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B. A. SWANSON

2,424,641

TRAILER ATTACHMENT

Filed Jan. 18, 1946

2 Sheets-Sheet 1

Fig. 1

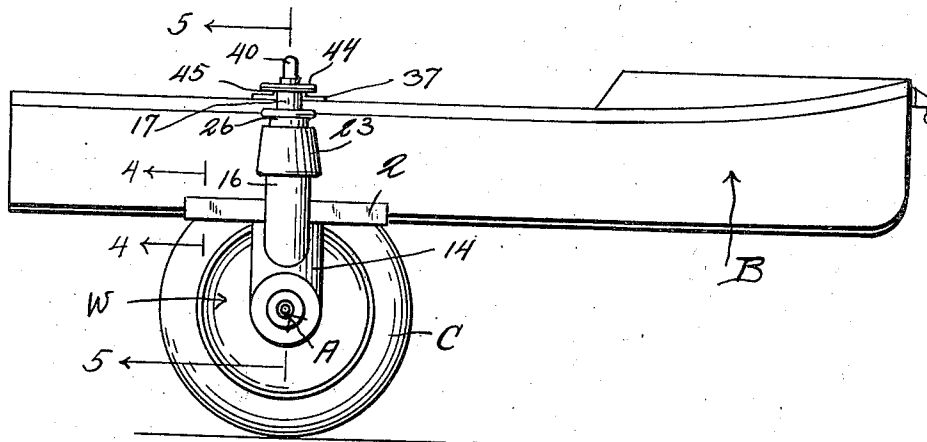


Fig. 2

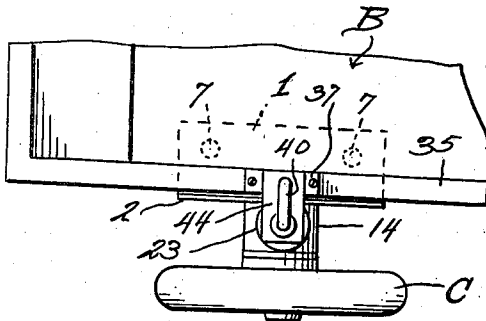


Fig. 3

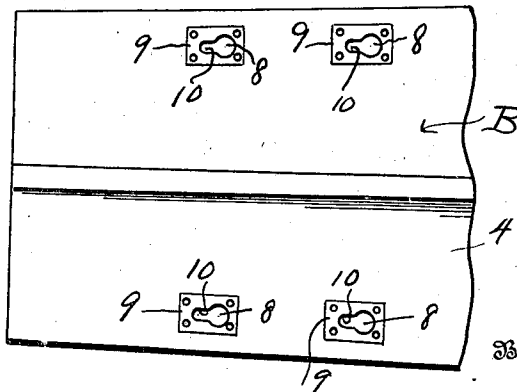
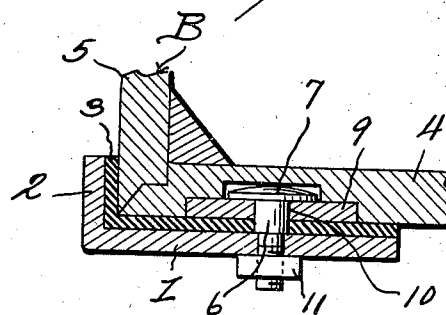


Fig. 4



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TRAILER ATTACHMENT

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8 Claims. (Cl. 280-61)

1

This invention relates to a trailer attachment for boats or the like, and it is a particular object of the invention to provide a device of this kind which can be readily and conveniently applied in desired position upon a boat to facilitate transportation.

It is also an object of the invention to provide a trailer attachment so constructed and arranged as to be readily applied in proper position upon a boat while floating so that when the boat is pulled from the water it is ready for the road.

A still further object of the invention is to provide an attachment of this kind which is engaged with a boat or the like in a manner to effectively resist road shock so that the liability of the attachment becoming unfastened during transit is substantially eliminated.

The invention consists in the details of construction and in the combination and arrangement of the several parts of my improved trailer attachment whereby certain important advantages are attained, as will be hereinafter more fully set forth.

