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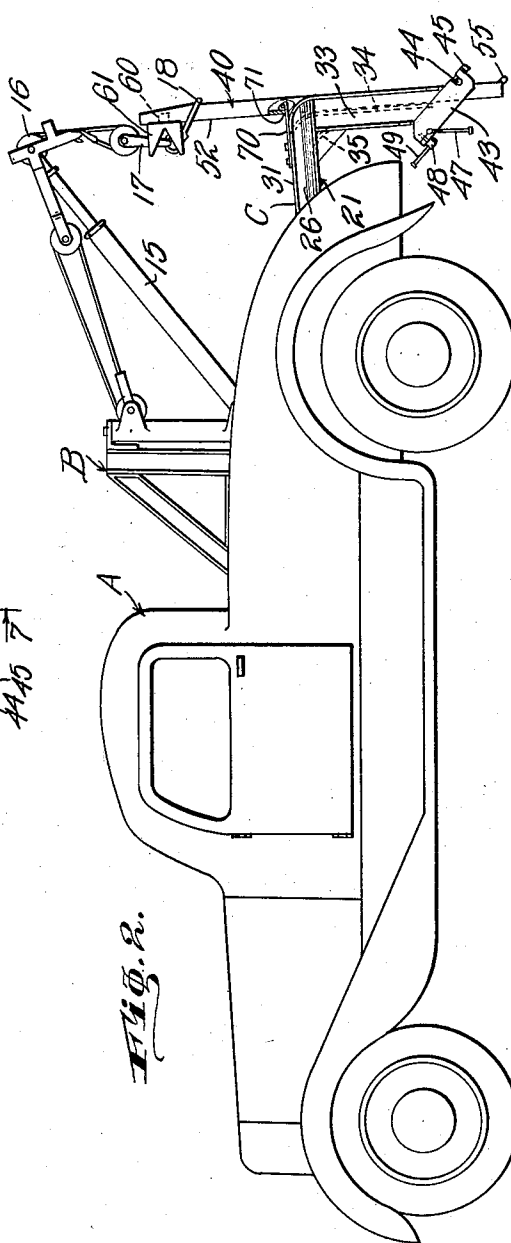
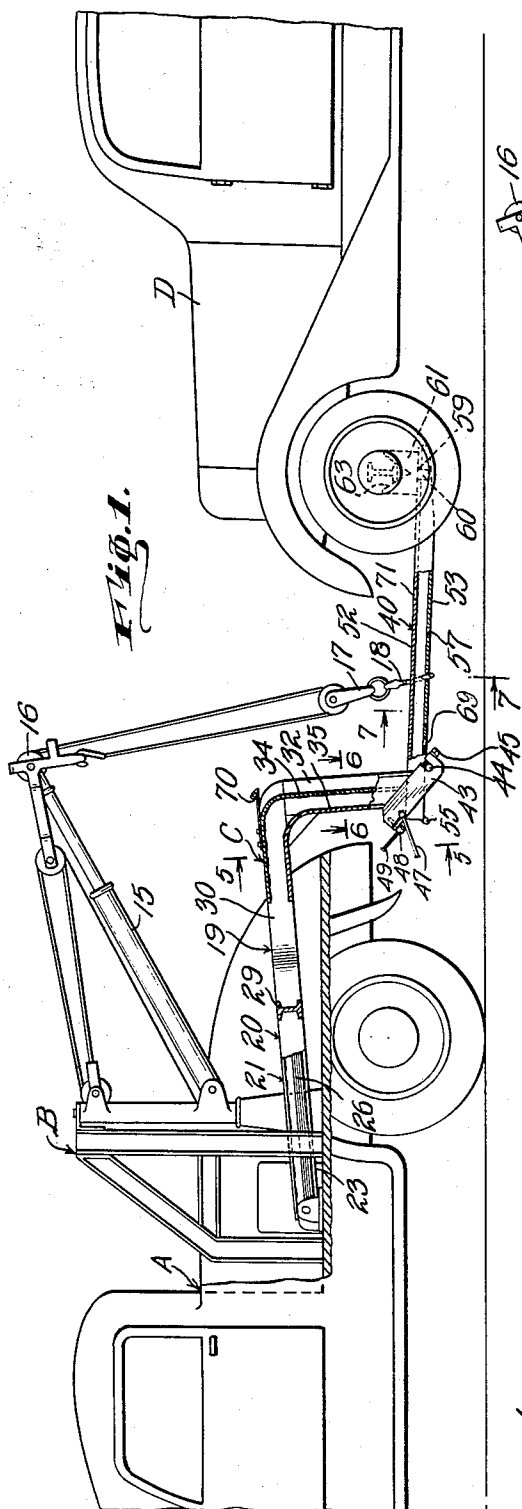
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TRAFFIC BOOM

