June 2, 1936. J. W. HARVEY 2,042,598

BOAT ATTACHMENT

Filed July 19, 1934 4 Sheets-Sheet 1

Fig. 1.

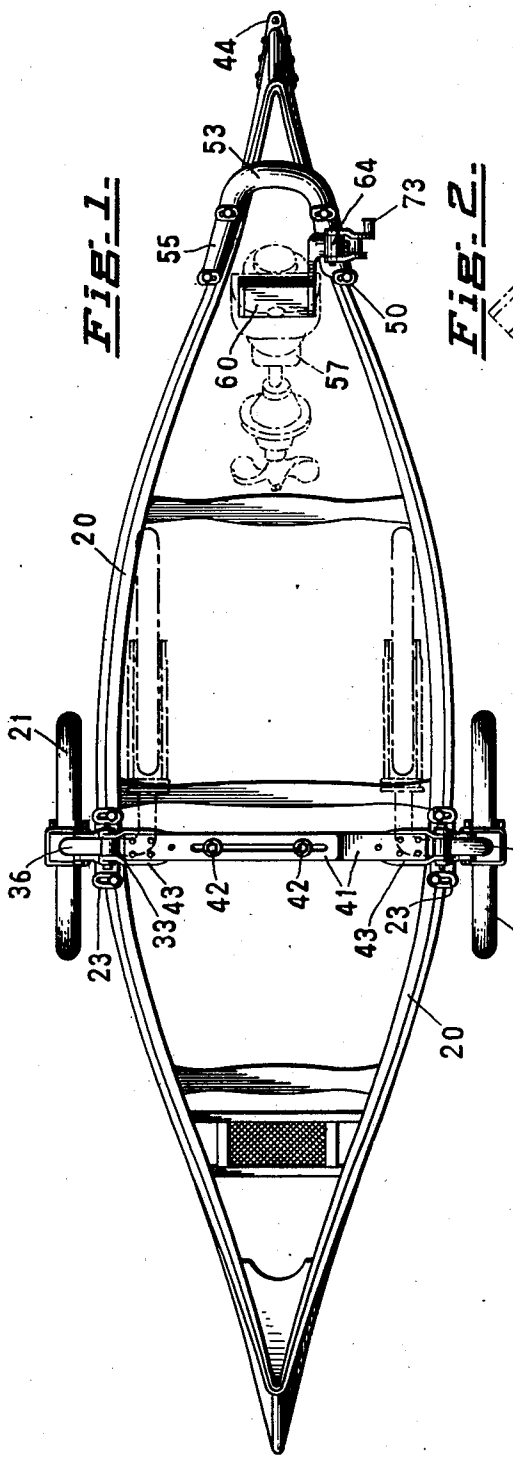
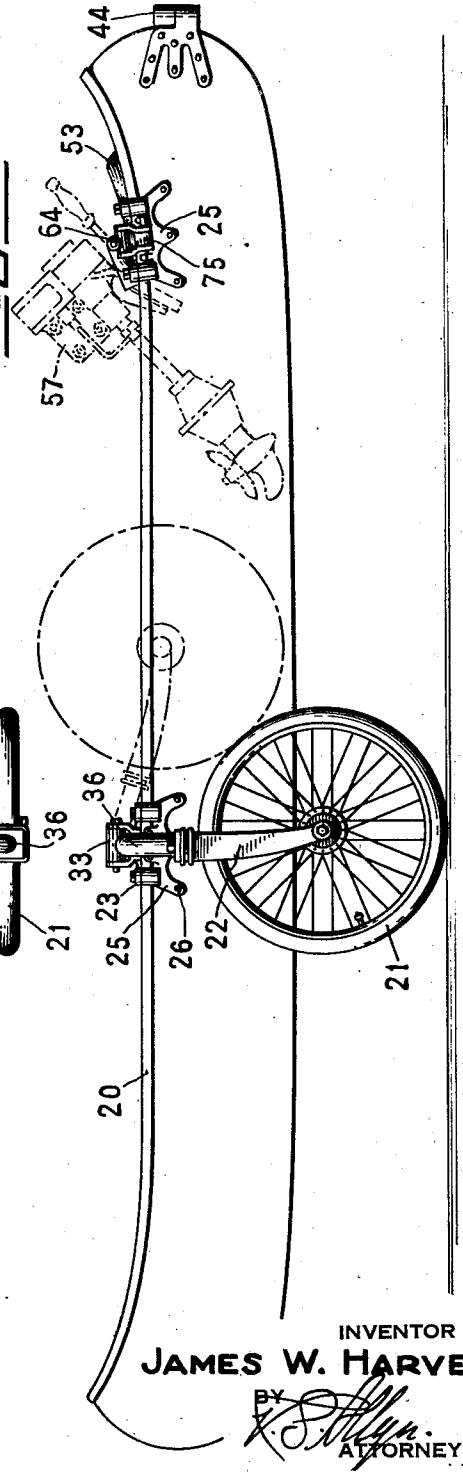


Fig. 2.



