No. 659,841. Patented Oct. 16, 1900.

A. BELZ.

PROPELLING MECHANISM FOR BOATS.

(Application filed Feb. 15, 1900.)

(No Model.)

Fig. 1.

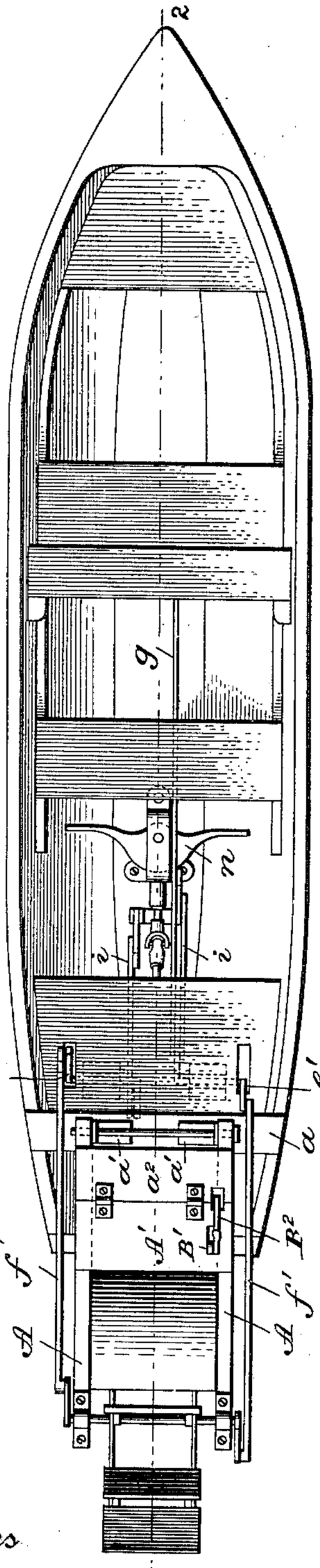


Fig. 2.

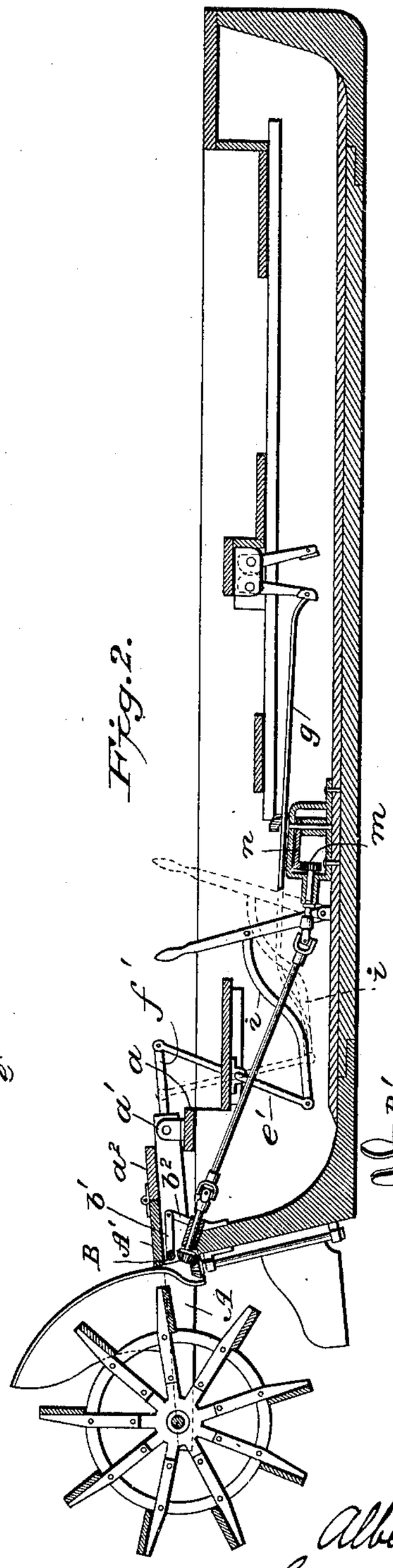


Fig. 4.

