 on which is mounted an eye-bolt 6. This bolt is adapted to swing into the forked end 7 of jaw 1 and it carries a wing nut 8 or the like whereby the jaw 3 can be drawn toward jaw 1 when the bolt is seated in the forked end 7.

A boss 9 is extended from the center of jaw 1 and a gripping lug 10 is extended from the movable jaw 3, this lug being located directly back of the boss or socket 9.

A ball 11 is provided at one end of a stem 12 and this ball is movably mounted in boss or socket 9 where it is retained between an inturned rib 13 and a retaining ring 14. After the stem and ball have been inserted into the boss with the stem projecting therebeyond, ring 14 is inserted and then secured by welding as indicated at 15. Thus while the ball is free to turn in any direction within the boss, it is held against separation therefrom. That portion of the stem 12 adjacent to the ball is reduced annularly as at 16 so as to permit greater swinging movement of the stem than would be possible otherwise.

Stem 12 is extended into a tubular bar 17 and joined thereto by welding or in any other suitable manner. Another tubular bar 18 has a forked head 19 extending from one end which straddles stem 12 and is pivotally connected thereto by a pin 20. Thus the two bars 17 and 18 are free to swing relative to each other and as the head 19 is offset laterally as shown in Figure 1, these bars, when not in use, can be swung together in parallel relation so that the device can be conveniently stored.

Each of the bars 17 and 18 is provided at its rear or free end with a stem 21 similar to stem 12 and carrying a ball which, like ball 11, is seated in a boss 22 extending from a fixed jaw 23. This jaw corresponds in shape to the jaw 1 and has a hinged jaw 24 connected thereto corresponding with jaw 3 and adapted to be adjusted and held by bolt 25 and wing nut 26 similar to the bolt 6 and nut 8. In other words the clamps at the back ends of the bars 17 and 18 are the same in all respects as the clamp at the front end of the device and which has been illustrated in detail in Figures 2, 3 and 4.

When it is desired to use this device for the purpose of towing a car the movable jaws are released from the fixed jaws at their upper ends. Jaw 1 is then placed against the rear or convex surface of the bumper B of the towing car and, by reason of its concave form, it will fit snugly against the bumper as shown in Figure 2. Jaw 3 is then swung toward the front or concave surface of the bumper and bolt 6 brought into engagement with the fork 7. Nut 8 is then turned so as to draw the two jaws toward each other and this will cause the lug 10 to bind upon the bumper directly back of the boss 9 so that the jaws cannot become accidentally shifted relative to the bumper. As the lug is located opposite the boss, it tends to crowd some of the metal of the bumper into the boss so that a better pinching action is thus insured.

It is intended to clamp the jaws 1 and 3 to the bumper at the center thereof and after they have been applied as described the two bars 17 and 18 are swung apart and their jaws 23 and 24 are clamped to the bumper B' of the car to be towed, this clamping action being the same as that already described, the lugs on the hinged jaws pressing forwardly upon the rear or concave surface of the bumper B' while the concave front jaws 23 snugly fit against the front convex surface of the bumper.

The rear ends of the bars 17 and 18 should be attached to bumper B' at points equidistant from the center of said bumper and preferably near the ends thereof.

It has been found in practice that when two cars are joined by a device such as herein described, and, because of the universal connections between the bars and the clamps, it is possible for the towed car to tilt laterally and have other movements independently of the towing car. This is especially important in case of accident because one car can overturn without causing the other also to overturn.

What is claimed is:

1. A towing device including pivotally connected bars mounted to swing together, a stationary jaw at each end of one of the bars, each jaw having a ball and socket connection with the bar, a stationary jaw at the free end of the other bar and having a ball and socket connection therewith, a jaw hingedly connected to each of the stationary jaws and cooperating therewith to receive a bumper therebetween, and cooperat-

ing means on each stationary jaw and each hinged jaw connected thereto for binding said jaws upon an interposed bumper.

2. A towing device including bars pivotally connected for relative swinging movement, said bars being foldable together for storage, balls carried by the ends of one of the bars and by the free end of the other bar, stationary jaws having sockets in which the respective balls are mounted for universal movement, each of said jaws having a concave gripping surface, a jaw hingedly connected to each stationary jaw, cooperating means on each stationary jaw and the hinged jaw thereon for adjusting said jaws relative to each other, and a clamping lug carried by each hinged jaw, said lug and the adjacent concave surface of the stationary jaw constituting means for gripping the opposed concave and convex surfaces respectively of a bumper.

3. A towing device including pivotally connected bars movable into and out of parallel relation, balls at the ends of one bar, a ball at the free end of the other bar, stationary jaws connected to the respective balls, said bars having universal movement relative to the jaws through said ball connections, a jaw hingedly connected to each stationary jaw and cooperating therewith to receive a bumper therebetween, a clamping lug on each of the hinged jaws for gripping engagement with one surface of the interposed bumper, and adjustable means for drawing the jaws toward each other to clamp upon said bumper.

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