April 28, 1964 A. MELLONI 3,130,842

TRAILER FOR AUTOMOBILES AND DEVICE FOR BOAT SUPPORT THEREIN

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FIG. 1

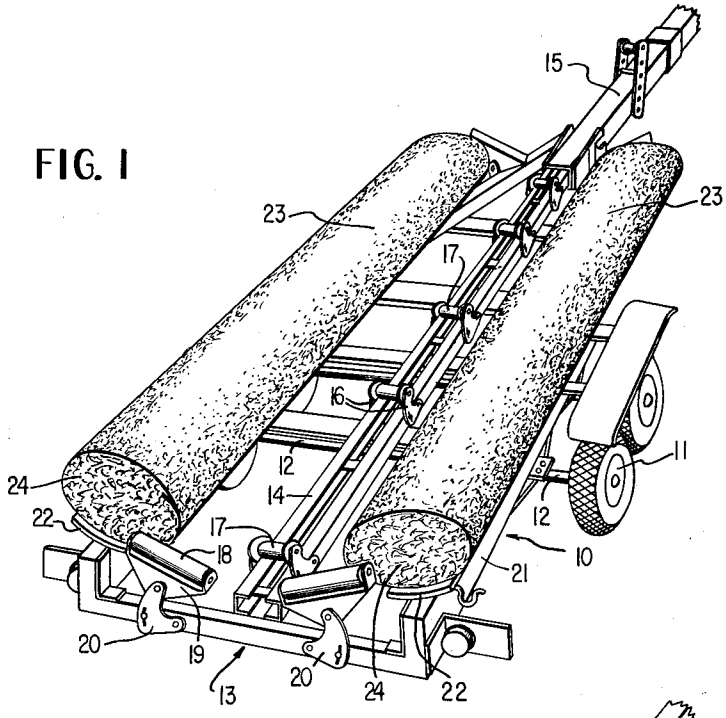
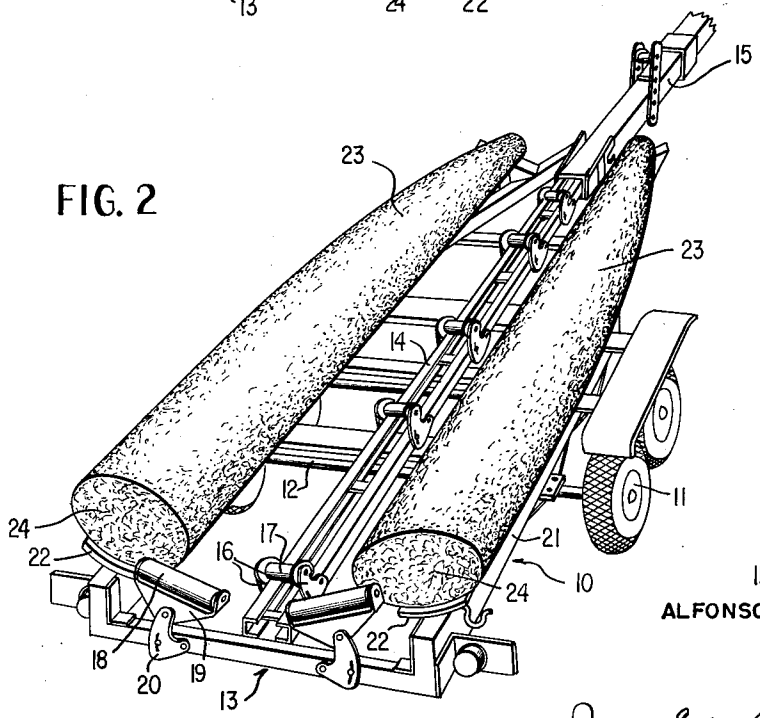