In order that my invention may be the better understood, I will now proceed to describe the same with reference to the accompanying drawings, wherein:

Figure 1 is a view in side elevation of a trailer attachment constructed in accordance with an embodiment of my invention and in applied position;

Figure 2 is a fragmentary view in top plan of the assembly as illustrated in Figure 1;

Figure 3 is a fragmentary view in bottom plan of the boat to which the attachment is to be applied;

Figure 4 is an enlarged fragmentary detailed sectional view taken substantially on the line 4-4 of Figure 1;

Figure 5 is an enlarged detailed sectional view taken substantially on the line 5-5 of Figure 1, the wheel being diagrammatically indicated by broken lines;

Figure 6 is a detailed sectional view taken substantially on the line 6-6 of Figure 5; and

Figure 7 is a view in perspective of the elongated attaching plate unapplied.

While in the accompanying drawings only one attachment is illustrated, it is to be stated that in practice two attachments are used, the same being engaged with the opposite side portions of the boat B or the like.

In the embodiment of the invention as disclosed in the accompanying drawings, the attachment comprises an elongated plate 1 of desired dimen-

2

sions and provided along its outer margin with an upstanding flange 2. This plate 1 and flange 2 have disposed thereover the pads or cushions 3, preferably of rubber. The plate 1 underlies a side marginal portion of the bottom 4 of the boat B with the flange 2 extending along the lower portion of a side wall 5 of the boat, the pads 3, as illustrated in Figures 4 and 5, being in direct contact with the boat B. The plate 1 is elongated and is provided at each end portion with an upstanding stud 6 having a head 7. The bottom 4, at each side portion thereof and in desired location, is provided with a pair of longitudinally spaced pockets 8 formed in the under surface of the bottom 4 of the boat. Each of these pockets 8 has its outer or open face closed by a plate 9, the outer face of which being substantially flush with the under surface of the bottom 4 of the boat. The plate 9 is provided with a button-hole slot 10, the larger end portion of which being of a diameter to readily allow the insertion thereof of a head 7 of a stud 6 but, of course, of a diameter greater than the width of the restricted portion of the slot 10. It is believed to be apparent that the studs 6 coact with the plates 9 in a manner to effectively hold the plate 1 in desired position along the side of the boat B.

As is illustrated in Figure 4, each of the studs 6 has a threaded outer portion which extends through the plate 1 and engaged with said threaded portion is a holding nut 11 having contact from below with the plate 1.

Welded, as at 12, or otherwise rigidly connected to the central portion of the plate 1 is a downwardly and laterally inclined tubular member 14. This member 14 is disposed on an angle of approximately 90° with respect to the plate 1 and is of a length to terminate a material distance beyond the outer side margin of the plate 1, or that marginal portion provided with the flange 2.

Rigidly secured, as at 15, to the lower or outer end of the member 14, as by welding, is the inner end portion of a stub axle A upon which is mounted a ground engaging wheel W. This wheel W is preferably of type including a pneumatic tire C.

Extending into the lower portion of the member 14 is the lower end portion of an elongated tubular post 16, the top wall of the member 14 being provided with a suitably positioned opening 17 through which this post 16 snugly passes. The inserted end of the post 16 is formed to have close contact with the bottom wall portion of the member 14 and is welded, as at 18, or otherwise rigidly secured thereto. The post 16 is also welded or otherwise rigidly secured, as at 19, to the wall or

3
edge of the member 14 defining the opening 17. The portion of the post 16 immediately above the member 14 has its rear wall portion welded, as at 20, or otherwise rigidly secured to the flange 2.