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2 Sheets-Sheet 1



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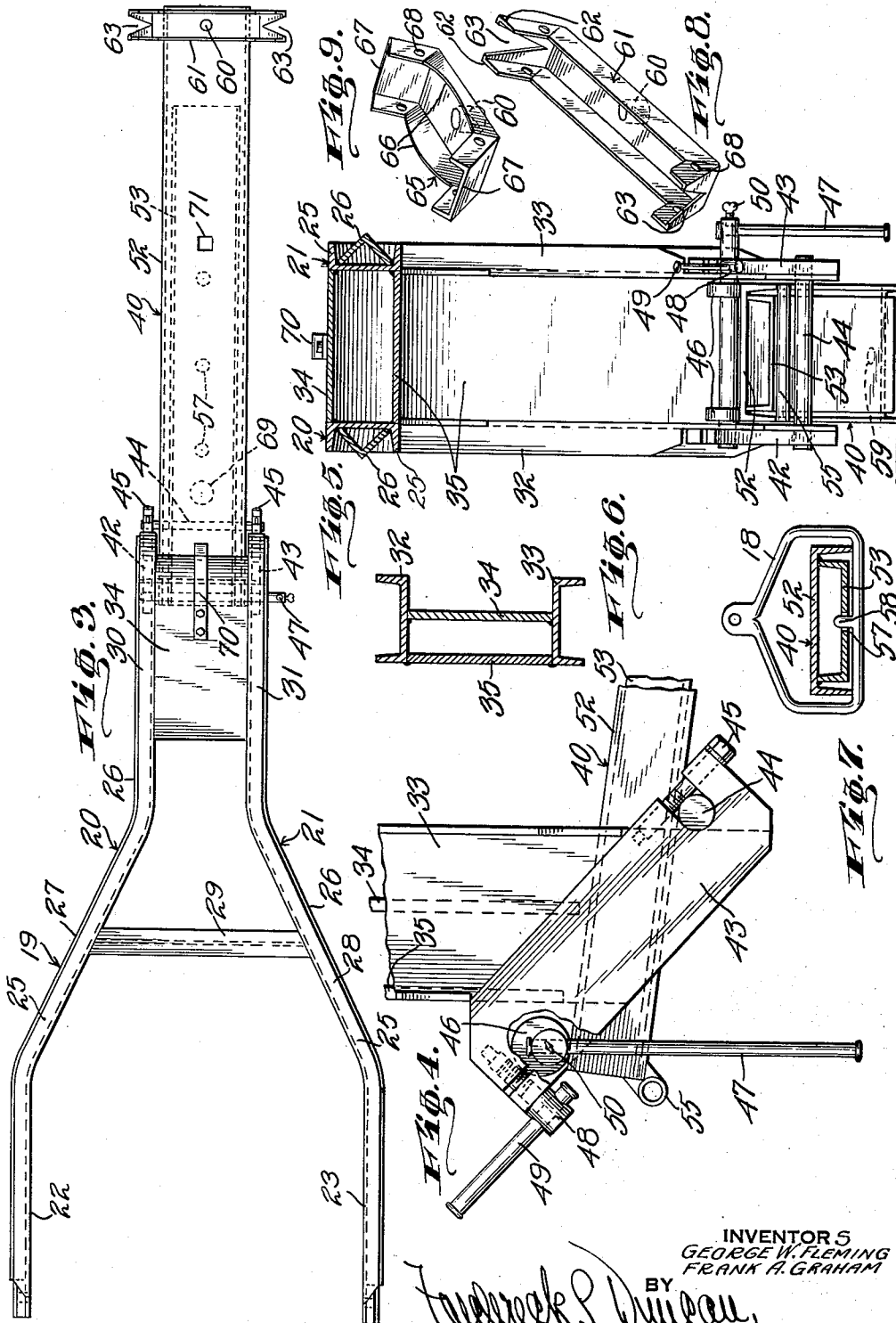
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TRAFFIC BOOM

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8 Claims. (Cl. 214—86)

This invention relates to improvements in traffic booms.

