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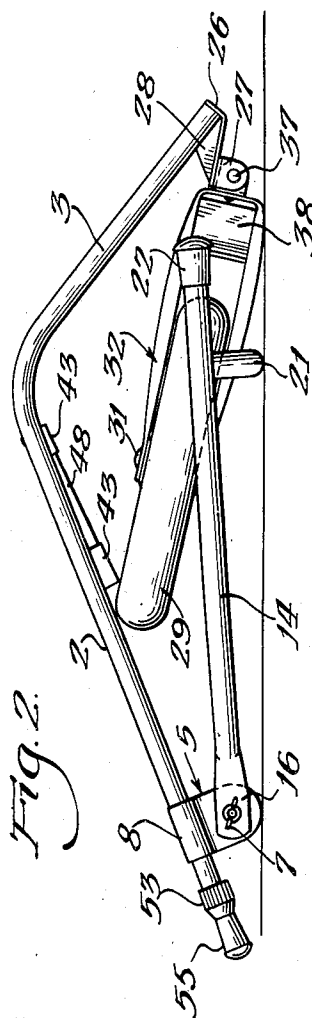
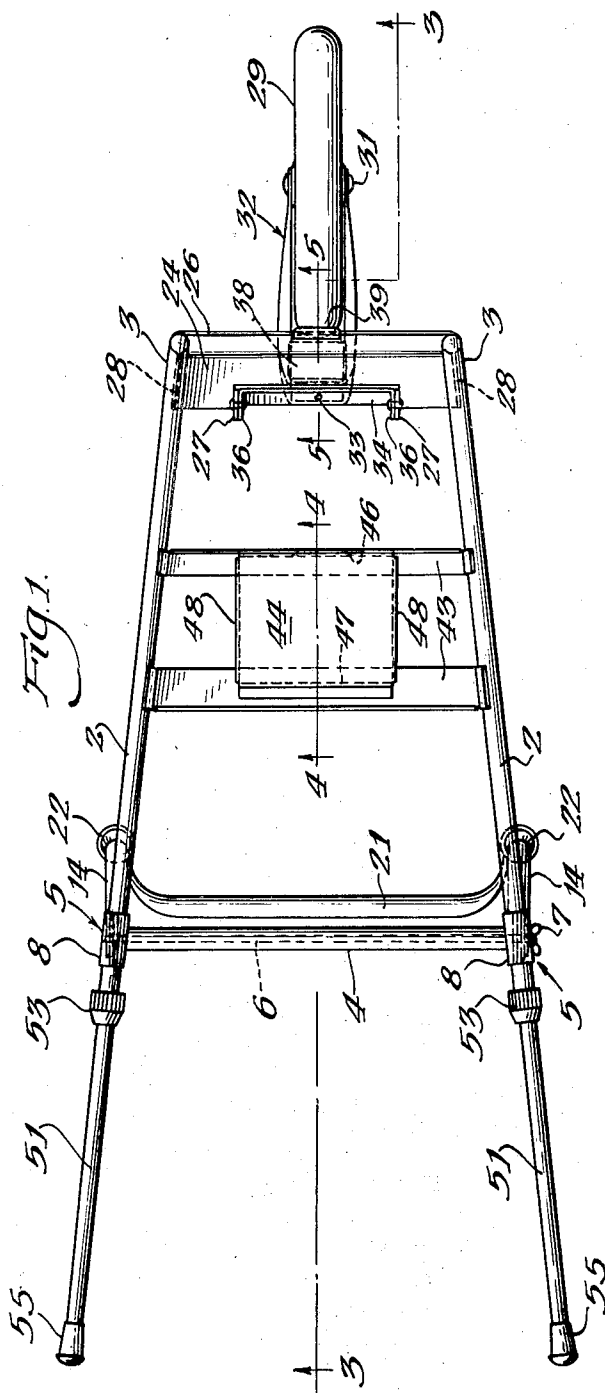
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2,484,677

