Oct. 22, 1968 R. J. BALLENGER ET AL 3,406,985

DOLLEY

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FIG. 1

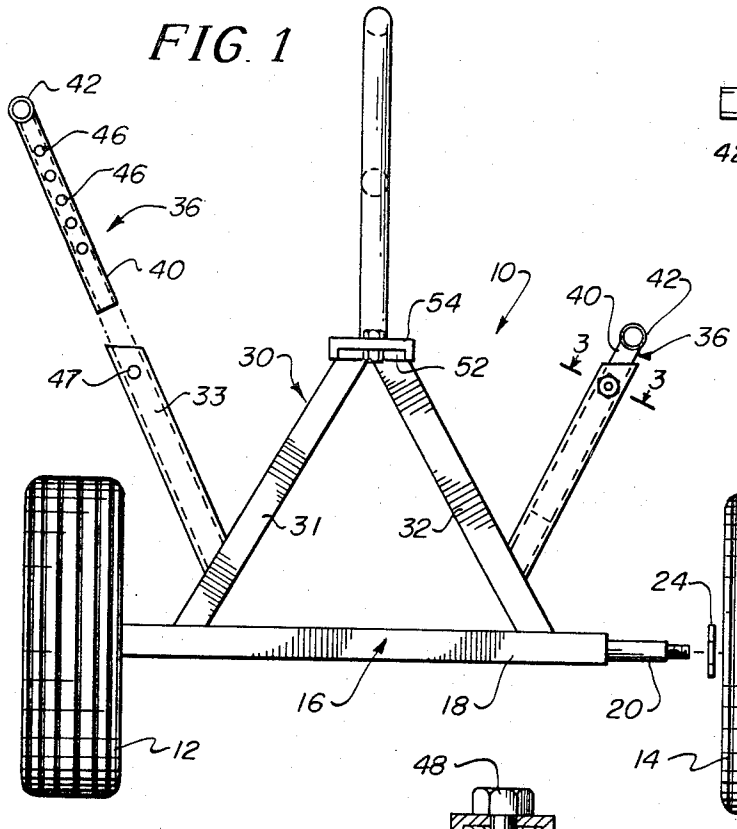


FIG. 2

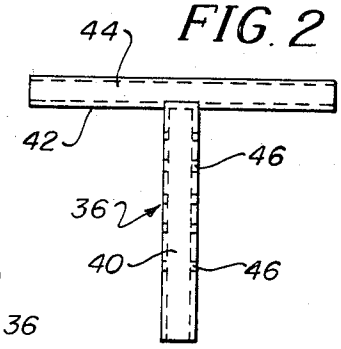


FIG. 3

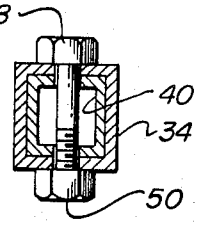


FIG. 4

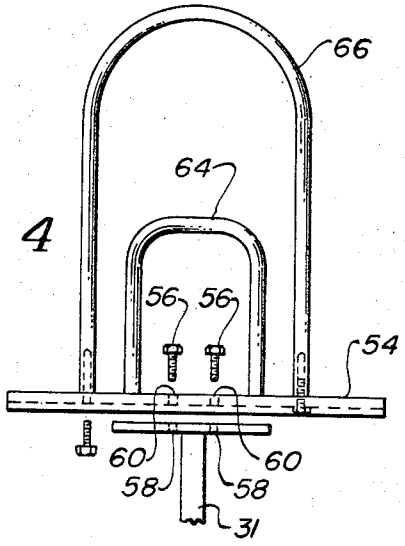
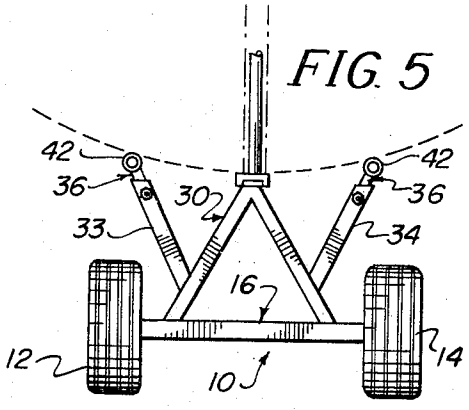