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June 2, 1936. J. W. HARVEY 2,042,598

BOAT ATTACHMENT

Filed July 19, 1934 4 Sheets-Sheet 2

Fig. 3.

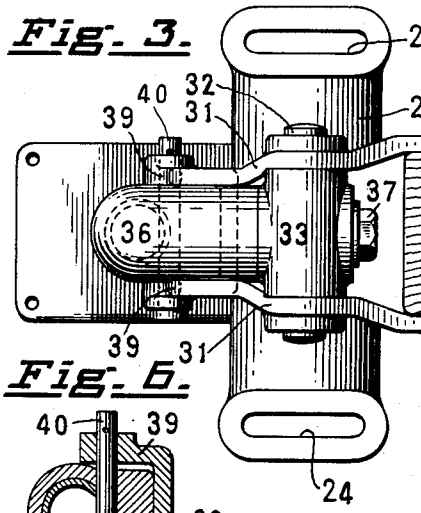


Fig. 5.

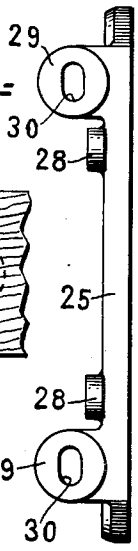


Fig. 6.

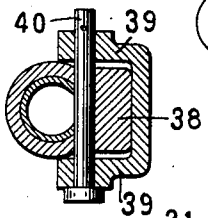


Fig. 7.

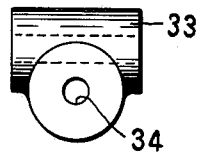


Fig. 4.

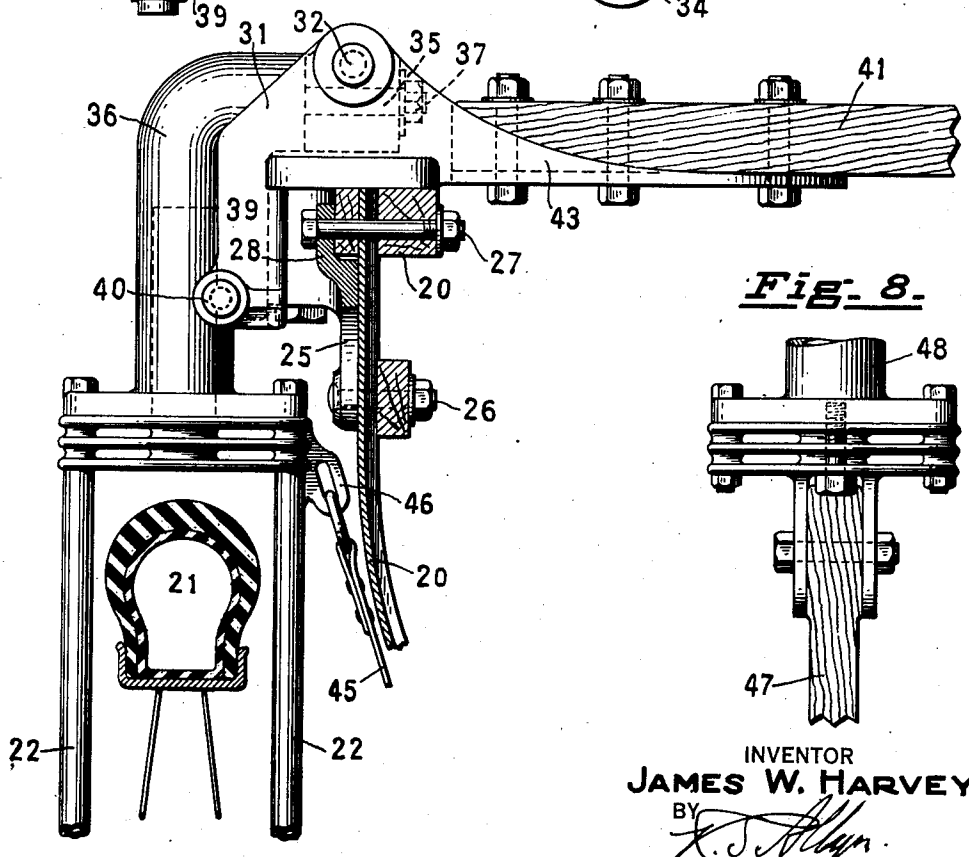


Fig. 8.