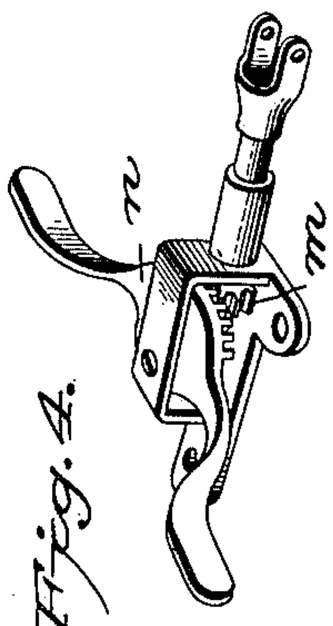
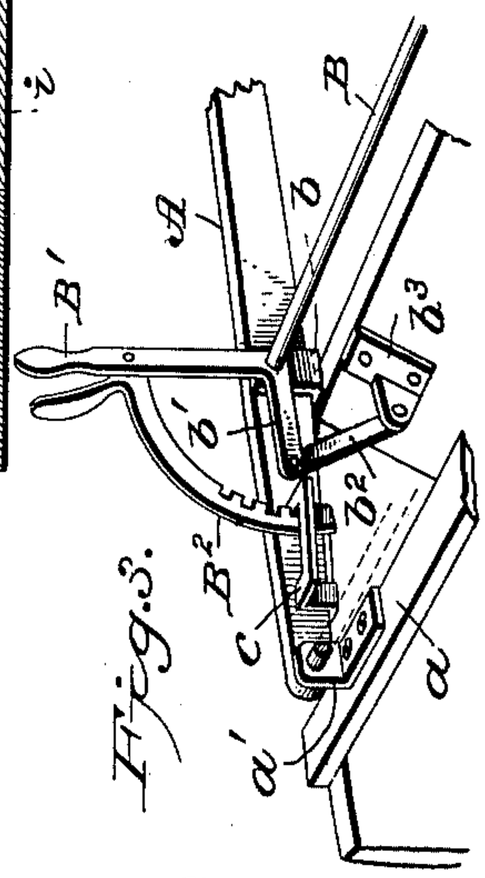


Fig. 3.



Witnesses
G. L. Elliott.
H. H. Johnson.

Inventor
Albert Belz.
by Eugene H. Johnson
his Attorney.

UNITED STATES PATENT OFFICE.

ALBERT BELZ, OF APPLETON, WISCONSIN, ASSIGNOR TO THE APPLETON BOAT PROPULSION MANUFACTURING COMPANY, OF SAME PLACE.

PROPELLING MECHANISM FOR BOATS.

SPECIFICATION forming part of Letters Patent No. 659,841, dated October 16, 1900.

Application filed February 15, 1900. Serial No. 5,273. (No model.)

To all whom it may concern:

Be it known that I, ALBERT BELZ, a citizen of the United States, residing at Appleton, in the county of Outagamie and State of Wisconsin, have invented new and useful Improvements in Propulsion Mechanism for Boats, of which the following is a specification.

This invention relates to improvements in propulsion mechanism for boats, the object being to provide improved mechanism for raising and lowering the carrying-frame and stern-wheel, so that said frame and wheel may be locked in the position in which they have been placed.

The invention also consists in the construction and combination of the wheel-driving mechanism whereby one person can actuate the hand-levers to drive the wheel and without taking his hands off the levers, the mechanism being so arranged that other persons may assist in driving the wheel by operating foot-levers of the type shown in Patent No. 618,555, issued to me January 31, 1899.

The invention also consists in the construction and combination of the parts and general arrangement thereof, as will be hereinafter set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of a boat having my improvements applied thereto. Fig. 2 is a longitudinal sectional view taken on the line 2 2 of Fig. 1. Fig. 3 is a detail perspective view of the mechanism for raising and lowering the frame to which the stern paddle-wheel is attached, and Fig. 4 is a detail perspective view of the foot-gear of the steering mechanism.

The boat near its stern is provided with a cross-piece a, which is provided with brackets a', through which passes a bar or rod which pivotally attaches thereto the side bars A of the stern-wheel-supporting frame. These side bars are connected to each other by a board A′, to which is hinged a board a^2, and rear of the board a' is a guard or fender, constructed as shown in my prior patent.

The stern-wheel is journaled upon the side bars A, and the supporting-shaft thereof has arms or cranks to which are attached rods which connect the cranks to levers.