FIG. 5



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FIG. 6

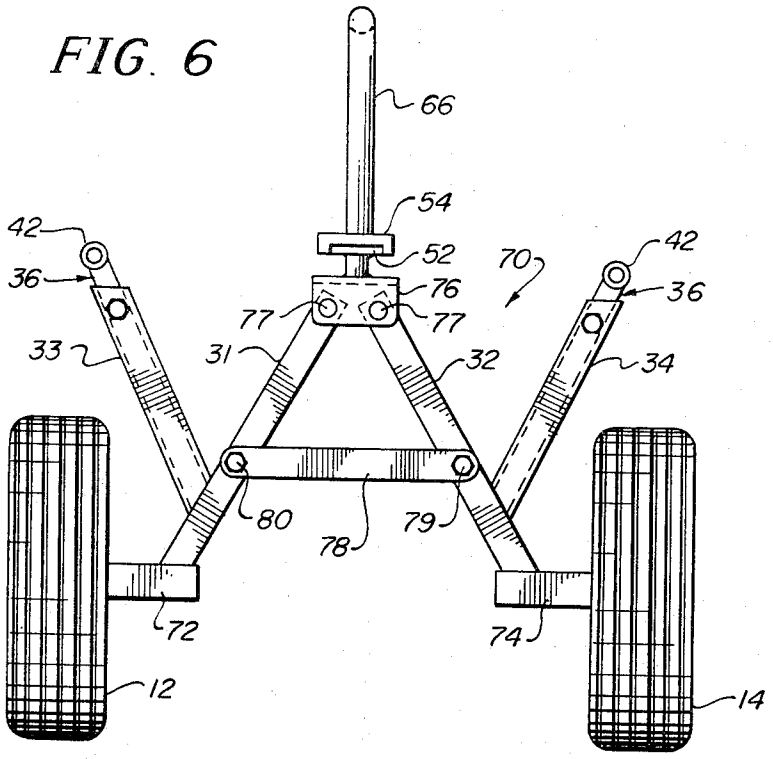
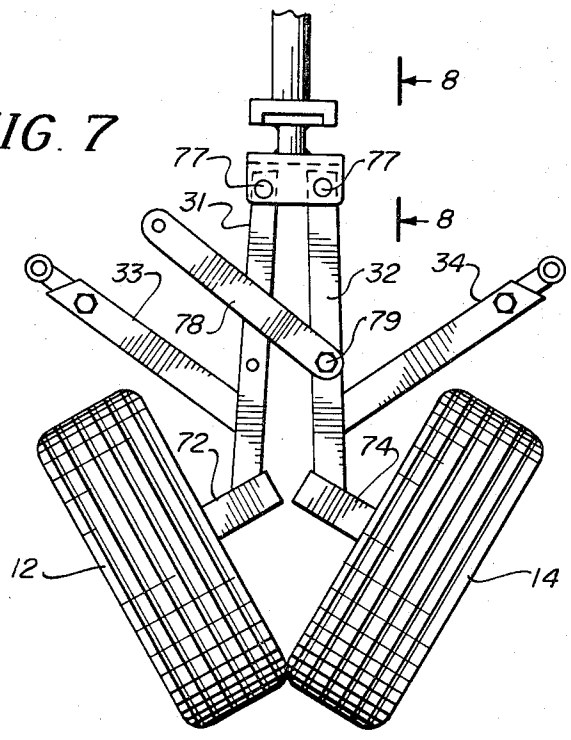


FIG. 7



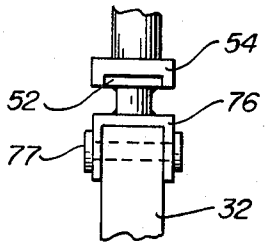


FIG. 8

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DOLLEY

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10 Claims. (Cl. 280—414)

ABSTRACT OF THE DISCLOSURE

A sailboat dolley including an axle having a pair of wheels rotatably affixed to the opposite ends thereof and a substantially W-shaped frame affixed to the axle lengthwise thereof, which frame may be collapsible for compact storage. A hull support is adjustably affixed to each of the outer arms of the W-shaped frame, and a keel loop is affixed to the apex of the two inner arms and is disposed so that it extends parallel to and between the two hull supports. The dolley is affixed to a sailboat by removably inserting the keel loop into the daggerboard or centerboard well of the sailboat, with the bottom of the sailboat resting on the hull supports.