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June 2, 1936. J. W. HARVEY 2,042,598

BOAT ATTACHMENT

Filed July 19, 1934 4 Sheets-Sheet 3

Fig. 9.

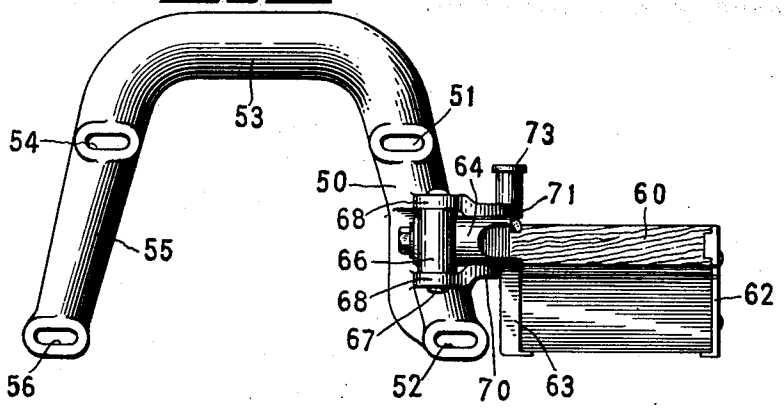


Fig. 10.

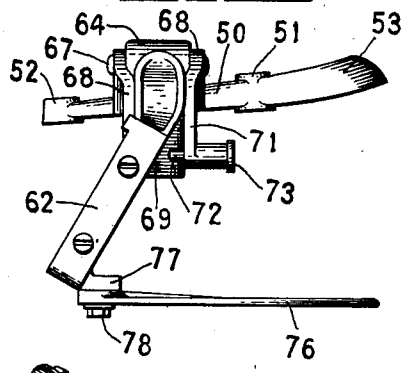
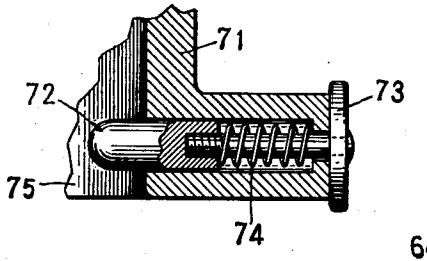


Fig. 12.



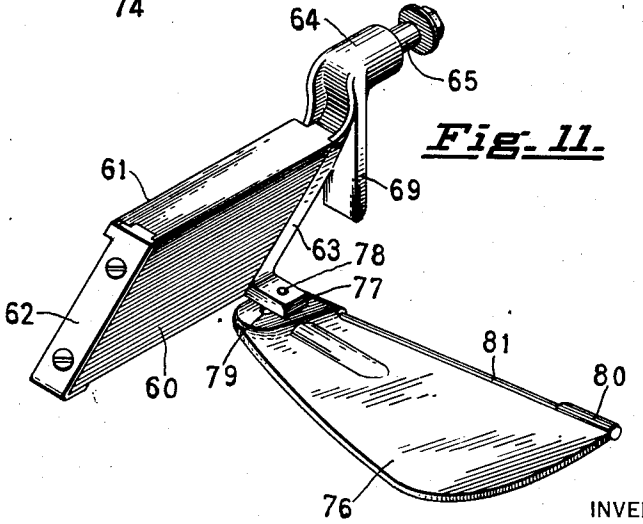


Fig. 11.

INVENTOR
JAMES W. HARVEY,
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June 2, 1936. J. W. HARVEY 2,042,598

BOAT ATTACHMENT

Filed July 19, 1934 4 Sheets-Sheet 4

Fig. 13.