FIG. 2



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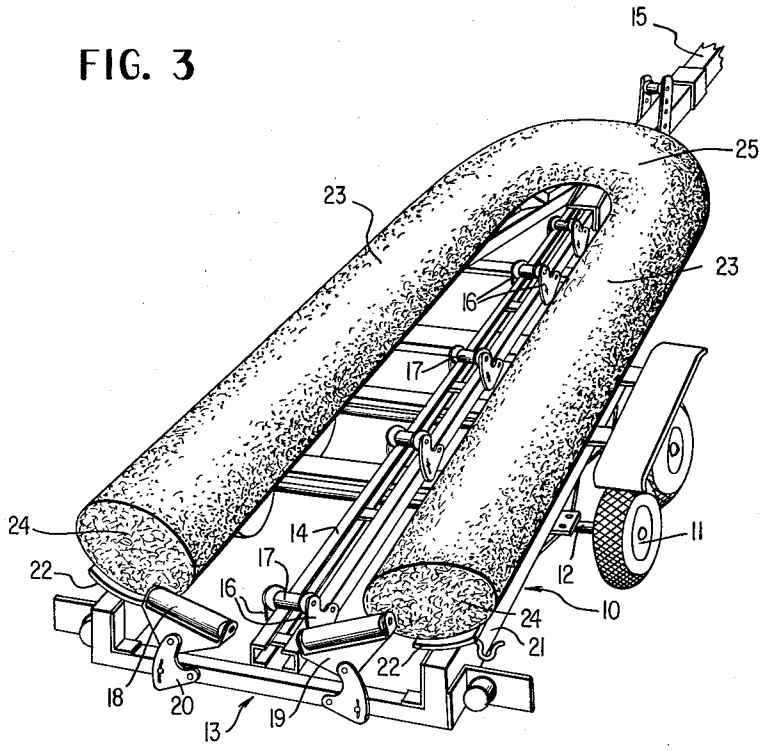
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FIG. 3



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3,130,842

TRAILER FOR AUTOMOBILES AND DEVICE FOR BOAT SUPPORT THEREIN

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Filed Oct. 11, 1962, Ser. No. 229,896
3 Claims. (Cl. 214—84)

The present invention relates to trailers for automobiles, built with the purpose of boats transportation and more particularly to a novel type of cushioning element to avoid damage of the boat surface when transported thereon.

The actual trailers for automobiles, built with the purpose of boat transportation, have the defect of improper support of the boat itself, and frequently the hull becomes damaged by the stresses and jarring to which it is subject during road travelling.

The conventional trailer frame is normally equipped with a certain number of rolling roods and/or small diameter wheels which have the purpose of making easier the launching and the retrieving of the boat. Hereinafter such complex of rolling roods and/or small diameter wheels will be called "rolling device."

Normally the rolling device is used also for the support of the boat in travel and even if it is made with some provisions for adjustment to the shape of the hull, nevertheless the adjustment can never be perfect and the distribution of the load among the single elements of the rolling device is far from being regular. In addition to that it happens that the number of supporting points of the rolling device is necesarily low and in consequence the load on the few supporting points reaches values dangerous for the hull structure mainly when travelling on the road because of dynamic overchanges.

One solution to that problem has been the incorporation of relatively large fix supports on which the boat seats when on travel. According to this prior solution, there is a mechanical system for rising the rolling device or part of it so that the boat is supported by the rolling device when launching or retrieving. When the boat is already in the right position on the trailer, then the mechanical system above mentioned allows to lower the rolling device and the boat sleep on the large fix supports.

However, this solution to the problem involves the complication of the mechanical system as mentioned and also the large fix supports are difficult to adapt perfectly to the shape of the hull, and are not flexible as to possibility of adaptation to another hull even if similar.

Therefore, it is one object of the present invention to provide a novel type of support for the boat on trailers for automobiles which will eliminate all the defects mentioned above.

Another object of the present invention is to provide a novel type of support of the above mentioned character, which includes, in addition to the rolling device reduced at the minimum for boat loading and unloading, one or more cushion pads inflated with air at low pressure on which the hull of the boat sleeps when travelling by road.