This invention relates, in general, to improved dolleys and, in particular, to improved dolleys for sailboats.

The dolleys of the present invention are particularly designed for use with sailboats, to provide relatively simple and inexpensive apparatus whereby one man can easily transport a sailboat from a car to the water and from the water to a storage area. In addition, a sailboat can be stored on the dolley, if desired, so that it can be easily moved about, if necessary. The dolleys are easily affixed to the sailboats, without the need of fastening means. Furthermore, the dolleys are adjustable to fit virtually all sizes and differently shaped sailboats and, in accordance with one embodiment of the invention, are collapsible for convenient, compact storage.

Accordingly, it is an object of the present invention to provide improved dolleys which are particularly designed for use with sailboats.

Another object is to provide improved sailboat dolleys which are relatively simple in construction and virtually maintenance free.

Still another object is to provide improved sailboat dolleys which are easily and quickly adjusted to fit virtually any sailboat, regardless of its design.

A still further object is to provide improved sailboat dolleys which are easily and quickly affixed to a sailboat, without the need of external fastening means, or for that matter, any fastening means.

Still another object is to provide improved sailboat dolleys which can be easily collapsed for convenient, compact storage.

Another object is to provide improved sailboat dolleys which are adaptable for use with sailboats having both shallow and deep daggerboard and centerboard wells.

Still another object is to provide improved sailboat dolleys which are easily affixed to a sailboat by removably inserting a keel loop into the daggerboard or centerboard well of the sailboat, after the daggerboard or centerboard has been removed or positioned in a withdrawn position.

Other objects of the invention will in part be obvious and will in part appear hereinafter.

The above objectives are accomplished with a sailboat dolley including an axle having a pair of wheels rotatably affixed to the opposite ends thereof and a substantially W-shaped frame affixed to the axle lengthwise thereof, which frame may be collapsible for compact storage. A hull support is adjustably affixed to each of the outer

arms of the W-shaped frame, and a keel loop is affixed to the apex of the two inner arms and is disposed so that it extends parallel to and between the two hull supports. The dolley is affixed to a sailboat by removably inserting the keel loop into the daggerboard or centerboard well of the sailboat, with the bottom of the sailboat resting on the hull supports.

The invention accordingly comprises the features of construction, combination of elements, and arrangement of parts which will be exemplified in the construction hereinafter set forth, and the scope of the invention will be indicated in the claims.

For a fuller understanding of the nature and objects of the invention, reference should be had to the following detailed description taken in connection with the accompanying drawings in which:

FIG. 1 is a front plan view of a dolley, illustrating the manner in which the hull supports are adjustably affixed to the frame and further illustrating the manner in which the wheels are rotatably affixed to the axle;

FIG. 2 is a side plan view of one of the T-bars forming the hull supports;

FIG. 3 is a sectional view, taken along lines **3—3** of FIG. 1, illustrating the manner in which the hull supports are affixed to the frame;

FIG. 4 is a side plan view of the keel loops, generally illustrating the manner in which they are removably affixed to the frame;

FIG. 5 is a front plan view of a dolley, illustrating the manner in which it is affixed to a sailboat;

FIG. 6 is a front plan view of a collapsible dolley, in its extended position;

FIG. 7 is a front plan view of the dolley of FIG. 6, in its collapsed position; and

FIG. 8 is a view taken generally along lines **8—8** of FIG. 7, illustrating the pivotal connections at the end of the collapsible arms.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now to the drawings, in FIGS. 1–5 there is shown a dolley **10** having a pair of wheels **12** and **14** which are rotatably affixed to the opposite ends of an axle **16**. The axle **16** can be formed of a length of square tubing **18** having round shafts **20** (only one of which is shown) secured in the opposite open ends thereof. The ends of the shafts **20** are threaded to receive lock nuts **22**. The wheels **12** and **14** are rotatably affixed to the axle **16**, by first placing a washer **24** on the shaft **20** and then inserting the shaft **20** through the hub (not shown) of the rim of the wheel **12** or **14**. Next, another washer **26** and the lock nut **22** is placed on the shaft **20**, to secure the wheel on the axle.