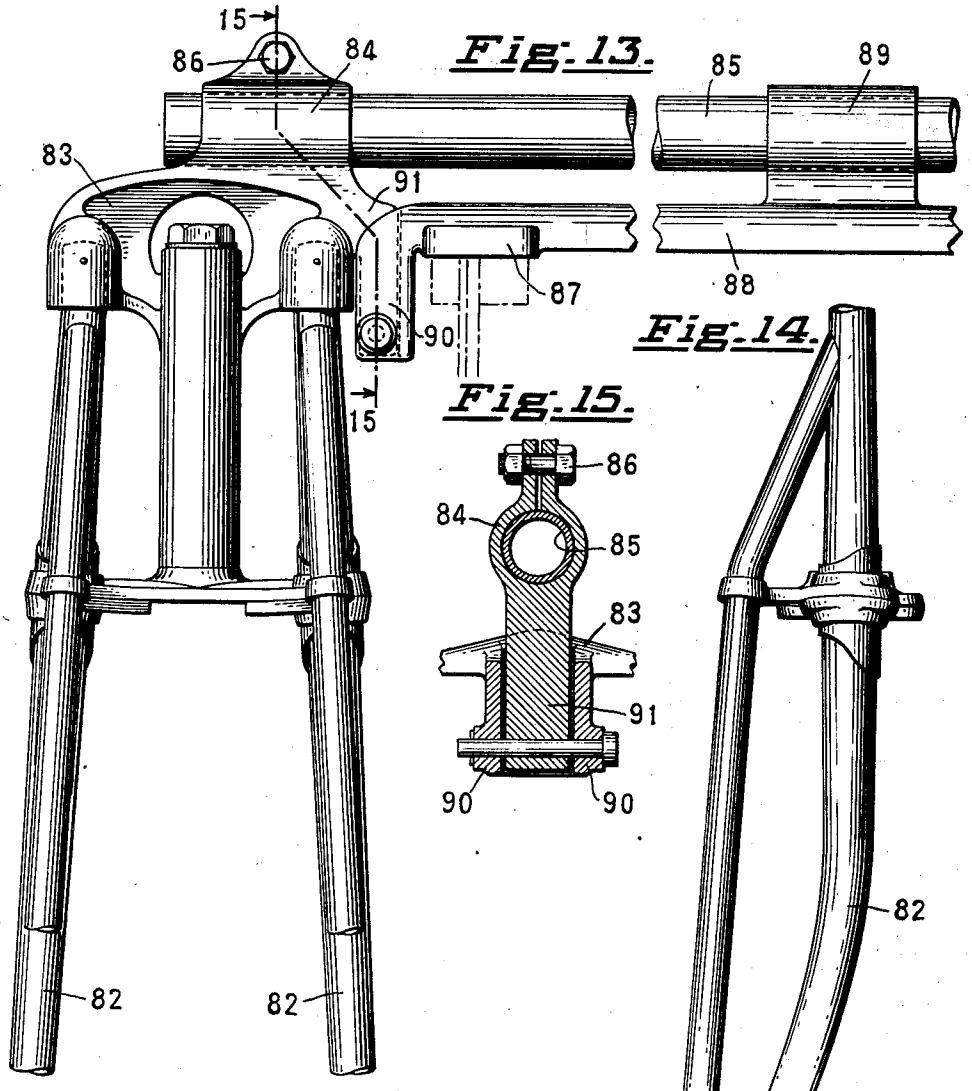
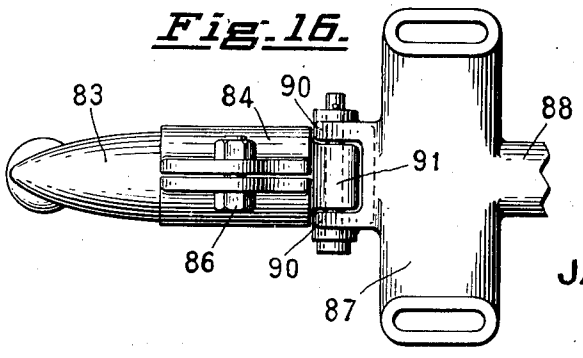


Fig. 14.

Fig. 15.

Fig. 16.



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Patented June 2, 1936 2,042,598

UNITED STATES PATENT OFFICE

2,042,598

BOAT ATTACHMENT

James Willard Harvey, Winthrop, Maine

Application July 19, 1934, Serial No. 735,964

19 Claims. (Cl. 115—1)

My invention relates to attachments for small boats such as canoes.

One object is to provide means for supporting a canoe when taken out of the water so that it can readily be rolled along the ground when desired.

A special object is to provide folding wheels which can be used to support the boat on the ground or folded inside of the boat when the boat is in the water. For this purpose I provide a special type of bracket adapted to be secured to the rail of the boat. This bracket is provided with a double hinge connection and supports a wheel fork. Two of these brackets are fastened on opposite sides of the boat and connected together by a cross-piece for reinforcing the construction.

A special form of this bracket is designed for attachment to a pointed stern of a boat for supporting an outboard motor in such a way that the motor can be either folded inside the boat when not in use or folded outside to propel the boat.

In connection with this form of bracket I have arranged means for preventing the water from splashing from the motor shaft into the boat.

Another modification of the bracket is adapted to support a leeboard over the side of the boat in such a way that it may be folded inside the boat when desired.

Fig. 1 is a plan view of a canoe with road gear involving my invention and also showing one form of bracket supporting an outboard motor inside the boat. This figure also shows in dot and dash lines the position of the wheels when folded inside the boat.