One of the objects of this invention is the provision of an improved traffic boom which may be regarded as a supplemental boom for use with the usual hoisting and crane apparatus now generally installed on towing or wrecking cars hereinafter referred to as "towing cars."

Another object of the invention is the provision of a traffic boom which combines the functions of a lifting boom, a towing bar, and a distance bar.

A more specific object of the invention is the provision of a supplemental traffic boom consisting of a main frame member pivoted on a towing car and of a lifting, towing and distance bar pivotally supported on the main frame for pivotal movement upwardly into engagement with a vehicle to be towed and also into inoperative position when not in use, but limited as to the extent of pivotal movement downwardly whereby the lifting, towing and distance bar when in use may be raised by applying a hoisting loop to the bar, operating the bar and main frame as a unitary non-articulated traffic boom.

Another object of the invention consists in the provision of means for engaging a pad on the end of the lifting, towing, and distance bar with the load such as an axle of the vehicle to be towed before operating the hoisting mechanism.

Other objects of the invention consist in improvements facilitating the use of interchangeable pads for engagement under front and rear axles of an automobile.

Other objects of the invention will appear from the following description taken in connection with the drawings in which:

Fig. 1 shows a towing car provided with the improved traffic boom having a wrecked or disabled automobile in tow;

Fig. 2 shows a towing car with the lifting, towing and distance bar folded away when not in use;

Fig. 3 is a top plan view of the improved traffic boom;

Fig. 4 is a side view of the connections between the main frame of the boom and the lifting, towing and distance bar;

Fig. 5 is a vertical section on the line 5—5 of Fig. 1;

Fig. 6 is a transverse horizontal section on the line 6—6 of Fig. 1;

Fig. 7 is a vertical section on the line 7—7 of Fig. 1;

Fig. 8 is a perspective view of a pad used for

engagement with the front axle of a vehicle to be towed; and

Fig. 9 is a perspective view of a pad used for engagement with the differential housing of a vehicle to be towed.

In Fig. 1 we have shown a towing car A on which is mounted any suitable crane or hoist B, preferably close to the cab and forwardly of the rear axle of the car. This figure shows at C my improved traffic boom for towing wrecked automobiles such as indicated at D.

The hoist or crane B may be of any suitable construction including any suitable form of boom 15 which may be swung vertically about its pivot by any suitable means and which at its outer end supports a sheave 16 over which a hoisting cable passes which may be operated by any suitable means not disclosed. The boom 15 may be pivoted to swing horizontally or may be stationary, an essential feature of the construction however being that the sheave 16 is or may be located centrally laterally of the traffic boom and also located substantially longitudinally in the relation to the traffic boom shown in Fig. 2. The hoisting cable may carry any suitable means 17 connected to a loop member or link 18 which will be referred to more specifically later.

The traffic boom C comprises a frame 19 which may comprise side members 20 and 21, Fig. 3, which spread apart at their front ends 22 and 23 to form a wide bracing structure to strengthen the frame against lateral swaying forces and against twisting movements about its longitudinal axis. The front ends of the side members are suitably pivoted on brackets secured to the floor of the towing car on opposite sides of the frame of the hoist or crane. These pivots are located forwardly close to the cab for the purpose of increasing the hoisting capacity.

Each of the side members may comprise an outwardly facing channel bar 25, see Fig. 5, within which is welded a V-shaped bar 26 to strengthen the side member against lateral distortion. The side members are bent inwardly toward each other as at 27 and 28, Fig. 3, and may be braced by a cross member 29 as indicated in Figs. 1 and 3. They then continue in parallel relation as shown at 30 and 31, Fig. 3, to form a narrow rear end. A section of the lower flange and of the web of each bar 25 may be removed and the bars bent and continued as downwardly extending bars 32 and 33 welded thereto as indicated and which may be connected together by a centrally disposed plate 34 welded thereto, see Fig. 6, and to the rear ends 30 and 31 of the side members 20 and 21, see Figs. 1, 2, 3 and 5. These bars 32 and 33

may be further held in spaced relation and braced by a plate 35 welded thereto as shown in Figs. 5 and 6 and also welded to the rear ends 30 and 31 of the side members 20 and 21 as shown in Figs. 1, 2 and 5. By locating the plate 34, as shown in Figs. 1, 2, 3 and 5, a pocket is provided for the reception of the lifting, towing and distance bar 40 when not in use as shown in Fig. 2.

