H. C. WRIGHT.

MOTOR DRIVEN CANOE.

APPLICATION FILED JULY 10, 1914.

1,309,975.

Patented July 15, 1919.

2 SHEETS—SHEET 1.

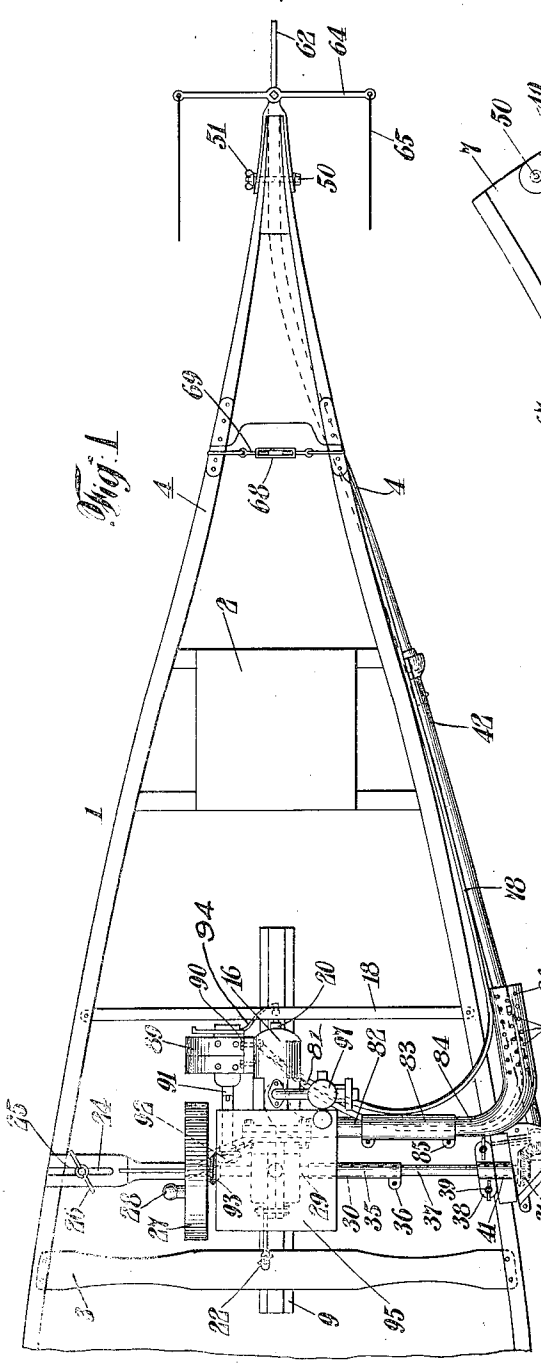


Fig. 1

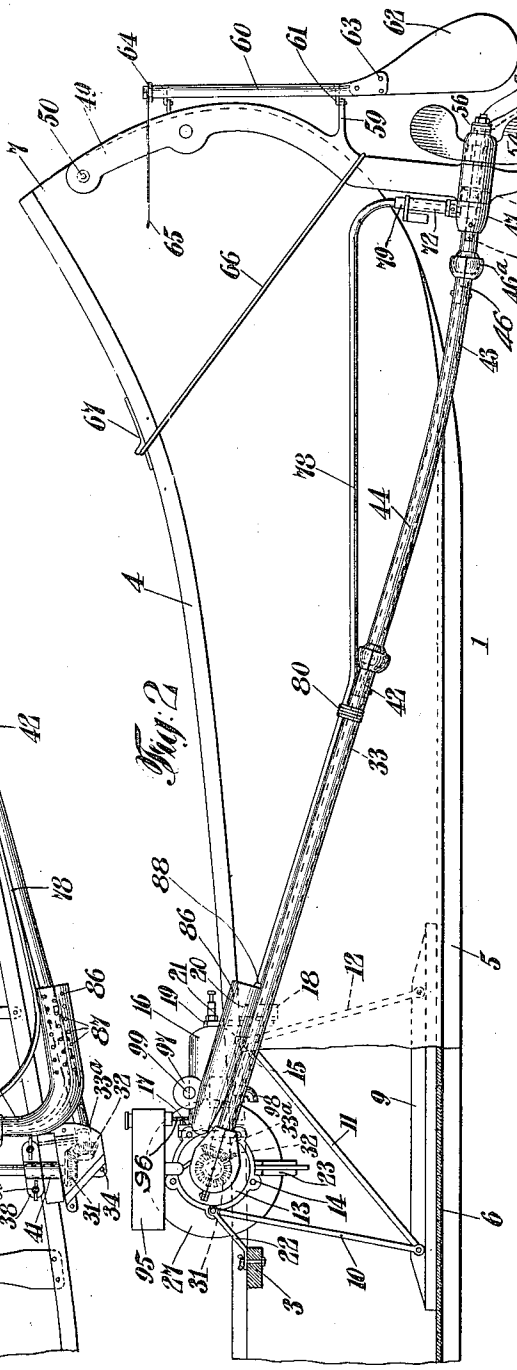


Fig. 2

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Fig. 4

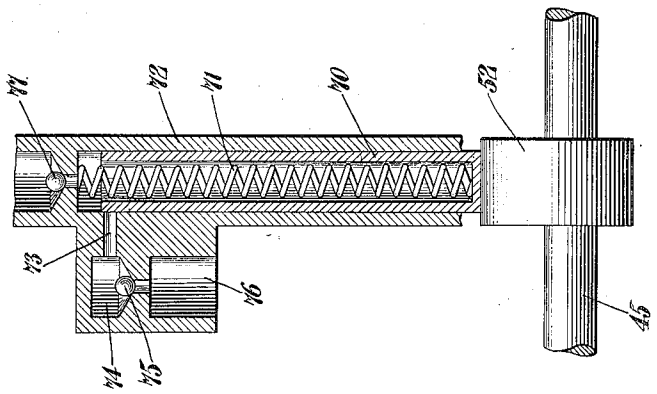
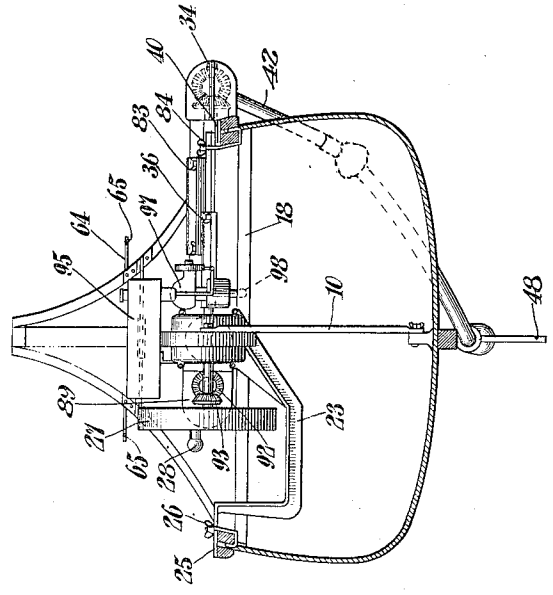


Fig. 3



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UNITED STATES PATENT OFFICE.

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MOTOR-DRIVEN CANOE.

1,309,975. Specification of Letters Patent. Patented July 15, 1919.

Application filed July 10, 1914. Serial No. 850,072.

To all whom it may concern:

Be it known that I, HENRY C. WRIGHT, a citizen of the United States, residing at New York, in the county of New York and in the State of New York, have invented a certain new and useful Improvement in Motor-Driven Canoes, and do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to the provision of a removable portable motor for canoes. It relates both to the attachment itself and the canoes to which such attachments have been applied. More particularly my invention relates, however, to the application of such attachments to one-man portage canoes, that is to say canoes which are of such a nature that they may be carried over a portage by one man alone. That is to say my invention has especial application to canvas canoes and canoes of light weight generally. While my invention is thus designed especially for canoes of this type and may be used with many advantages not previously obtainable in canoes of this type, it may nevertheless be applied also to other types of canoes.