COLLAPSIBLE CARRIER FOR OUTBOARD MOTORS

Filed Nov. 18, 1947

4 Sheets-Sheet 1



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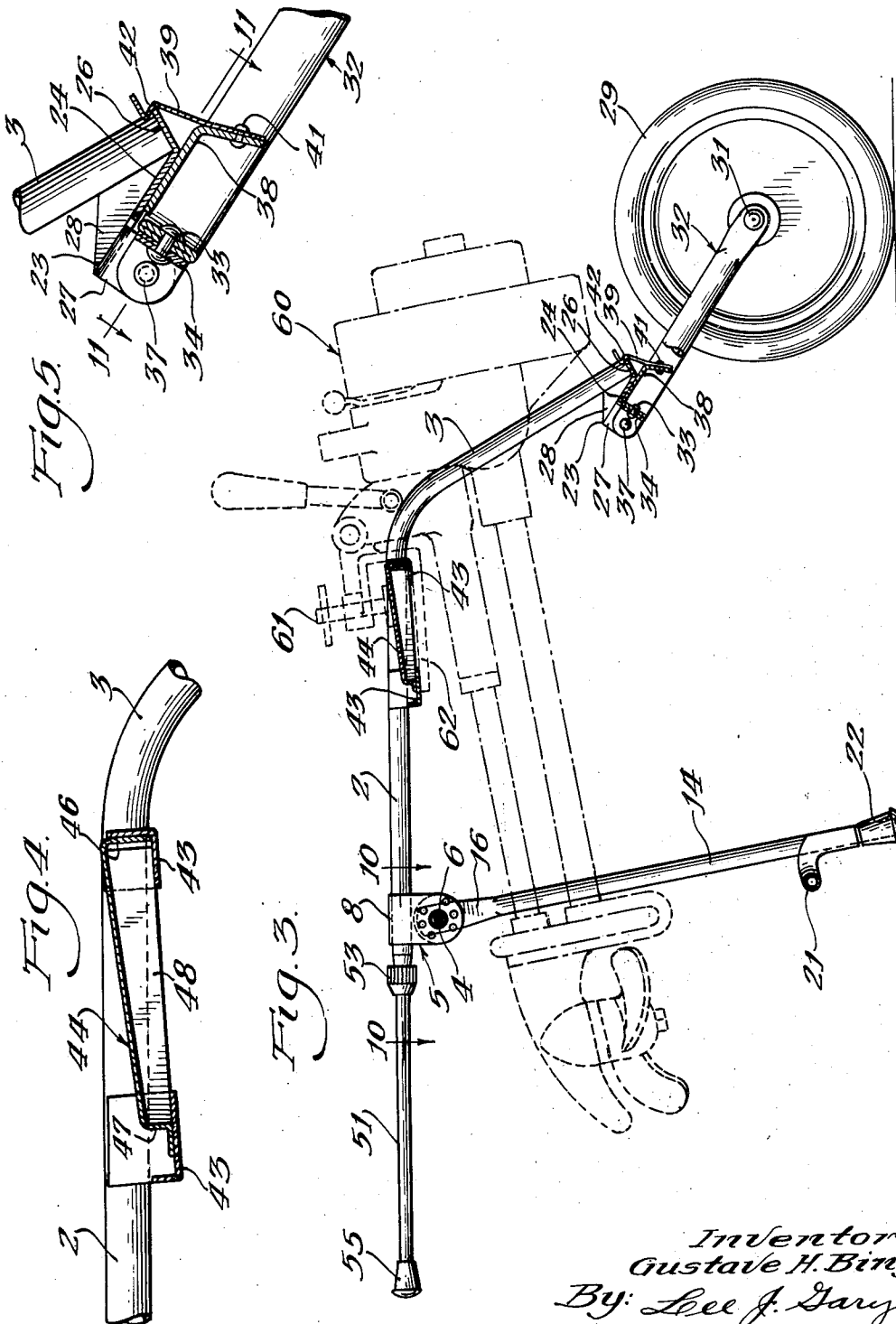
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4 Sheets-Sheet 2