A substantial W-shaped frame **30** having a pair of inner arms **31** and **32** and a pair of outer arms **33** and **34** is affixed to the axle **16** lengthwise thereof, centrally between the wheels **12** and **14**. One end of each of the inner arms **31** and **32** is fixedly secured to the axle **16** and the opposite ends thereof are affixed together so as to form, along with a portion of the axle, a triangle which is substantially isosceles in configuration. The outer arms **33** and **34** are affixed to respective ones of the inner arms **31** and **32**, along the length thereof a short distance upwardly of the axle **16**. The outer arms **33** and **34** extend angularly upwardly, at an angle of approximately 55° from the inner arms **31** and **32**. The inner and outer arms **31–34** can be formed of 1 inch square tubing and can be fixedly secured to the axle **16** or to one another by welding them.

T-bars **36**, each of which has a stem **40** and a hull support **42**, are affixed to respective ones of the outer arms **33** and **34**, by slidably inserting the stems **40** in the open ends thereof, with the hull supports **42** disposed

perpendicular to the axle **16**. The stems **40** of the T-bars **36** are advantageously formed of ¾ inch square tubing so that they slidably fit within the outer arms **33** and **34** and are prevented from turning therein. The hull supports **42** can be formed from 1 inch round tubing and are preferably approximately 18 inches in length. A number of spaced apart apertures **46** extend through the stems **40** of the T-bars **36** and are adapted to receive fastening means such as a threaded bolt **48** (FIG. 3) extended through apertures **47** in the outer arms **33** and **34**. The apertures **46** provide means for adjustably extending the length of the outer arms **33** and **34**, to engage the hull supports **44** with the bottom of the hull of a sailboat, so as to support the sailboat and prevent it from tipping on the dolley **10**, as illustrated in FIG. 5. The bolts **48** are secured therein by means of a lock nut **50**.

A short length of flat bar stock **52** (FIG. 4) is fixedly secured to the upper ends of the inner arms **31** and **32**, and removably affixed to the bar stock **52** is a keel loop support **54** which preferably has a U-shaped cross-section so that the bar stock **52** can be secured therein, as illustrated in FIG. 1, to prevent the keel loop support **54** from being twisted or misaligned. The bar stock **52** and the keel loop support **54** both extend perpendicular to the axle **16**, and can be affixed together by means of fastening means such as the threaded screws **56** extended through apertures **58** and **60** formed in the bar stock **52** and the keel loop support **54**, respectively. The keel loop support **54** also functions as a hull support, as will be apparent from the description below.

A keel loop **64** which is adapted to slidably fit within a daggerboard or centerboard well in a sailboat to affix the dolley **10** to the sailboat is affixed to the keel loop support **54** in a vertically disposed position. It will be appreciated that there are many different size sailboats and that some of these sailboats have daggerboards and some have centerboards. Furthermore, the size of the daggerboards and the centerboards, and therefore the wells for them, may vary considerably. Accordingly, the keel loop is adapted to fit the particular well of the sailboat with which the dolley **10** is used. Preferably, a pair of keel loops **64** and **66** are affixed to the keel loop support **54**, which keel loops are adapted to fit the daggerboard and centerboard wells in most sailboats, whether large or small, so that the dolley **10** is extremely versatile. In a particular application, a keel loop **64** which is 5½ inches in width and 7⅛ inches in height and a keel loop **66** which is 9¼ inches in width and 17¾ inches in height are affixed to the keel loop support **54**. With these two keel loops, the dolleys **10** and **70** are easily adapted for use with sailboats presently sold under the names: Whirlwind, Nimblewind, Nord XII, Nordex Bat, Sunfish, Sailfish, Butterfly, Scorpion, Stingray, Manta Ray, Playfish, Minnow, Sea Snark, Porpoise, as well as others not specifically mentioned. Furthermore, the dolleys **10** and **70** can be adapted for use with virtually any sailboat, simply by providing the appropriate keel loop **64** or **66**. Present commercial units constructed in the above described fashion will handle sailboats weighing as much as 300 pounds. Greater weights can be handled by constructing the dolleys of sturdier materials and/or using appropriate support braces.