Fig. 2 is a side view of the same parts shown in Fig. 1.

Fig. 3 is a plan view on a larger scale showing one of the rail brackets.

Fig. 4 is an edge view of the same showing the rail of the boat and a part of the wheel fork and rim.

Fig. 5 is a plan view of one of the plates for securing the bracket to the rail and side of the boat.

Fig. 6 is a fragmentary sectional view of a detail of the hinge.

Fig. 7 is a detail view of one of the hinge parts.

Fig. 8 is a fragmentary view of the attachment for the leeboard of a sailing canoe.

Fig. 9 is a plan view of the bracket for attaching an outboard motor to a boat.

Fig. 10 is a side view of the same.

Fig. 11 is a perspective view of the block for supporting the motor and the deflector plate attached to it.

Fig. 12 is a fragmentary sectional view of the latch employed in the device of Figs. 9 and 10.

Fig. 13 is a front view of a modified form of construction for supporting a wheel fork over the side of a boat.

Fig. 14 is an edge view of the fork.

Fig. 15 is a sectional view on the plane of the line 15—15 of Fig. 13.

Fig. 16 is a plan view of the parts shown in Fig. 13.

The boat may be of any design but the invention is primarily intended for use in connection with small double ended boats and canoes which usually have reinforced rails 20. For use in traveling overland I provide wheels 21, 21 which are carried by forks 22.

Each fork is supported by a bracket which includes means for securing it to the rail of the boat and a pair of hinges which makes it possible to fold the wheel into the boat for traveling in the water and out of the water for traveling on the land. Base plate 23 of the bracket is suitably designed to rest on the top of the rail of the boat and provided with elongated slots 24, 24 to facilitate attachment to the rail at different angles.

A reinforcing plate 25 is secured to the side of the boat by bolts or rivets 26 and to the rail by bolts 27 passing through lugs 28 so as to reinforce the rail and side of the boat at the point where the bracket is to be attached. The ends of the base plate 23 are bolted to the lugs 29 of the side plate by bolts which pass through the elongated slots 24 and 30.

The base plate 23 has upstanding flanges 31 which support the horizontal shaft 32. A hub 33 is supported on this shaft between the flanges 31, 31 and has a passage 34 for the shaft 35 which is secured to the gooseneck 36 at the upper end of the fork 22. This fork and its gooseneck are secured in place by the nut 37 on the end of the shaft 35. In the position shown the hub member 33 is in such a position as to bring the passage 34 for the shaft 35 beneath the shaft 32.

By taking the hub 33 off and turning it over the passage 34 can be brought above the shaft 32 so as to raise the shaft 35 and the wheel fork to a higher level.

The vertical arm of the gooseneck 36 has a lateral projection 38 which in the position shown in Figs. 3, 4 and 6 fits between the flanges 39 which project outwardly and downwardly from the plate 23 of the bracket. A locking pin 40 extends through these flanges and through the opposite

projection 38 so as to hold the fork in place with the wheel in the road position. With the pin 40 pulled out the fork is released so that the fork and its wheel may be swung outwardly about the axis of the shaft 32. When the projection 38 is cleared from the flanges 39 the gooseneck of the fork may be swung about the axis of the shaft 35 so that the wheel and fork can be swung over inside of the boat into the dot and dash position shown in Figs. 1 and 2.

In order to stiffen and reinforce the boat and the brackets, I preferably provide a cross-bar 41 which connects the two oppositely disposed wheel supporting brackets. This cross-piece may be made of two slotted parts connected together by bolts 42 so as to adapt the attachment to boats of varying widths. The ends of the cross-piece 41 are bolted to the inner extensions 43 which are provided with extensions from the flanges 31 previously described.

It is obvious from the foregoing that the device can be readily attached to a boat or detached when desired. It is especially useful in taking long trips on which it is frequently necessary to carry the boat overland. When the boat is in the water, of course the wheels are swung inside the boat and when the boat is to be carried on the land the wheels are swung out over the sides. In this position the boat can be towed by hand or behind a vehicle. In the latter case a towing attachment 44 may be desirable at one end of the boat.

In case it should be desired to additionally reinforce the apparatus I may provide a strap 45 which can be passed around beneath the bottom of the boat and have its end secured to anchorage portions 46 carried by the opposite forks as shown in Fig. 4. By tightening up on this strap all the loose play can be taken up and the strain of the load thus partly borne by the strap beneath the boat. In this way part of the load is removed from the rails.

The same sort of double hinged bracket attachment may be employed for securing a leeboard 47 shown in Fig. 8 used on a sailing canoe. In this case the leeboard 47 corresponds generally with the wheel fork 22 and the part 48 corresponds with the vertical part of the gooseneck 36 of Fig. 4. With such a construction the leeboard can be moved inside or outside of the boat as desired.