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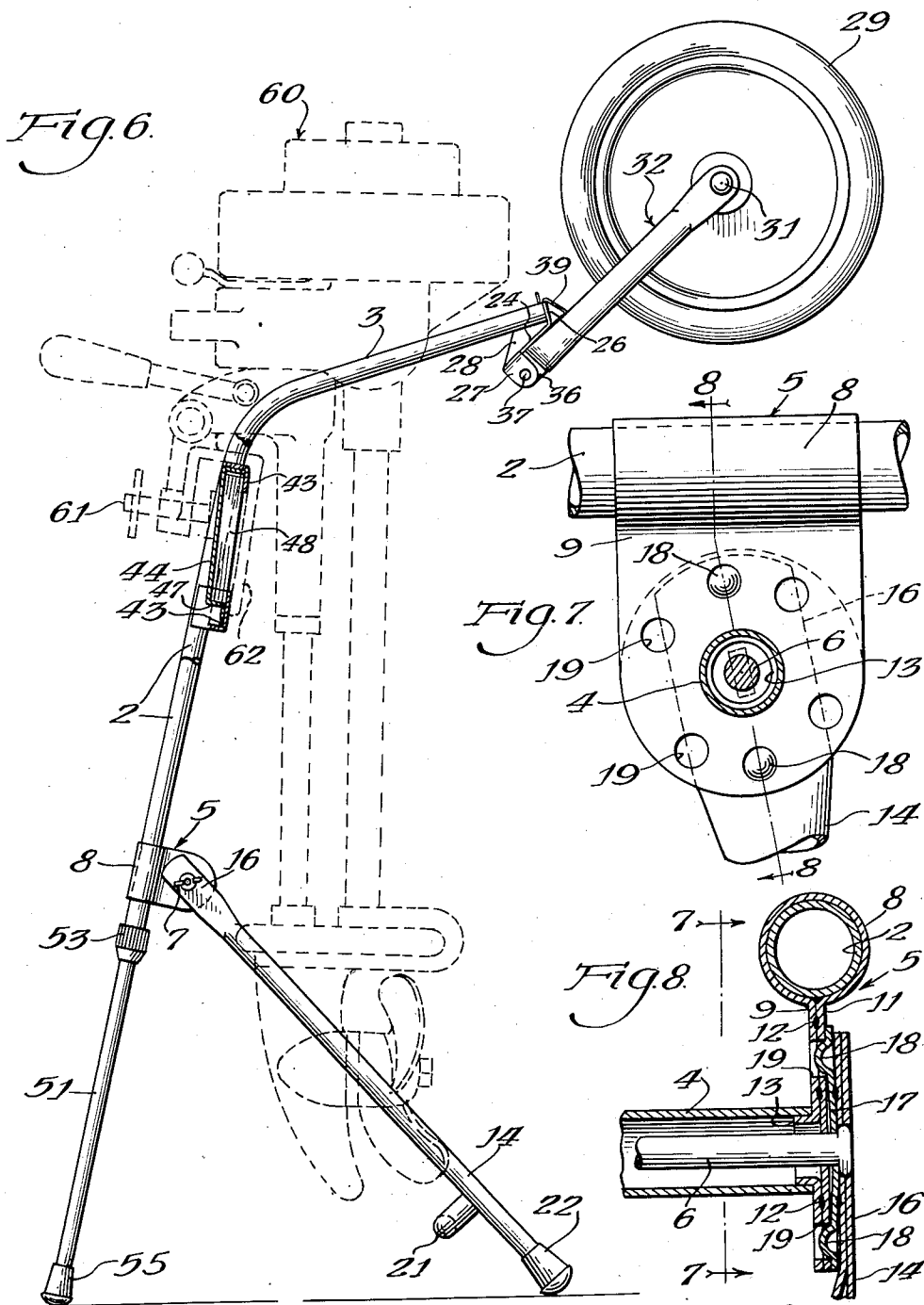
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COLLAPSIBLE CARRIER FOR OUTBOARD MOTORS