To the side bars A by means of suitable brackets b there is secured a shaft B, which shaft lies between the side bars A A and beneath the transverse board which is attached to the upper sides of the bars. The shaft B is provided with arms b', to which are attached links b^2, these links being pivotally attached at their lower ends to brackets or fixtures b^3, which are secured to the stern of the boat. Adjacent to one of the arms the rod or shaft is provided with a lever B′, said lever projecting through a slot in the board A′, and to said lever there is pivotally attached a notched or toothed segment B^2, which has above its pivot a hand-grasping portion. The segment B^2 passes through an opening preferably adjacent to the abutting edges of the board A′ and a^2 and is adapted to engage with a catch-plate c, secured to one of the side bars A. The catch-plate c is preferably made from a flat plate of metal bent so that the ends will project in opposite directions, the lower end or side having perforations through which pass the means for attaching the plate to the under side of one of the bars A.

By means of the construction shown when the hand-grasping portion of the segment is brought toward the lever said segment will be thrown out of engagement with the catch-plate, and by drawing the upper end of the lever forward the paddle-wheel-supporting frame may be raised, and when the segment is released it will engage with the catch-plate and hold the frame against movement. To lower the frame, it is only necessary to release the segment, when the frame will be lowered, so as to rest upon the stern cross-bar of the boat.

The construction shown provides a convenient means for raising and lowering the paddle-wheel, so that it can be lifted entirely out of the water or positioned so that the paddles will be submerged to the desired depth in accord with the load in the boat or the number of persons assisting in the propulsion of the same.

The rods f', which extend forward from the cranks of the paddle-wheel, are attached to the upper ends of levers e', which are journaled beneath the rear or stern seat of the boat, and to the lower ends of said levers are attached connecting-rods i, which are pivot-

ally attached to hand-levers, said hand-levers being secured to a bracket attached to the floor of the boat in line with its keel, so that the hand-levers will project upward from the center of the boat. One of the lower ends of the levers e' is provided with an inwardly-projecting pin, with which a rod g may be placed in engagement, said rod extending forward for engagement with foot-levers, which are attached to cross-pieces in rear of the seats. The foot-levers and their connecting mechanism may be as shown in my prior patent, and when the rod g is placed in engagement with one of the levers e' a person sitting on one of the forward seats can by actuating the foot-levers assist in propelling the boat, the hand-levers being operated by a person sitting on the rear seat.

In order to provide a convenient steering-gear which can be operated by the person who manipulates the hand-levers, I attach to the bottom board of the boat a frame which supports a short section of shafting, upon which is mounted a gear-wheel m, and with said gear-wheel there meshes depending teeth of a fixture n, which is pivoted to the frame and is provided with lateral and upwardly-extending foot-rests. To the short section of shafting which passes through a sleeve of the rigidly-attached fixture there is attached a part of a universal joint, from which extends upwardly and rearwardly a shaft having at its ends parts of a universal joint, the upper end engaging with a short and suitably-housed shaft, which has a pinion, said pinion engaging with a pinion on the rudder-head. By this construction when the footpiece is moved the rudder will be turned.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a propulsion mechanism for boats, the combination with a stern-wheel-supporting frame which is pivotally attached at its forward end to the hull of a boat, of a hand-lever connected to the supporting-frame and to the hull of the boat, and means for locking the hand-lever to prevent the raising or lowering of the wheel-supporting frame.

2. In a propulsion mechanism for boats, the combination with a wheel-supporting frame which is pivotally attached to the hull of a boat, a hand-lever pivotally attached to the supporting-frame and provided with a forwardly-projecting arm, a link connected to said arm and to the hull of the boat, and means for locking the lever to prevent movement of the frame, substantially as shown.

3. In a propulsion mechanism for boats, the combination with a supporting-frame for a stern-wheel, means for movably connecting the frame with the hull of a boat, a cross-bar or shaft carried by the frame and provided with forwardly-projecting arms, a lever for actuating the shaft and arms, links pivoted to the arms and to brackets which are secured to the hull of the boat, a segmental locking-plate pivoted to the operating-lever and adapted to engage with a catch-plate carried by the wheel-supporting frame, substantially as shown and for the purpose set forth.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

ALBERT BELZ.

Witnesses:
ALBERT BELZ, Jr.,
J. A. JOHNSON.