One additional and more specific object of the present invention is to provide a support of the above mentioned character, which includes one or more inflatable and deflatable cushion pads to engage and disengage the hull of the boat from the rolling device.

Other and additional objects will be obvious and still other will appear in the following specification of preferred embodiments of the invention, taken in connection with the accompanying drawings, wherein:

FIGURE 1 is a perspective view of a trailer for automobiles for boats transportation, provided with a simplified rolling device and a pair of cushioning pads according to the invention;

FIGURE 2 is a view similar to FIGURE 1, but showing a pair of cushioning pads on the trailer of a different shape; and

FIGURE 3 is a view similar to FIGURES 1 and 2, but showing still another embodiment of a cushion pad which is provided with a U-like shape.

Referring now more particularly to the drawings, there is shown a trailer for automobiles **10**, built with the purpose of boats transporting, having one or more pairs of road wheels **11** rotating on axles **12**, and a frame **13** supported thereon. Frame **13** is provided as an example with a longitudinally extending central strut **14** which supports the hauling brace **15** and having mounted thereon a plurality of brackets **16** and having horizontal shafts on which the idle wheels **17** are freely rotatably mounted. The rolling device is completed by a pair of tilted rollers **18** supported on suitable supports **19**, in turn supported by brackets **20**.

Along the sides of the trailer **10** there are provided as an example a pair of supporting channels **21**, having on top a large area plate **22**, in order to provide support for one or more cushioning inflatable pads **23**. These cushioning pads can be one or more than one, such as can be seen in FIGURES 1, 2 and 3 of the drawings, and can adopt a straight shape with a circular or oval cross section and are built of a continuous longitudinal wall and cap or cover members **24**. When only one cushioning pad is provided, then it adopts a U-like or V-like shape with two arms **23** and a bight **25** to support the fore portion of the boat (FIGURE 3).

The cushioning pads are slightly deflated at the moment the boat is loaded on the trailer by rolling on the simplified rolling device **17**, **18**, and once it has reached to its proper position, air at low pressure is forced into the cushion pads so that the hull is raised up from the rolling device.

Any low pressure air source is suitable for the purpose and even a small air pump of manual operation can do the job in a few minutes.

As an alternative, the cushion pads can be kept all the time inflated and just provide the trailer with a mechanical system to raise and lower the rolling device according to the needs, as explained before for the case of the large fix supports of the conventional art.

The air cushion pads offer an extremely large supporting area with uniform pressure and are self-adaptable to any hull shape. Also, the boat will be never damaged by improper support during transportation.

When the number of cushion pads used is more than one, they can all be interconnected in order to be able to become inflated or deflated at the same time and from the same air source.

While the longitudinally arranged cushion pads are of course preferred, it is contemplated within the scope of the present invention to provide transverse cushion pads along the trailer for automobiles.

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

1. A trailer for automobiles made with the purpose of carrying boats which comprises, in combination, one or more pairs of road wheels, transverse axles between each pair of wheels, a frame supported on a suitable truck on said wheels, said frame having a plurality of small diameter wheels supported freely rotatably on a corresponding plurality of brackets attached to said frame, a pair of rollers rotatably supported on the rearmost member of said frame and capable of assuming a suitable angle in order to conform to the shape of the hull of a boat, said small diameter wheels and rollers forming a rolling device

for launching and retrieving the boat, at least one wide support extending longitudinally along both sides of said frame and having a concave upwardly curved surface, and a single inflatable cushion pad arranged on said curved surface of the support and having interconnected side portions capable of being simultaneously inflated and deflated to raise and lower the hull of a boat from and to said rolling device.

2. A trailer for automobiles made with the purpose of carrying boats according to claim 1, wherein said single cushion pad is U-shaped, the bight of the U forming said interconnection for simultaneously inflating and deflating the side portions of the pad.

3. A trailer for automobiles made with the purpose of carrying boats according to claim 2 wherein said bight of the U-shaped pad is mounted transverse to the axis of the trailer.

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