In the form shown in Figs. 9 and 10 the base plate 50 is of U-shape in plan view and is provided with the slotted portions 51 and 52 for attachment to the rail of the boat. This base plate 50 corresponds generally to the base plate 23 previously described but has an extension arm 53 which extends across the boat and has an anchorage portion 54 adapted to be secured to the opposite side by means of a suitable bolt or a clamp. This may also have an extension arm 55 with a terminal anchorage portion 56 to provide a fourth point of suspension when desired.

As this form of device is intended to be secured near one end of the boat for the attachment of an outboard motor 57, it is shaped to approximate the tapered end of the boat and the part 53 is tilted upwardly to conform to the conventional shape of the end of a boat.

The motor may be of any type driven either by a gas engine or electrically. Such motors are provided with conventional clamping devices which are usually attached to the transom of a boat. In the present instance, I provide a block 60 which corresponds with a transom of the boat and the motor is attached in the usual way to this block instead of to the transom. To prevent the motor from jumping off the block in case the usual clamp bolts become loose, I provide a projecting ledge 61 along the front upper edge of the block.

This block is reinforced by an outer plate 62 and an inner plate 63, the latter being a part which is preferably cast integral with the hub 64. This hub has a shaft 65 which corresponds with the shaft 35 of the device shown in Figs. 3 and 4. This shaft 65 is rotatably supported in a bearing 66 which itself is rotatably supported by a shaft 67 which extends through the flanges 68, 68 which project upwardly from the base plate 50. The hub 64 has a projection arm 69 which is adapted to fit between the flanges 70 and 71 which extend downwardly from the flanges 68, 68 and outwardly from the edge of the base plate.

The latch bolt 72 is supported in a flange 71 and provided with a finger piece 73. A spring 74 normally presses the bolt 72 into the path of movement of the part 69. The edge of the part 69 and the tip of the bolt 72 are preferably rounded off or beveled so that when the block 60 with the attached motor is dropped downward into the outboard position the bolt will automatically be retracted to allow the part 69 to pass. The spring 74 then thrusts the bolt back into its locking position so as to hold the motor down.

The body of the bracket is provided with an abutment shoulder 75 against which the weight of the block 60 and attached motor rests on account of the weight being offset from the axis of the shaft 65 when the motor and the propeller are outside of the canoe.

The flange 71 extends further laterally from the side of the boat than the flange 70 so that when the block 60 and attached motor is swung about its horizontal transverse axis the arm 69 will slide along the edge of the flange 70 and strike the end of the latch 72 and retract it so as to allow the arm 69 to drop into the space between the flanges 70 and 71 and settle against the abutment 75.

When an outboard motor is in use its vertical shaft traveling through the water sometimes throws up a very substantial spray which is frequently thrown into the boat.

To prevent this I provide a deflector or splash plate 76 which is arranged to extend rearwardly of the motor shaft about on the level with the lower edge of the block 60. This plate is preferably adjustable so as to enable its inner edge to be adjusted into contact with the side of the boat. For this purpose part 63 of the supporting attachment is provided with a lug 77 to which the plate 76 is adapted to be secured by a bolt 78. The plate 76 is provided with an elongated slot 79 so that the plate may be moved in and out with respect to the side of the boat as well as swung about the vertical pivot 78. To ensure a tight joint between the inner edge of the plate 76 and the side of the boat without scratching the boat I may provide a soft rubber bumper 80 in the form of a split tube secured on the edge 81 of the plate in any suitable manner.

It is understood of course that the base plate 50 and the extensions 53 and 55 may be detachably secured to the boat in any suitable manner. By making this compound base plate of U-shape as shown in Fig. 9 I provide sufficient clearance to permit the motor to be swung inboard as shown in Figs. 1 and 2 making due allowance for the gas tank, carbureter and wiring and pipe connections. The inner edge 75' of the plate 50 serves

as an abutment to support the arm 69 and the attached motor when the motor is swung inside of the boat. In order to put the motor into operation it is simply necessary to lift it and swing it outboard around the axes of the shafts 65 and 67.

In the forms shown in Figs. 13 to 16, fork 82 is somewhat different from the fork 22 shown in Figs. 1 to 4 and the upper ends are secured in a head 83 which is provided with a split tubular extension 84 adjustably secured on the cross-bar 85 so that the fork can be slid along the cross-bar 85 and also rotated about it when the bolt 86 is loosened. The base plate 87 which is adapted to be secured to the rail of the boat has an inward extension 88 and a bearing 89 for supporting the cross-bar 85.

