To all whom it may concern:

Be it known that I, CHARLES SANDERS, a citizen of the United States, residing at Paterson, in the county of Passaic and State of New Jersey, have invented certain new and useful Improvements in Bicycle-Propelled Boats, of which the following is a specification.

This invention relates to improvements in boat driving mechanism and its object is to render the propulsion of a boat relatively easy.

Henceforward it has been the custom to propel small boats by the use of oars and it is a matter of common knowledge that the rowing of a boat is not an enviable task.

It is therefore another object of the invention to provide a propelling device for small craft which will reduce the labor to a minimum and likewise enable the boat to be easily handled when making a landing.

A further object of the invention is to provide a propelling mechanism which is wholly driven by foot power, thereby retaining the operator of the most laborious portion of the task.

With these and other objects in view which will become more apparent as the description proceeds, the invention consists in the novel construction, combination and arrangement of parts which will be fully set forth in the following specification, claimed and illustrated in the accompanying drawings, in which:

Figure 1 is a plan view of a boat equipped with this improved propulsion mechanism.

Figure 2 is a longitudinal sectional view of Figure 1.

Figure 3 is a transverse sectional view taken on line 3—3 of Figure 2.

Figure 4 is a similar view taken on line 4—4 of Fig. 2.

Referring to the drawings in detail, the numeral 10 designates a boat of ordinary construction provided with the usual cockpit 11 and keel 12.

Mounted on the deck 13 of the cockpit 11 is a frame 14 to which is secured a saddle 15. Journelled in the frame 14 near its lower end is a shaft 16 carrying a sprocket 17 over which the drive chain 18 runs. The shaft is provided at opposite ends with crank arms 19 to the ends of which are connected pedals 20.

Rotatably mounted in a frame 21, aft of the frame 14 is a shaft 22 to which is fixed a sprocket 23 over which the chain 18 runs. A pinion 24 is secured to the shaft 23 and meshes with a gear 25 secured to the shaft 26. Like the shaft 22, the shaft 26 is journelled in the frame 21 and secured thereto is a balance or fly-wheel 27 which maintains the momentum.

A bevel pinion 28 is secured to the shaft 26 intermediate its ends and meshes with a bevel pinion 29 which is secured to the inner end of the propeller shaft 30. The propeller shaft is rotatably mounted in an opening formed in the rear end of the keel 12 and a thrust bearing 31 secured to a standard 32 which extends upwardly from the deck of the cockpit 11.

A screw propeller 33 is secured to the outer end of the propeller shaft 30 for an obvious purpose.

In operation, it is apparent that upon rotating the sprocket 17 by means of the pedals 20, power will be transmitted through the medium of the chain 18 and sprocket 23 to the shaft 22. Rotation of this shaft will transmit motion to the shaft 26 through the medium of the pinion 24 and gear 25. The balance or fly-wheel 27 will thus be set in motion so as to assist in maintaining the speed of rotation of the device as constant.

Obviously through the medium of the bevel gears 28 and 29, rotary motion will be imparted to the propeller shaft 30 and the propeller 33. Thus it will be seen that operations of the pedals 20 will propel the boat 10.

While in the foregoing there has been shown and described the preferred embodiment of this invention, it is to be understood that minor changes in the details of construction, combination and arrangement of parts may be resorted to without departing from the spirit and scope of the invention, as claimed.

Having thus described my invention and set forth the manner of construction and operation, what I claim as new and desire to secure by Letters Patent, is:

A boat propelling mechanism comprising an inclined propeller shaft, a single propeller on said shaft extending below the keel of the boat at the stern thereof, a frame
in the boat, a driving sprocket in the frame, cranks and pedals to normally rotate the sprocket, a chain running over said sprocket, a driven sprocket, a gear train driven by the driven sprocket, a balance wheel associated with the gear train to assist in maintaining the speed of the mechanism constant, a shaft driven by the gear train, and intermeshing gears on the last named shaft and the propeller shaft whereby the propeller shaft is driven.

In witness whereof I have affixed my signature.

CHARLES SANDERS.