Hitherto motors applied to canoes have been applied in such a manner as to require the passage of a vertical shaft from the engine through the bottom of the canoe so as to drive a propeller located underneath the canoe. In such constructions the propeller as a whole has been made with a movable axis in order to provide means for guiding the boat. Adjacent to the propeller it has been customary also to provide a skeg which doubtless also serves to some extent as a means for guiding the canoe upon moving the axis of the propeller as the skeg is moved at the same time the propeller axis is moved. This construction, however, is extremely disadvantageous as in the first place a large hole must be made in the bottom of the canoe which unfits the canoe for any use except when the motor is applied to the canoe. The arrangement is such furthermore as to prevent the ready detachment of the parts and especially such that the parts cannot be detached while the canoe is in the water, as obviously the canoe would sink if the motor shaft were removed from the hole in the bottom of the canoe. This construction furthermore necessitates deep draft for the canoe as the whole propeller must be spaced away from and below the keel located near the central portion of the canoe. This arrangement therefore absolutely prevents the use of the canoe in shallow streams. Furthermore, the propeller is where it is readily damaged inasmuch as it is beneath the central portion of the canoe and where it cannot readily ride over obstructions, owing to the fact that it is adjacent to the center of gravity of the whole structure. Again, proper steering of the canoe cannot be effected in this manner as the steering mechanism is not at the logical and proper steering point of the canoe, that is to say, the stern of the canoe.

The object of my invention is to provide a construction that avoids all of the above disadvantages and which has numerous other advantages which will appear from the apparatus itself.

In particular the object of my invention is to provide a motor attachment of the one-man portage type in which the motor may be quickly detached and again attached when desired.

Another object of my invention is to provide a motor attachment for such canoes which when removed permits the use of the canoe entirely without the motor when desired.

Another object is to provide an attachment of this kind in which the propeller is located at a point where it does not increase the draft of the canoe to any great extent, and furthermore to locate the rudder in the rear of the propeller where the maximum steering effect can be obtained, the rudder for this purpose being located at the stern of the canoe.

A further object of my invention is to arrange the propeller at such a point that it may readily ride over any obstacles in the path of the canoe. In other words the canoe may be readily tilted by the operator moving to the forward part of the canoe so as to lift the propeller above such obstructions. Again another object is to locate the motor

immediately in front of the operator or canoeist who is seated in the rear of the canoe. This establishes the proper balance of the weights in the canoe and places the motor where it may be readily operated by the canoeist. Still another object is to locate the motor in such a manner that the plane of rotation of the operating crank for cranking the engine is vertical and longitudinal of the canoe so that the lateral stability of the canoe will not be disturbed by the cranking of the engine.

While my invention is capable of embodiment in other forms, for the purpose of illustration I have shown only one form thereof in the accompanying drawings, in which—

Figure 1 is a plan view of a canoe equipped with my motor attachment;

Fig. 2 is a longitudinal vertical section through the same;

Fig. 3 is a transverse vertical section through the same; and,

Fig. 4 is a vertical section of the pump used for supplying water to the water jacket.

In the drawings I have shown a canoe 1, which is of the one-man portage type, as for example a canvas canoe, having a rear seat 2, and a transverse thwart 3. The canoe has gunwales 4, a keel 5, ribs 6, and end braces 7. At the bottom of the canoe and supported upon the ribs 6 which extend across the canoe there is a cleat 9, to which there are secured by bolts or thumb-screws, braces 10, 11 and 12. The brace 10 is attached to a crank case 13, which is made in two halves, said halves being attached together by means of transverse bolts 14. The brace 10 is secured to one of these bolts 14. The other two braces 11 and 12, are secured to a lug 15 on an engine cylinder 16, said engine cylinder being bolted to the crank case 13 by means of bolts 17. It will be noted that the braces 10 and 12 are located in a substantially vertical position but somewhat inclined toward each other at the top, while the brace 11 is a diagonal brace, extending from the top of the brace 12 to the bottom of the brace 10. Instead of these three braces 10, 11 and 12 or in addition thereto, there may be provided a transverse thwart 18. This latter construction has advantages where the braces 10, 11 and 12, may not be readily attached to the canoe. The thwart 18, when used, is connected by a brace 19, to the spark plug 20, which extends into the end of the cylinder 16, said spark plug being held in place in the usual manner by a nut 21 surrounding the spark plug and overlying the brace 19. The crank case 13 is furthermore attached to the thwart 3 by a brace 22.