The plate 87 may have downwardly projecting flanges 90 corresponding to the flanges 39 in Figs. 4 and 6. The member 91 carried by the head 83 of the fork projects between the flanges 90 to assist in holding the parts in operative position. It will be seen that this form of construction omits the longitudinal axis of the folding brackets previously described but permits the fork to be released, then slid outward along the bar 85 and then swung upward to clear the rail of the boat and then slid inwardly along the bar 85 so that the fork can then be let down into the boat accomplishing a similar effect to that of the device of Figs. 1 to 4 but in a different manner.

I claim:

1. A bracket of the character described having a base plate adapted to attachment to a boat rail at various angles, flanges projecting upwardly transversely to the rail, outwardly and downwardly projecting side flanges with an abutment between them, a bearing member pivoted between the upwardly projecting flanges to rotate on an axis extending longitudinally of the rail, an arm pivoted in the bearing member on an axis at right angles to the axis of the bearing member and adapted to rest against said abutment between the side flanges and a latch for holding said arm between said side flanges.

2. A bracket of the character described having a U-shaped base plate adapted to attachment to oppositely disposed parts of a boat rail, flanges projecting upwardly transversely to one arm of the plate, outwardly and downwardly projecting side flanges with an abutment between them, a bearing member pivoted between the upwardly projecting flanges to rotate on an axis extending longitudinally of the rail and an arm pivoted in the bearing member on an axis at right angles to the axis of the bearing member and adapted to rest against said abutment between the side flanges.

3. An attachment for supporting a motor from the rails of a boat comprising a U-shaped base plate having four points of attachment to the rails, and a motor block having a double jointed connection with one side of the base plate permitting the block with motor attached to be swung over the side of the boat or inside of the boat, the space between the sides of the base plate receiving the motor when it is swung inboard.

4. A motor boat attachment comprising a base plate having two spaced points for attachment to the rail of a boat, two flanges projecting upwardly between said attachment points, a bearing rotatably supported between said flanges, a motor-supporting block having an arm at one edge rotatably supported by said bearing on an axis at right angles to the axis of said bearing, a latch for holding the block in its outboard position, said base plate having an arm extending transversely from one of the points of attachment across the boat and having a point for attachment to the opposite rail opposite one of the first two mentioned points of attachment, said arm being offset so as to allow space for the inboard swinging of the motor.

5. An outboard motor attachment comprising a bracket for mounting on a rail of a boat, a supporting block projecting laterally and downwardly from said bracket and a splash deflector plate pivotally carried by said attachment and adapted to be adjusted against the side of the boat.

6. An outboard motor attachment comprising a bracket for mounting on a rail of a boat, a supporting block projecting laterally and downwardly from said bracket and a splash deflector plate adjustably secured to the block and having a rubber edge member for contact with the side of the boat.

7. An outboard motor attachment for the side of a canoe comprising a bracket having means for attachment to the rail of the canoe and means for supporting a motor having a vertically extending shaft alongside the canoe, and a splash deflector plate movably carried by said bracket and adjustable laterally to fit the side of the canoe in rear of the motor shaft.

8. A bracket for attachment to the side of a boat comprising a plate, means for attaching its opposite ends to the rail of a boat, said plate having depending flanges extending outwardly from the edge of said plate, a shaft universally supported by the plate and extending laterally beyond the side of the boat, a supporting member depending from said shaft and adapted to be moved inboard of the boat and having an arm adapted to fit between said flanges and a latch carried by one of said flanges for interlocking with said arm to hold the supporting member in its outboard position.

9. A bracket for attachment to the side of a boat comprising a plate having upstanding lugs for mounting on the side rail of the boat, a hub hinged between said lugs with its axis substantially parallel with the side of the boat, a shaft pivotally carried by said hub, with its axis at substantially right angles to the longitudinal axis of the boat, a support carried by said shaft including an arm adapted to depend over the side of the boat when the support is in one position and adapted to be swung inwardly, said plate having an abutment shoulder as its outer edge for supporting the weight of the movable parts when in the outboard position and having an abutment at its inner edge to support the movable parts when swung into its inboard position.

10. A supporting bracket for attachment to the side of a boat comprising a plate, means for attaching said plate to the side rail of a boat, lugs projecting upwardly from said plate over the rail, a hub pivoted between said lugs, a shaft pivoted to said hub on an axis at right angles to its axis of the hub, a supporting member carried by said shaft, said supporting member and said base plate having interlocking parts to hold the supporting member in place in its outboard position, said supporting member being adapted to swing on a longitudinal axis and on an axis at right angles to the longitudinal axis to bring it inside the boat alongside the inner surface thereof.