The keel loops **64** and **66** both can be removably affixed to the keel loop support **54**, however, since the smaller keel loop **64** is positioned within the keel loop **66** it will always fit within the larger wells and can therefore be fixedly secured to the keel loop support. The keel loop **66** is preferably removably affixed to the keel loop support **54** so that it can be removed to both adapt to the dolley **10** to a smaller boat and to permit additional smaller or larger keel loops to be affixed to the keel loop support, to adapt the dolley to any size sailboat and/or keel opening.

In affixing the dolley **10** to a sailboat, the keel loop **66** is removed if it is too large to fit the well in the sailboat. Next, the T-bars **36** are adjustably affixed within the outer arms **33** and **34** so that the hull supports **42** will engage the bottom of the sailboat to properly balance the sailboat on the dolley, when the keel loop **64** or **66**, or both, are slidably inserted in the well of the sailboat, as illustrated in FIG. 5.

It may be noted that the bottom of the sailboat rests on the keel loop support **54** and the keel loop is retained within the well. The hull supports **42** engage the bottom on the opposite sides of the keel loop support **54** and function to provide the support necessary to securely balance the sailboat on the dolley. It may be noted that the weight of the sailboat is distributed on three points on the dolley so that there is little likelihood that the hull of the sailboat will be damaged. More importantly, this arrangement takes the weight off of the daggerboard, or centerboard, well so that it is virtually free from being damaged by the keel loop and/or having the full weight of the sailboat resting on it. Accordingly, with the dolley **10** affixed to the sailboat in this fashion, the sailboat can be easily moved about, launched, or removed from the water.

The hull supports **42**, the keel loop support **54** and the keel loops **64** and **66** all are preferably coated with a resilient material such as vinyl or rubber to prevent them from marring the sailboat when the dolley is affixed to it.

In FIG. 6, there is shown a dolley **70** which has all the features of and is generally like the dolley **10**, however, it has the further feature of being collapsible for compact storage. In this case, the axle is formed of two axle members **72** and **74** affixed to the ends of respective ones of the inner arms **33** and **34**. The upper ends of the inner arms **33** and **34** also are pivotally affixed to and within a U-shaped pivot bracket **76**, by means of pivot pins **77**, as illustrated in FIGS. 6 and 8. A support brace **78** has one of its ends pivotally affixed by means of a pivot pin **79** to one of the two outer arms **33** and **34** and its other end is adapted to be removably affixed by means of a threaded bolt **80** or the like to the other arms so that it extends horizontally between them. The keel loop support **54** is fixedly secured atop the pivot bracket **76**.

When in its extended position, the dolley **70** appears as illustrated in FIG. 6. To collapse it, the threaded bolt **80** is removed and the inner arms **31** and **32**, with the wheel **12** and **14** attached, are pivoted together about the pivot pins **77**, to the position illustrated in FIG. 7.

The dolley **70** is removably affixed to a sailboat in the same manner described above, with respect to the dolley **10**.

From the above description, it can be seen that the dolleys **10** and **70** both are relatively simple in construction and are virtually maintenance-free since the only moving parts which may be subject to any damage are the wheels. Furthermore, the dolleys **10** and **70** are both adapted for use with varying classes of sailboats simply by providing an appropriate size keel loop and by properly positioning the T-bars **36** so that the hull of the sailboat rests on the hull supports **42** to properly balance the sailboat on the dolley. The dolleys **10** and **70** also are easily affixed to a sailboat without the need of fastening means, by simply inserting the keel loop within the well of the sailboat. In the case of the dolley **70**, it can be easily collapsed for compact storage.

It will thus be seen that the objects set forth above, among those made apparent from the preceding description, are efficiently attained and, since certain changes may be made in the above construction without departing from the scope of the invention, it is intended that all matter contained in the above description or shown in the accompanying drawings shall be interpreted as illustrative and not in a limiting sense.