Welded to the lower ends of the frame members 32 and 33 are plates 42 and 43 angularly disposed as shown. The lower ends of these inclined plates are provided with bearings for a pivot rod 44 secured to the bar 40 by welding or any suitable means, and retained in the bearings by threaded bolts 45 as indicated. The bar 40 may be removed by first removing the threaded bolts 45. The upper ends of the inclined plates are provided with bearings for a rod carrying eccentrics 46. The rod is mounted in place before the plates 42 and 43 are welded in position. The eccentrics may be adjusted by means of a slidable handle 47 and the adjustment may be frictionally maintained by means of a tightening screw bolt 48 operated by a handle 49. The handle 47 may be held in raised position by means of a set screw 50.

The lifting, towing, and distance bar 40 comprises two channel members 52 and 53 nested and welded together as shown in Fig. 7, the lower one being shorter than the upper one and the lower edges of the flanges of the upper channel being inclined to parallel the road surface when the boom is lowered, see Figs. 3, 1, 2 and 5. The bar extends forwardly under the eccentrics 46 by means of which the pad on the free end of the bar may be raised into contact with the axle of a vehicle to be towed before the hoisting mechanism is operated as is apparent by reference to Figs. 1, 4 and 5. The lower edge of the front end of the bar may be provided with any suitable rounded means 55 to take road wear when the bar is folded up and contacts with the road on spring depression.

As disclosed, the lower side of the lifting, towing and distance bar 40, that is the channel member 53, is provided with a series of holes 57 to receive a projection 58 on the hoisting link 18 whereby the engagement between link 18 and the bar 40 may be selectively controlled and maintained. The free end of the upper side of the towing bar, that is the free end of the bar 52, is provided with a pivot hole 59 to receive a downwardly extending pivot lug 60 on each of the interchangeable pads shown in Figs. 8 and 9. This constitutes a swivel or fifth wheel connection between the towing car and the towed vehicle.

The front pad is shown in Fig. 8 and is indicated generally by the reference character 61. It may be formed from a channel shaped member with the ends of the channel member flaring upwardly and outwardly and reinforced as indicated at 62 and with the bottom wall of the upwardly turned portion provided with a V-shaped axle seat 63 as more particularly shown in Figs. 1, 2 and 8. The bottom wall of the channel is made of heavier material than the side walls providing in effect reinforced seats 63. The pad is provided with a centrally disposed pivot lug 60 for insertion in the pivot hole 59 in the bar 40.

The pad for engagement with the differential housing is disclosed in Fig. 9 and is generally indicated at 65. This pad also comprises a channel shaped member having side walls widened and curved outwardly as at 66 to conform to the

differential housing and having its ends extending upwardly to provide seats 67 for opposite ends of the differential housing. These seats are preferably reinforced in the same way as the seats 63. This pad is also provided with a downwardly disposed pivot member 60 for mounting the pad pivotally on the bar 40. Each of the pads may be provided with holes 68 as indicated through which a chain may be threaded for securing the pad to the axle.

When the lifting, towing and distance bar 40 is not in use it may be swung into the channel between the members 32 and 33 and held therein by a spring catch 70, Fig. 2, engaging a hole 71 in the bar. The pin 58 on the loop 18 may be disengaged from the hole in the bar 40 and pulled against the pad 61 to swing the bar into the channel and then to raise the bar 40 and frame 19 to clear the roadway as indicated in this figure. The hoisting hook may be engaged in a hole 69 in the bar 40 to raise the boom to provide for greater roadway clearance.

As stated before the disclosure of the crane is conventional as any suitable hoisting mechanism may be used in the combination of crane and traffic boom herein described and claimed.

As disclosed in Fig. 1, the crane is preferably mounted in the usual forward position on a wrecking and towing car and the frame 19 of the supplemental traffic boom C construction is preferably pivoted close to the cab and forwardly of the pivot of the boom 15 of the crane. This provides great leverage and lifting capacity.

While we have described a preferred form of the traffic boom construction involving the frame 19 and bar 40, it is to be understood that the frame 19 can be constructed of other types of bars, reinforced by different means and that the exact form in plan and side view shown is not absolutely essential as far as certain other features of the invention are concerned. It is also to be understood that insofar as certain other features of the invention are concerned the bar 40 could be rigidly secured to the frame 19 or the frame 19 and the bar 40 could be a unitary construction.