It is to be understood that all of these braces 10, 11, 12, 19, and 22, are preferably attached to the canoe and to the engine parts by means of bolts or thumbscrews.

Attached to two of the other bolts 14 of the crank casing there is a bracket 23 which has a slot 24 in its end, to permit the accommodation to canoes of varying widths, through which passes a hook clamp 25 having a thumbscrew 26 on its upper end to enable the bracket 23 to be attached to the adjacent thwart. This bracket 23 is arranged in such a manner as to allow room for the presence of a fly wheel 27 having a crank 28 attached thereto to start the engine. This fly wheel 27 is attached to the main shaft 29 which passes through the crank case and has the usual crank therein, not shown. This crank in turn is, of course, attached in the usual manner to a piston in the cylinder 16, not shown, the engine being of the two-cycle type. It is to be understood, however, that an engine of any desired character may be used.

This main crank shaft 29 at its ends is in the form of a sleeve to receive an inner main shaft 30, telescoping with the same and which is splined to the end of the outer main shaft. This inner main shaft 30 again has on its outer end a bevel-gear 31, which bevel-gear meshes with a bevel-gear 32, located on a longitudinal shaft 33. The gears 31 and 32 are carried in a gear casing 33^a, which may be made in two parts connected together by means of bolts or screws 34. The outer or main shaft 29, is contained within a sleeve casing 35 split at its end and having ears 36, provided with a thumbscrew to clamp the end of the casing 35, tightly around a telescoping casing 37, which incloses the inner shaft 30. Around the outside of this casing 37, there is a clamping bracket 38 which is arranged to receive hook clamps 39, for clamping the sleeve 37, upon the gunwale of the canoe.

It will be understood that this clamping bracket 38 will be located at the proper point on the sleeve 37 to clamp the latter to the gunwale of any particular canoe, whether or not the gunwale is narrow or wide and whether or not the canoe is provided with a sponson.

Beneath the clamping bracket 38 there is adapted to be provided, when desired, a supporting block 40.

The end of the shaft 30 is carried in a bearing 41 which is arranged to be supported upon the outermost edge of the canoe, and which is adapted to be attached by rivets or otherwise to the gear casing 33^a. The shaft 33 is carried in a casing 42 which may be attached by rivets or otherwise to the gear casing 33^a. This shaft 33 and its casing 42, extend downwardly on the outside of the canoe and the shaft 33 is attached at its end to a flexible shaft 43, detachable at its two

ends, while the casing 42 is attached by a ball and socket joint 43^a to a curved, rigid casing 44. At the other end of the flexible shaft 43 there is a rigid shaft 45 and at the end of the curved casing 44, there is a rigid casing 46, to which it is attached by a ball and socket joint 46^a, said casing 46 being screw-threaded to an eccentric housing 47, which eccentric housing 47 is in turn screw-threaded to a skeg 48, forming the lower end of a clamping bracket 49, attached to the stern of the canoe by means of one or more bolts 50 or thumb-screws 51. The rigid shaft 45 has pinned thereto a pump eccentric 52 for pumping water to the engine. Adjacent to the inner face of the skeg 48, this rigid shaft 45 has a T-collar 53, pinned thereto, so as to maintain the shaft in its proper longitudinal position and on the other end of the shaft 45 a propeller 54 is attached in the usual manner, said propeller being maintained in place by a pin 55, passing through the hub of the propeller 54 and the shaft 45, and by a collar 56 which extends over the pin, which collar 56 is retained in place by a washer 57 and a nut 58. Upon the rear of the bracket 49 there are a pair of beveled brackets 59 to support a rudder shaft 60, carrying journals 61. At its lower end said shaft 60 has a rudder blade 62, which is preferably carried in the bifurcated end of the shaft 60 and attached thereto by rivets 63. The upper end of the shaft 60 has a transverse tiller rod 64, which may be operated from the canoe by ropes 65, or by a single tiller rod replacing one of the ropes 65.