It is also to be understood that the following claims are intended to cover all of the generic and specific features of the invention herein described, and all statements of

the scope of the invention, which, as a matter of language, might be said to fall therebetween.

Now that the invention has been described, what is claimed as new and desired to be secured by Letters Patent is:

1. A dolley for use with sailboats having a daggerboard or centerboard well in the hull thereof comprising a frame having a pair of wheels rotatably affixed thereto; keel loop support means affixed to said frame having at least one U-shaped keel loop affixed thereto which is adapted to be slidably inserted in the well in the hull of a sailboat, and hull support means affixed to said frame in spaced relation to and on each of the opposite sides of said keel loop support means for engaging the bottom of the hull of a sailboat to balancingly support a sailboat on said dolley when said keel loop is inserted in said well in the hull and the bottom of the hull is seated on said keel loop support means.

2. A dolley for use with sailboats having a daggerboard or centerboard well in the hull thereof comprising axle means; a pair of wheels affixed to said axle means; a frame affixed to said axle means between said wheels and having affixed thereto keel loop support means and hull support means in spaced relation to said keel loop support means and on opposite sides thereof; said keel loop support means and said hull support means each being perpendicularly disposed with respect to said axle; at least one keel loop which is adapted to be slidably inserted in the well in the hull of a sailboat affixed to said keel loop support means in a vertically disposed position; said hull supports engaging the bottom of the hull of a sailboat to balancingly support a sailboat on said dolley when said keel loop is inserted in said well in the hull and the bottom of the hull is seated on said keel loop support means.

3. The dolley of claim 2 wherein said frame is affixed to said axle means lengthwise thereof and centrally between said wheels and is substantially W-shaped having a pair of inner arms and a pair of outer arms; said keel loop support means being affixed to the end of said pair of inner arms and said hull supports being affixed to the ends of respective ones of said outer arms.

4. The dolley of claim 3 wherein said hull supports are adjustably affixed to said outer arms and are positionally adjustable to engage the bottom of the hull of a sailboat to balancingly support a sailboat on said dolley when said keel loop is inserted in said well in the hull and the bottom of the hull is seated on said keel loop support means.

5. The dolley of claim 3 wherein said keel loop is U-shaped and has the ends of its two arms affixed to said keel loop support means.

6. The dolley of claim 5, further including a second U-shaped keel loop having the ends of its two arms affixed to said keel loop support means, said first U-shaped keel loop being of a size adapted to slidably fit within a well in smaller sailboats, said second U-shaped keel loop being of a size adapted to slidably fit within a well in larger size sailboats and removably affixed to said keel loop support means with said first U-shaped keel loop disposed therein between its two arms, whereby said second U-shaped keel loop can be slidably inserted within a well without interference by said first keel loop and can be removed to permit said first keel loop to be slidably inserted within a well to thereby adapt said dolley to both large and small size sailboats.

7. The dolley of claim 3 wherein said axle means comprise a pair of axles, the lower ends of said inner arms being affixed to respective ones of said pair of axles and the upper ends of said inner arms being pivotally affixed to said keel loop support means and pivotally adjustable together to collapse said dolley for storage, a support brace removably affixed between said inner arms for supporting said inner arms in an expanded position to maintain said dolley erected.

8. The dolley of claim 3 wherein said axle means comprises an axle extending between said pair of wheels, the lower ends of said inner arms being fixedly secured to said axle and the upper ends thereof being fixedly secured to said keel loop support means, said pair of outer arms being fixedly secured at one end thereof to respective ones of said inner arms and angularly disposed thereto.

9. The dolley of claim 3, wherein at least said outer arms are of tubular construction and said hull supports are of a T-shape construction having a stem which is adapted to be slidably received in the open end of said outer arms, a plurality of apertures extending through each of said stems of said hull supports in spaced relation along the length thereof, and means affixed to each of said outer arms selectively engageable in ones of said plurality of apertures to positionally adjust the stems in said outer arms.

10. The dolley of claim 3 wherein said keel loop support means, said keel loop and said hull supports each are coated with a resilient protective material to prevent them from marring a sailboat.

References Cited

UNITED STATES PATENTS

2,816,672	12/1957	Facchini	214—84
3,315,976	4/1967	Thiermann	280—404

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