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4 Sheets-Sheet 4

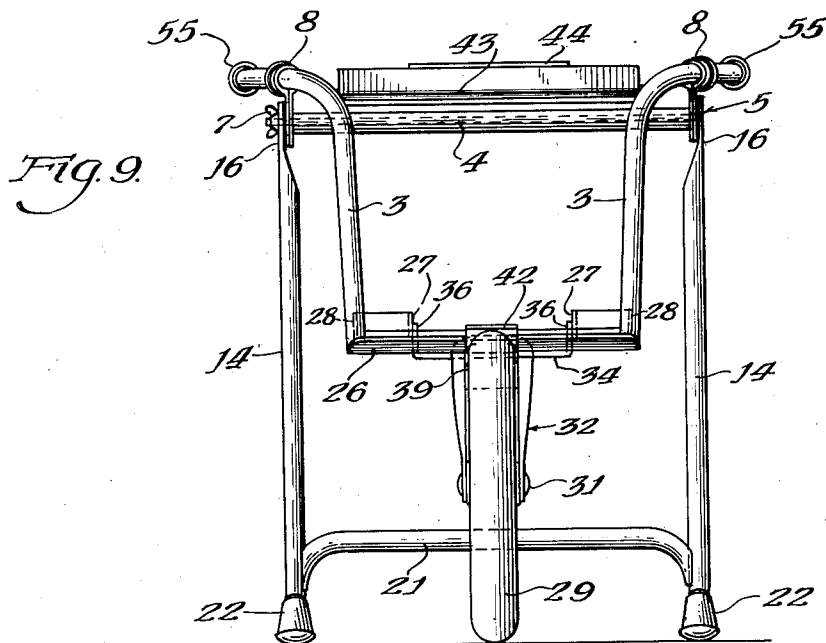


Fig. 10.

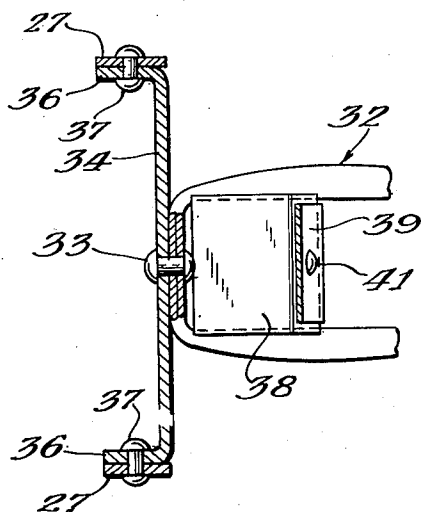
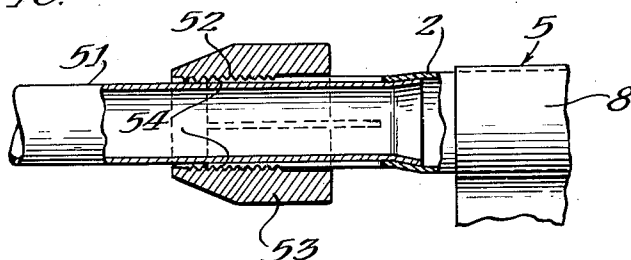


Fig. 11.

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UNITED STATES PATENT OFFICE

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COLLAPSIBLE CARRIER FOR OUTBOARD MOTORS

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5 Claims. (Cl. 280—38)

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This invention relates to improvements in a collapsible carrier for outboard motors, and is more particularly concerned with the provision of a carrier adapted for use in transporting an outboard motor from place to place with a minimum amount of effort, and which may be readily collapsed to form a relatively compact unit suitable for shipping or storage.

This invention further contemplates the provision of a carrier adapted to support an outboard motor in a substantially horizontal plane and with the major portion of the weight of the motor disposed upon a single supporting wheel.

This invention further contemplates the provision of a carrier adapted to be positioned to support an outboard motor in an upright position to permit testing of the motor or repairs thereto, or storage.

It is a further object of this invention to provide a motor carrier having a pair of tubular side rails which converge inwardly toward each other at their forward ends for universal engagement with a fork member provided to receive a wheel. During transportation of a motor upon the carrier, the wheel is positioned and secured in parallel alignment with the longitudinal axis of the carrier. When the carrier is collapsed, the wheel is adapted to be pivoted inwardly and rotated through an arc of 90° to form with a frame a compact unit suitable for shipping or storage.

This invention embodies other novel features, details of construction and arrangement of parts which are hereinafter set forth in the specification and claims, and illustrated in the accompanying drawings wherein:

Fig. 1 is a plan view showing a collapsible carrier for outboard motors, embodying features of this invention, the carrier being illustrated in its extended position.

Fig. 2 is a side elevational view illustrating the carrier in its collapsed or folded position.