Threading, as at 21, upon the upper end portion of the post 16 is the bottom wall 22 of a thimble or casing T. The side wall 23 of this thimble or casing T tapers from its lower or bottom end toward its outer or upper end and said upper end portion of the thimble or casing T is provided therearound with an inwardly disposed bead or flange 24. Insertible from above into the thimble or casing T through its upper or top opening 25 is an elongated sleeve 26 which snugly surrounds an elongated tubular rod or member 27. The lower portion 28 of the sleeve 26 is reduced in diameter to substantially snugly enter the upper end portion of the post 16. This reduced portion 28 provides the sleeve 26 with a downwardly facing and circumferentially disposed surrounding shoulder 29 which, by contact with the upper end of the post 16, limits the inward movement of the sleeve 26. The tubular rod or member 27 is of a length to extend a material distance inwardly of the post 16, and has keyed, as at 30, or otherwise secured to its lower or inserted end a surrounding collar 31 which forms an abutment for an end portion of an expansible member 32 herein disclosed as a coil spring of requisite tension interposed between the collar 31 and the inner or inserted end of the sleeve 26. This expansible member or coil spring 32 operates to constantly urge outwardly the sleeve 26 so that the balls 33 retained by the sleeve 26 will coact with the tapered side wall 23 of the thimble or casing T and the periphery of the rod or member 27 to lock said member against endwise movement. The sleeve 26 is provided therethrough with an annular series of circumferentially disposed spaced openings 34 in each of which is arranged a ball 33, said ball being of a radius sufficient to have the ball extend outwardly from and inwardly of the sleeve 26 so that the ball have desired holding or locking contact with the wall 23 of the thimble or casing T and the periphery of the rod or member 27.

The gunwale 35 at each side of the boat is provided with a desired positioned, upwardly facing socket 36 of material depth. Suitably secured upon the gunwale 35 is a reinforcing washer 37, the opening 38 of which being in register with the socket 36. Extending within the socket 36 through the opening 38 of the washer 37 is the straight bill 39 depending from the laterally disposed arm 40 of a hook member M. The arm 40 extends laterally from the upper end portion of the shank 41 of the hook member M which snugly fits within the upper portion of the rod or member 27 and is rigidly anchored thereto by a suitable key 42, or otherwise as may be preferred.

The upper end of the rod or member 27 has welded, as at 43, or otherwise rigidly secured thereto an end portion of an elongated and relatively wide plate 44, the under surface of which having disposed thereover a cushion 45, preferably of rubber. The shank 41 of the hook member M is inserted through this plate 44 which is of a length to overlie the gunwale 35 when the attachment is in position with the inner end portion of the plate 44, or more particularly the pad 45 thereof, in contact from above with the washer 37. The inner end portion of this plate 44 is provided therethrough with an opening 46

through which the straight bill 39 of the hook member M passes.

As hereinbefore stated, two of the attachments as herein described are to be engaged with the boat or the like to be transported with such attachments in alignment transversely of the boat or the like. The member 14 of each of the attachments is provided adjacent its top with an inwardly disposed I-member 47 to provide means whereby the member 14 of one attachment may be connected with the member 14 of the second attachment by a cross rod whenever deemed necessary or expedient.

In applying an attachment, the sleeve or retainer 26 is manually forced inwardly a distance sufficient to release the locking of the holding balls 33, whereupon pull is imposed upon the arm 40 of the hook member M to move the rod or member 27 outwardly a distance sufficient to enable the bill 39 of the hook member M to be properly disposed over the gunwale 35 of the boat B with respect to the socket 36, after the studs 6 have been interlocked with the plates 9. The hook member M will be readily locked in its extended position upon release of the sleeve 26 by the balls 33 and after the bill 39 has been properly aligned with the socket 36 the sleeve 26 will be again depressed, whereupon the expansible member or spring 32 will operate to automatically draw the bill 39 of the hook member M into the socket 36.

It is to be particularly pointed out that the attachment as herein disclosed is relatively small in size and light in weight. This is of advantage as the attachment can be readily applied to the boat or removed therefrom while the boat is afloat and in the event the attachment should be dropped into the water the buoyancy of the tire carried by the wheel W will be sufficient to keep the attachment afloat so that it can be easily recovered.

It is also to be particularly noted that the expansible member or spring 32 serves to maintain the bill 39 of the hook member M down within the socket 36 and thereby substantially eliminating liability of the attachment becoming unfastened as a result of road shock.

From the foregoing description it is thought to be obvious that a trailer attachment constructed in accordance with my invention is particularly well adapted for use by reason of the convenience and facility with which it may be assembled and operated.