Furthermore, the bracket 49 may be secured in place by an additional fastening in the form of a cable 66, which passes beneath one of the beveled brackets 59 and which passes over cleats 67 carried by the gunwale of the canoe. The ends of the cable 66 may be drawn tightly together in any suitable manner, as for example, by a turn-buckle 68, screw-threaded to eye-screws 69, attached to the ends of the cable 66.

The pump eccentric 52 operates in connection with a plunger 70, said plunger 70 being hollow and carrying a spring 71, which normally presses the plunger downward against the eccentric 52. This plunger 70 is located in a pump casing 72, which is screw-threaded to the eccentric casing 47. At one side of the pump casing 72 there is an inlet port 73, which leads to a valve chamber 74, having a ball check valve therein. The valve casing 74 communicates with the inlet port 76, to permit the intake of water into the pump. The water from the valve casing 74 is drawn into the pump casing 72 and forced upwardly by the plunger 70, through a check valve 77, of the ball type similar to that already described adjacent to the inlet opening 76. From this point the water is forced into a supply tube 78, made of rubber, or of any other suitable flexible material, said tube 78 being connected to the pump casing 72 by a nut 79, or in any other suitable manner. The tube 78 at its upper end is lashed, by means of a lashing 80, to the rigid casing 42 and from this point the tube 78 leads upwardly and is attached to the jacket of the cylinder 16, so as to provide cooling water thereto. From said cylinder a further bendable tube 81, which may also be made of metal, leads into an exhaust pipe 82 which passes out of the cylinder on the lower side thereof. Said exhaust pipe 82, is connected by a telescoping sleeve 83 with an outer exhaust pipe 84, bent in such a manner as to pass over the gunwale of the canoe. The ends of the sleeve 83 are split and provided with ears 85 and thumbscrews to tighten the sleeve 83 in its adjusted position. The outer end of the exhaust pipe 84, is connected to a muffler 86, having lateral openings 87, to permit the escape of the exhaust and a drain opening 88 at its end to permit the escape of the water which is discharged into the same by the tube 81, which conveys the hot water away from the cylinder 16, said tube 81 passing into the pipe 82 at a point before said pipe enters the sleeve 83.

A magneto 89, is attached to the cylinder 16 by screws or bolts 90, said magneto being operated by a shaft 91, having a bevel-gear 92, which meshes with a bevel-gear 93 on the main shaft 29. This magneto may be connected by wires 94 with the spark plug 20.

A gasolene tank 95, is supported on the top of the engine and is connected by a pipe 96 with the carbureter 97, which is preferably of the float feed type. Said carbureter has an air inlet 98, on its lower side, and an auxiliary air inlet 99, also on the side but above the point of entry of the gasolene pipe 96. Any suitable adjusting devices may be provided for adjusting the inlet of the air through the openings 98 and 99.

It will be, of course, understood that the details of the engine are only referred to incidentally, as they do not constitute a portion of my invention inasmuch as any suitable type of engine may be used in connection with my invention.

In the operation of my invention the motor may be readily attached and detached merely by operating the thumbscrews attached to the clamps 25 and 39 and the brace 22 and attached to the braces 10, 11 and 12, where these braces are present, or attached to the brace 19 where this brace is present. At the same time, it will, of course, be necessary to operate the thumbscrews in

the ears 36 and 85 in order to detach the telescoping shafts and casings. When this is done the motor can be readily removed and the canoe can, if desired, be operated in this condition and carried from point to point in this condition separate from the motor. When in this condition the canoe has no holes which would prevent its being used without the presence of the motor, if desired. If desired, however, the remainder of the parts may be readily detached in an obvious manner.

When starting the engine it is merely necessary to rotate the crank 28, the plane of the rotation of which is vertical and longitudinal of the canoe, so as to prevent any disturbance of the lateral equilibrium of the canoe.