Fig. 3 is a longitudinal sectional view taken along the line 3—3 of Fig. 1.

Fig. 4 is an enlarged sectional view taken along the line 4—4 of Fig. 1.

Fig. 5 is an enlarged detail sectional view taken along the line 5—5 of Fig. 1.

Fig. 6 is a side elevational view, partly in section, illustrating the method of arranging the carrier parts to support an outboard motor in an upright position.

Fig. 7 is an enlarged fragmentary sectional view taken along the line 7—7 of Fig. 8.

Fig. 8 is a sectional view taken along the line 8—8 of Fig. 7.

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Fig. 9 is a front elevational view showing the carrier.

Fig. 10 is a detail sectional view taken along the line 10—10 of Fig. 3.

Fig. 11 is a detail sectional view taken along the line 11—11 of Fig. 5.

Referring now to the drawings for a better understanding of this invention, the motor carrier is shown as comprising a pair of side frame members 2—2 which are preferably formed from tubular steel and bent downwardly at their forward ends to form a pair of forward supporting legs 3—3. The side frame members 2—2 are connected together adjacent their rear ends by means of a transverse tubular member 4, brackets 5—5, and a bolt 6 which is threaded at its one end to receive a wing nut 7.

Each bracket is formed from sheet metal to provide a tubular portion 8 to snugly receive its respective side frame member 2, and with a pair of flange portions 9 and 11 which are spot welded at 12 in face-to-face relation. The flange 9 is formed with an annular flange 13 to receive the adjacent end of the cross member 4 and to define an aperture to receive the end of the bolt 6. The flange 11 is also formed with an aperture to receive the bolt 6. A pair of supporting legs 14—14, formed of tubular steel, are flattened at their upper ends at 16 and spot welded to an annular plate 17 formed with a plurality of protuberances 18 for engagement in recesses 19 formed in the flange portions 9 and 11 of each bracket 5. The flattened portion 16 of each leg and its annular plate 17 are formed with coaxial apertures to receive the bolt 6. A transverse tubular member 21 is welded or brazed at its ends to the lower ends of the supporting legs 14—14. If desired, the ends of the supporting legs may be provided with rubber cups 22.

The ends of the forward supporting legs 3—3 are connected together by means of a wheel supporting bracket 23 which is welded thereto. The wheel supporting bracket is preferably formed of sheet steel to provide a body portion 24 having an upturned flange 26 and a pair of downturned ears 27—27 arranged in spaced parallel relation. The body portion 24 is bent upwardly at its side edges to provide a pair of side flanges 28—28 for welded engagement to their respective forward supporting legs 3—3. The flange 26 is also welded to the ends of the forward supporting legs 3—3.

A wheel 29 is journaled at 31 on a fork member 32 which is preferably formed of steel tubing. The fork member 32 is mounted for rotational movement about its longitudinal axis by means

of a bolt or rivet 33 which extends through an aperture provided in the fork member and an aperture provided in a pivot bracket 34. The pivot bracket 34 is formed at its ends with ears 36 disposed in spaced parallel alignment for engagement with their respective ears 27. Each of said ears 27 and 36 are provided with coaxial apertures to receive rivets or bolts 37. A plate 38 is welded to the inner sides of the legs forming the fork member 32 for abutting engagement against the plate 24 when the fork 32 is disposed in its extended operative position. The fork member is held in this operative position by means of a flat spring member 39 having its one end secured to the plate 38 by means of a rivet 41 and its other end formed with an abutment shoulder 42 for engagement behind the flange 26 of the plate 24.

An outboard motor support is shown as comprising a pair of angle plates 43—43 disposed in spaced parallel alignment and having their ends welded, brazed or otherwise secured to the inner sides of the frame members 2—2. A plate 44, formed with front, rear and side flanges 46, 47 and 48—48, respectively, is secured to the angle members 43—43 by means of spot welding, bolts or other suitable fastening means.

A pair of handles 51—51, preferably formed of steel tubing, are mounted for telescopic movement within the side frame members 2—2. The end of each side frame member 2 is formed with a tapered thread 52 to receive an internally threaded clamping nut 53. The end of each side frame member 2 is split longitudinally at two or more places to provide a plurality of resilient finger portions 54 for clamping engagement against the outer surface of a handle 51 when the locking collar 53 is threaded inwardly onto a side frame member 2. Rubber cups 55 are provided on the outer ends of the handles 51—51.