11. A supporting bracket comprising a plate for attachment to the side rail of a boat and having two flanges spaced apart from each other

and projecting laterally outward, a spring pressed latch carried by one flange and extending laterally from the side of the boat beyond the other flange, a hub rotatably supported by said plate with its axis extending longitudinally of the boat, a shaft pivoted in said hub with its axis at substantially right angles to the axis of the hub and a supporting member carried by said shaft and having means adapted to engage said latch and retract it when the supporting member is moved overboard and the said means slides over the flange opposite said latch, said latch automatically interlocking with said means when the supporting member is released and the said means is moved between said flanges.

12. A bracket for supporting an outboard motor at one side of a canoe comprising a base plate having means for attaching its front and rear ends to the rail of a canoe, a cross bar having one end connected to the rear end of the base plate and having means for attaching its opposite end to the rail of the canoe opposite the rear attaching means of the base plate, a bearing hub rotatably supported above the base plate between its ends, a transverse shaft pivoted in the bearing hub, a motor supporting member carried by said shaft and movable into and out of the canoe with the motor, means in addition to the shaft and bearing hub for assisting in supporting the motor in its outboard position, the central part of the cross bar being offset from its ends to permit the motor to be folded inwardly into the canoe.

13. An outboard motor attachment for the side of a canoe comprising a base plate having means for attaching it to a canoe rail, an upwardly projecting lug over said rail, a bearing hub hinged to said lug on an axis extending fore and aft the canoe, a shaft carried rotatably by said hub with its axis transverse to the axis of the hub, an arm carried by said shaft and extending forwardly and downwardly, a block having one edge connected to said arm and inclined downwardly and forwardly from the axis of said shaft when the arm is in an outboard position for supporting an outboard motor and means carried by the base plate for sustaining the lateral and longitudinal thrust of the motor when in operation.

14. A bracket for supporting an outboard motor at the side of a boat comprising a transverse member for connecting the opposite side rails of the boat having means for supporting said member on the opposite side rails and having a part depending from one end to extend over one side rail and flanges extending laterally of the boat and spaced apart longitudinally of the boat with an abutment between the flanges, a block adapted to serve as a transom for the support of an outboard motor and means for rotatably supporting the block from the transverse member, said block having a portion normally positioned between the said flanges and resting against said abutment when the motor is in normal running position and adapted to be swung inside of the boat.

15. A bracket for supporting an outboard motor at the side of a boat comprising a plate having two spaced means for attachment to a boat and having a part depending from one side to extend over one rail and flanges extending laterally of the boat and spaced apart longitudinally of the boat and having an abutment, a block adapted to serve as a transom for the support of an outboard motor, means for movably supporting the block from said plate, said block having a portion normally positioned between the said flanges and resting against said abutment when the motor is in normal running position and means for locking the block with the motor in its running position.

16. A bracket for supporting a motor over the side of a boat comprising a frame member having means adapted to be secured to the side of a boat and having flanges extending laterally beyond one side rail of the boat, an arm pivotally supported by said frame on an axis longitudinally of the boat and having a laterally and downwardly extending transom plate to which an outboard motor is adapted to be attached, said arm having a portion adapted to drop down between the side flanges of the supporting frame when the motor is in running position.

17. A bracket for supporting an outboard motor at the side of a boat comprising a plate having means for attachment to the side rail of a boat at two points spaced apart from each other along the rail, flanges projecting laterally from said plate between the points of attachment and beyond the rail, a block serving as a transom for attachment of an outboard motor hinged to said plate above the rail on an axis extending parallel to the length of the boat, said block having a part adapted to swing down between said flanges when the motor is in running position, said plate supporting the weight of the block and attached motor and said flanges holding the motor supporting block from swinging longitudinally when the block is engaged between said flanges.

18. A bracket for supporting a motor over the side of a boat comprising a frame member adapted to be supported by the side of a boat and having outwardly extending flanges beyond one side rail of the boat, an L-shaped arm for supporting an outboard motor, said arm having a portion normally horizontal and supported by a part of the frame above the rails when the motor is in running position, the arm having a depending portion normally positioned between said flanges, means for securing said arm in place and a laterally projecting block having means for supporting an outboard motor.

19. A bracket for supporting a rotating member over the side of a boat comprising a frame member having a side arm with at least two points of support on a boat rail one of said points being spaced apart from the other along the rail, said frame member having a cross bar extending across the boat and provided with a point of support on the opposite rail of the boat, said side arm having projecting flanges spaced apart from each other, a supporting member having a part adapted to extend between said flanges when in an outboard position, and means for supporting said member from the side arm in the outboard position and also in the inboard position.

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