While we have shown means for raising the free end of the bar 40 to engage the axle of the vehicle to be towed, it is obvious that the front end of the bar 40 could directly abut the lower end of the downward extension of the frame 19 without affecting the operation of other features of our invention. It is also obvious that the construction of the bar 40 and its pivotal connection with the frame 19 may be varied and that other means could be used for supporting the bar on the frame 19 and for connecting the bar to the frame.

It is also obvious that the bar 40 might be raised by connecting the hoisting mechanism to the frame 19 or by raising the free end of the frame 19 by any suitable means.

While we have disclosed a preferred construction of the supplemental boom and a preferred construction of details thereof and of means for operating the same, it is to be understood that this is not to be taken as limitative but merely as illustrative and that the claims hereto appended are not to be limited because of this disclosure, and that we desire to cover all modifications of combinations and features which fall within the principle of the invention claimed.

We claim:

1. In towing apparatus of the character described, the combination with a towing car, of a hoisting mechanism mounted thereon and in-

cluding a pivoted boom, a supplemental boom pivotally supported on the car at a point ahead of the pivot of said hoisting boom, said supplemental boom extending rearwardly beyond the floor of the car, downwardly below the floor and rearwardly beyond the car to engage under a load to be towed, and means for connecting said hoisting mechanism to said supplemental boom.

2. In a boom construction comprising a frame including a relatively long horizontal member provided with means at its forward end for pivoting the same on a towing car, a downwardly extending member on the rear end of said horizontal member and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said rearwardly extending member being adapted to engage and lift a load to be towed, a horizontal pivotal connection between the rearwardly extending member and said downwardly extending member, and cooperating means on said downwardly and rearwardly extending members for limiting the downward pivoting movement of said rearwardly extending member.

3. In a boom construction comprising a frame including a relatively long horizontal member provided with means at its forward end for pivoting the same on a towing car, a downwardly extending channelled member on the rear end of said horizontal member and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said rearwardly extending member being adapted to engage and lift a load to be towed, and a pivotal connection between the rearwardly extending member and said downwardly extending member, providing for movement of said rearwardly extending member into the channel in said downwardly extending member.

4. In a boom construction comprising a frame including a relatively long horizontal member provided with means at its forward end for pivoting the same on a towing car, a downwardly extending channelled member on the rear end of said horizontal member and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said rearwardly extending member being adapted to engage and lift a load to be towed, a pivotal connection between the rearwardly extending member and said downwardly extending member, providing for movement of said rearwardly extending member into the channel in said downwardly extending member, and means for limiting the downward pivotal movement of said rearwardly extending member.

5. In a boom construction comprising a frame including a relatively long horizontal member provided with means at its forward end for pivoting the same on a towing car, a downwardly extending channelled member on the rear end of said horizontal member and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said

rearwardly extending member being adapted to engage and lift a load to be towed, a pivotal connection between the rearwardly extending member and said downwardly extending member, providing for movement of said rearwardly extending member into the channel in said downwardly extending member, and means for holding said rearwardly extending member in said channel.

6. In a boom construction comprising a frame including a relatively long horizontal portion provided with means at its forward end for pivoting the same on a towing car, a downwardly extending member on the rear end of said horizontal portion and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said rearwardly extending member being adapted to engage and lift a vehicle to be towed, a horizontal pivotal connection between the rearwardly extending member and said downwardly extended member, and means for adjusting the angular position of said rearwardly extending member with respect to said downwardly extending member to raise the rear end of said rearwardly extending member into engagement with said vehicle.

7. In a boom construction comprising a frame including a relatively long horizontal portion provided with means at its forward end for pivoting the same on a towing car, a downwardly extending member on the rear end of said horizontal portion and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said rearwardly extending member being adapted to engage and lift a vehicle to be towed, a pivotal connection between the rearwardly extending member and said downwardly extending member, and cam means supported on one of said members and bearing against the other of said members for adjusting the angular position of said rearwardly extending member to raise its rear end into engagement with said vehicle.

8. In a boom construction comprising a frame including a relatively long horizontal member provided with means at its forward end for pivoting the same on a towing car, a downwardly extending member on the rear end of said horizontal member and a rearwardly extending member on the lower end of said downwardly extending member, the rear end of said rearwardly extending member being adapted to engage and lift a load to be towed, a horizontal pivotal connection between the rearwardly extending member and said downwardly extending member and located rearwardly of the forward end of said rearwardly extending member, and cam means supported on the lower end of said downwardly extending member and bearing on the forward end of said rearwardly extending member for raising the rear end of said rearwardly extending member into engagement with said load.

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