In the use of the carrier in transporting an outboard motor, the fork member 32 is secured in its extended position by means of the latch spring 39, and the rear legs 14—14 are secured in adjusted position as illustrated in Fig. 3 in the drawings. The outboard motor, generally indicated at 60, is secured to the motor mounting plate 44 by means of a pair of clamping screws 61 which are threaded through one leg of a C-type clamping bracket 62. When a motor is supported in an inclined position upon the carrier, as illustrated in Fig. 3, it will be noted that the heaviest portion of the outboard motor is positioned above the wheel 29 and further that any water collected within the propeller end of the outboard motor will not flow upwardly along the propeller shaft housing and thence into the head of the motor. In handling outboard motors after same have been in operation on a boat, it is well known by the operators that it is necessary to always maintain the head of the motor at a higher elevation than the propeller end to prevent water from entering the motor head through open ports. By constructing the carrier with a motor mounting plate inclined downwardly toward the rear end of the carrier, the motor is always disposed in an inclined plane with the motor head adjacent the wheel 29 and at a higher elevation than the propeller end. After the motor has been mounted upon the carrier, the carrier is adapted to be manually moved by engaging the handles 51.

Prior to mounting an outboard motor in a boat, it is often necessary to test the motor and to adjust the parts thereof. This operation may readily be performed by disposing the carrier in an up-

right position, as illustrated in Fig. 6. When the carrier is arranged in its upright position, it will be noted that the rear legs 14—14 are pivoted rearwardly and secured in adjusted position by means of the bolt 6 and wing nut 7. To insure against accidental displacement of the legs, the legs are provided with protuberances 18 for engagement in the apertures 19 formed in the brackets 5—5.

The carrier may readily be collapsed or folded to form a compact unit, as illustrated in Fig. 2, by merely releasing the latch 39 to permit the fork member to be pivoted inwardly against the underside of the frame members 2—2, the fork member 32 being rotated 90° during its pivotal movement to dispose the flat side of the wheel adjacent the frame members. The rear legs 14—14 are then folded inwardly and clamped in position by means of the bolts 6 and wing nut 7, the crossbar 21 serving to prevent outward pivotal movement of the fork member 32. The handles 51—51 are moved inwardly through the frame members, and then clamped against outward movement by means of the locking collars 53 and resilient fingers 54.

It will be noted that the carrier thus shown and described is adapted for use in supporting an outboard motor in either a horizontal or vertical plane, and that the carrier may be readily collapsed or folded to provide a compact, lightweight unit suitable for shipping or storage.

While this invention has been shown in but one form, it is obvious to those skilled in the art that it is not so limited but is susceptible of various changes and modifications without departing from the spirit and scope of the claimed invention.

I claim as my invention:

1. In a carrier for outboard motors, a pair of side frame members disposed in spaced relation, the forward portions of said side frame members being angularly disposed to provide a pair of downwardly projecting forward legs, wheel means mounted on the lower ends of said forward legs, a motor mounting plate secured in fixed position upon said side frame members at their points of junction with the upper ends of said forward legs, said motor mounting plate being mounted in a plane disposed at an angle to the plane of the side members and inclined downwardly and rearwardly from a horizontal plane to support an outboard motor in an inclined position with the head end of the outboard motor disposed above and adjacent said wheel means and the propeller end of the outboard motor projecting rearwardly and downwardly to a lower elevation than the head end, and a pair of rear legs pivotally connected to and projecting downwardly from said side frame members, the distance from the rear ends of said side frame members to the points of pivotal connection with said rear legs being substantially equal to the length of said rear legs, whereby an outboard motor may be supported in either an inclined plane during movement of the carrier or in a vertical plane during storage of the motor.