I claim:

1. A trailer attachment comprising a plate for engagement from below with the element to be transported, a downwardly and outwardly inclined member carried by such plate, ground engaging means carried by the outer end portion of said member, an upstanding post carried by said member outwardly of the plate, an elongated rod telescopically engaged with the post, said rod having means for engaging from above the element to be transported, means for constantly urging the rod inwardly of the post, and releasable means for locking the post against outward movement.

2. A trailer attachment comprising a post, means for anchoring one end portion of the post to the bottom portion of an element to be transported, ground engaging means associated with said end portion of the post, a rod telescopically engaged with the post, means carried by said rod for engaging from above the element to be transported, means for constantly urging the rod in-

5

wardly of the post, and releasable means carried by the post for engagement with the rod to lock the rod against outward movement.

3. A trailer attachment comprising a post, means for anchoring one end portion of the post to the bottom portion of an element to be transported, ground engaging means associated with said end portion of the post, a rod telescopically engaged with the post, means carried by said rod for engaging from above the element to be transported, means for constantly urging the rod inwardly of the post, releasable means carried by the post for engagement with the rod to lock the rod against outward movement, said means comprising a casing carried by the post having a tapered side wall, a sleeve slidably mounted on the rod and extending within the casing, and a wedging element freely disposed through the wall of the sleeve for contact with the rod and the tapered wall of the casing.

4. A trailer attachment comprising a post, means for anchoring one end portion of the post to the bottom portion of an element to be transported, ground engaging means associated with said end portion of the post, a rod telescopically engaged with the post, means carried by said rod for engaging from above the element to be transported, means for constantly urging the rod inwardly of the post, releasable means carried by the post for engagement with the rod to lock the rod against outward movement, said means comprising a casing carried by the post having a tapered side wall, a sleeve slidably mounted on the rod and extending within the casing, a wedging element freely disposed through the wall of the sleeve for contact with the rod and the tapered wall of the casing, and means for limiting the extent of inward movement of the sleeve.

5. A trailer attachment comprising a post, means for anchoring one end portion of the post to the bottom portion of an element to be transported, ground engaging means associated with said end portion of the post, a rod telescopically engaged with the post, means carried by said rod for engaging from above the element to be transported, means for constantly urging the rod inwardly of the post, releasable means carried by the post for engagement with the rod to lock the rod against outward movement, said means comprising a casing carried by the post having a tapered side wall, a sleeve slidably mounted on the rod and extending within the casing, and

6

a wedging element freely disposed through the wall of the sleeve for contact with the rod and the tapered wall of the casing, the casing having an inwardly disposed part for contact with the wedging element to limit the outward movement of the sleeve.

6. A trailer attachment comprising a post, means for anchoring one end portion of the post to the bottom portion of an element to be transported, ground engaging means associated with said end portion of the post, a rod telescopically engaged with the post, means carried by said rod for engaging from above the element to be transported, means for constantly urging the rod inwardly of the post, releasable means carried by the post for engagement with the rod to lock the rod against outward movement, said means comprising a casing carried by the post having a tapered side wall, a sleeve slidably mounted on the rod and extending within the casing, and a wedging element freely disposed through the wall of the sleeve for contact with the rod and the tapered wall of the casing, the casing being detachably mounted on the post.

7. A trailer attachment comprising a post, means carried by the post for connecting the same with the lower portion of an element to be transported, ground engaging means associated with the lower portion of the post, said post being tubular, a rod telescopically engaging within the post, means carried by the outer end portion of the rod to engage from above the element to be transported, a sleeve slidably mounted upon the post, means for constantly urging the rod inwardly of the post and the sleeve outwardly of the post, and means carried by the sleeve and coacting with the post and the rod for locking the rod against outward movement, movement of the sleeve inwardly of the post releasing said locking means to allow the rod to be moved outwardly.

8. A trailer attachment comprising a post, means for securing an end portion of said post to the lower portion of an element to be transported, a rod telescopically extending within the post, means carried by said rod to engage from above the element to be transported, means for constantly urging the rod inwardly of the post, and wedging means coacting with the post and rod for releasably locking the rod against outward movement.

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