This construction has the various advantages which have already been referred to and other advantages which will appear from the nature of the apparatus.

While I have described my invention in detail, I wish it to be understood that many changes may be made therein without departing from the spirit of my invention.

I claim:

1. In combination a canoe, a marine propeller thereon and a motor carried by the canoe and connected to the propeller by a shaft construction passing into the canoe above the water line and around and below the top of the canoe stern.

2. In combination a canoe, a marine propeller thereon and a motor carried by the canoe and connected to the propeller by a shaft construction passing into the canoe over the gunwale above the water line and around and below the top of the canoe stern.

3. In combination a canoe, a marine propeller attached to the stern thereof, and a motor carried by the canoe and connected to the propeller by a shaft construction passing into the canoe above the water line and around and below the top of the canoe stern.

4. In combination a canoe, a marine propeller attached to the stern thereof, and a motor carried by the canoe and connected to the propeller by a shaft passing into the canoe over the gunwale above the water line and around and below the top of the canoe stern.

5. In combination a canoe, a motor having a shaft and exhaust pipe extending out of the canoe over the gunwale, said shaft and exhaust pipe being adjustable to the width of the canoe, and means for supporting the same from the gunwales of the canoe, comprising clamps adjustable to the width of the canoe.

6. In combination a canoe, a marine propeller thereon and a motor carried by the canoe and connected to the propeller by a shaft construction a part at least of which is flexible, passing into the canoe above the water line and around and below the top of the canoe stern.

7. In combination a canoe, a marine propeller thereon and a motor carried by the canoe and connected to the propeller by a shaft construction a part at least of which is flexible, passing into the canoe over the gunwale above the water line and around and below the top of the canoe stern.

8. In combination a canoe, a marine propeller attached to the stern thereof, and a motor carried by the canoe and connected to the propeller by a shaft construction, a part at least of which is flexible, passing into the canoe above the water line and around and below the top of the canoe stern.

9. In combination a canoe, a marine propeller attached to the stern thereof, and a motor carried by the canoe and connected to the propeller by a shaft construction, a part at least of which is flexible, passing into the canoe over the gunwale above the water line and around and below the top of the canoe stern.

10. In combination a canoe, a motor therein, a propeller attached to the motor, means for attaching the propeller directly to the stern of the canoe and a shaft construction for driving the propeller from the motor which extends over the gunwale at the side of the canoe and longitudinally along the outside of the canoe and conforming to the shape thereof.

11. In combination a canoe, a motor therein, a propeller attached to the motor and means for attaching the propeller directly to the stern of the canoe, comprising a bracket fitting around the outside of the extreme stern.

12. In combination a canoe, a motor therein, a propeller attached to the motor and means for attaching the propeller to the stern of the canoe, comprising a bracket fitting around the outside of the extreme stern, and one or more bolts passing through the bracket into the canoe.

13. In combination a canoe, a motor therein, a propeller attached to the motor, means for attaching the propeller to the stern of the canoe, comprising a bracket fitting around the outside of the extreme stern and a rudder carried by the bracket.

14. In combination a canoe, a motor therein, a propeller attached to the motor and means for attaching the propeller to the stern of the canoe, comprising a bracket fitting around the outside of the extreme stern, one or more bolts passing through the bracket into the canoe and a rudder carried by the bracket.

15. In combination a canoe, a marine propeller attached to the stern on the longi-

tudinal center of the canoe thereof, and a motor carried by the canoe and connected to the propeller by a shaft extending longitudinally of the canoe and outside along the side thereof.

16. In combination a canoe, a marine propeller attached to the stern on the longitudinal center of the canoe thereof, and a motor carried by the canoe and connected to the propeller by a shaft, a part of which is flexible, extending longitudinally of the canoe and outside along the side thereof.

In testimony that I claim the foregoing I have hereunto set my hand.

HENRY CLAY WRIGHT.

Witnesses:

ARTHUR WRIGHT,

SAMUEL SCHWARTZMAN.