2. In a carrier for outboard motors, a pair of side frame members disposed in spaced relation, the forward portions of said side frame members being angularly disposed to provide a pair of downwardly projecting forward legs, wheel means mounted on the lower ends of said forward legs, a motor mounting plate secured in fixed position upon said side frame members at their points of juncture with the upper ends of said forward legs, said motor mounting plate being mounted in a

plane disposed at an angle to the plane of the side members and inclined downwardly and rearwardly from a horizontal plane to support an outboard motor in an inclined position with the head end of the outboard motor disposed above and adjacent said wheel means and the propeller end of the outboard motor projecting rearwardly and downwardly to a lower elevation than the head end, and a pair of rear legs pivotally connected to and projecting downwardly from said side frame members, the distance from the rear ends of said side frame members to the points of pivotal connection with said rear legs being substantially equal to the length of said rear legs, whereby an outboard motor may be supported in either an inclined plane during movement of the carrier or in a vertical plane during storage of the motor, and means to secure said rear legs in angularly adjusted position with respect to said side frame members.

3. In a carrier for outboard motors, a pair of side frame members disposed in spaced relation, the forward portions of said side frame members being angularly disposed to provide a pair of downwardly projecting forward legs, a wheel fork mounted on the front ends of said forward legs, a wheel journaled on said fork, a motor mounting plate secured in fixed position upon said side frame members at their points of juncture with the upper ends of said forward legs, said motor mounting plate being mounted in a plane disposed at an angle to the plane of the side members and inclined downwardly and rearwardly from a horizontal plane to support an outboard motor in an inclined position with the head end of the outboard motor disposed above and adjacent said wheel means and the propeller end of the outboard motor projecting rearwardly and downwardly to a lower elevation than the head end, and a pair of rear legs pivotally connected to and projecting downwardly from said side frame members, the distance from the rear ends of said side frame members to the points of pivotal connection with said rear legs being substantially equal to the length of said rear legs, whereby an outboard motor may be supported in either an inclined plane during movement of the carrier or in a vertical plane during storage of the motor, and means to secure said rear legs in angularly adjusted position with respect to said side frame members.

4. In a carrier for outboard motors, a pair of side frame members disposed in spaced relation, the forward portions of said side frame members being angularly disposed to provide a pair of downwardly projecting forward legs, a wheel fork mounted on the front ends of said forward legs, a wheel journaled on said fork, a motor mounting plate secured in fixed position upon said side frame members at their points of juncture with the upper ends of said forward legs, said motor mounting plate being mounted in a plane disposed at an angle to the plane of the side members and inclined downwardly and rearwardly from a horizontal plane to support an outboard motor in an inclined position with the head end of the outboard motor disposed above and adjacent said wheel means and the propeller end of the outboard motor projecting rearwardly and

downwardly to a lower elevation than the head end, and a pair of rear legs pivotally connected to and projecting downwardly from said side frame members, the distance from the rear ends of said side frame members to the points of pivotal connection with said rear legs being substantially equal to the length of said rear legs, whereby an outboard motor may be supported in either an inclined plane during movement of the carrier or in a vertical plane during storage of the motor, and means to secure said rear legs in angularly adjusted position with respect to said side frame members, said wheel fork being mounted for rotational and pivotal movement relative to said side frame members.

5. In a carrier for outboard motors, a pair of side frame members disposed in spaced relation, the forward portions of said side frame members being angularly disposed to provide a pair of downwardly projecting forward legs, a wheel fork mounted on the front ends of said forward legs, a wheel journaled on said fork, a motor mounting plate secured in fixed position upon said side frame members at their points of juncture with the upper ends of said forward legs, said motor mounting plate being mounted in a plane disposed at an angle to the plane of the side members and inclined downwardly and rearwardly from a horizontal plane to support an outboard motor in an inclined position with the head end of the outboard motor disposed above and adjacent said wheel means and the propeller end of the outboard motor projecting rearwardly and downwardly to a lower elevation than the head end, and a pair of rear legs pivotally connected to and projecting downwardly from said side frame members, the distance from the rear ends of said side frame members to the points of pivotal connection with said rear legs being substantially equal to the length of said rear legs, whereby an outboard motor may be supported in either an inclined plane during movement of the carrier or in a vertical plane during storage of the motor, and means to secure said rear legs in angularly adjusted position with respect to said side frame members, said wheel fork being mounted for rotational and pivotal movement relative to said side frame members, and latch means to engage said wheel fork against pivotal movement when said fork is in its distended operative position.

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