

No. 640,982.

Patented Jan. 9, 1900.

H. A. WISE.
WATER MOTOR.

(Application filed Jan. 31, 1899.)

(No Model.)

2 Sheets—Sheet 1

Fig. 1,

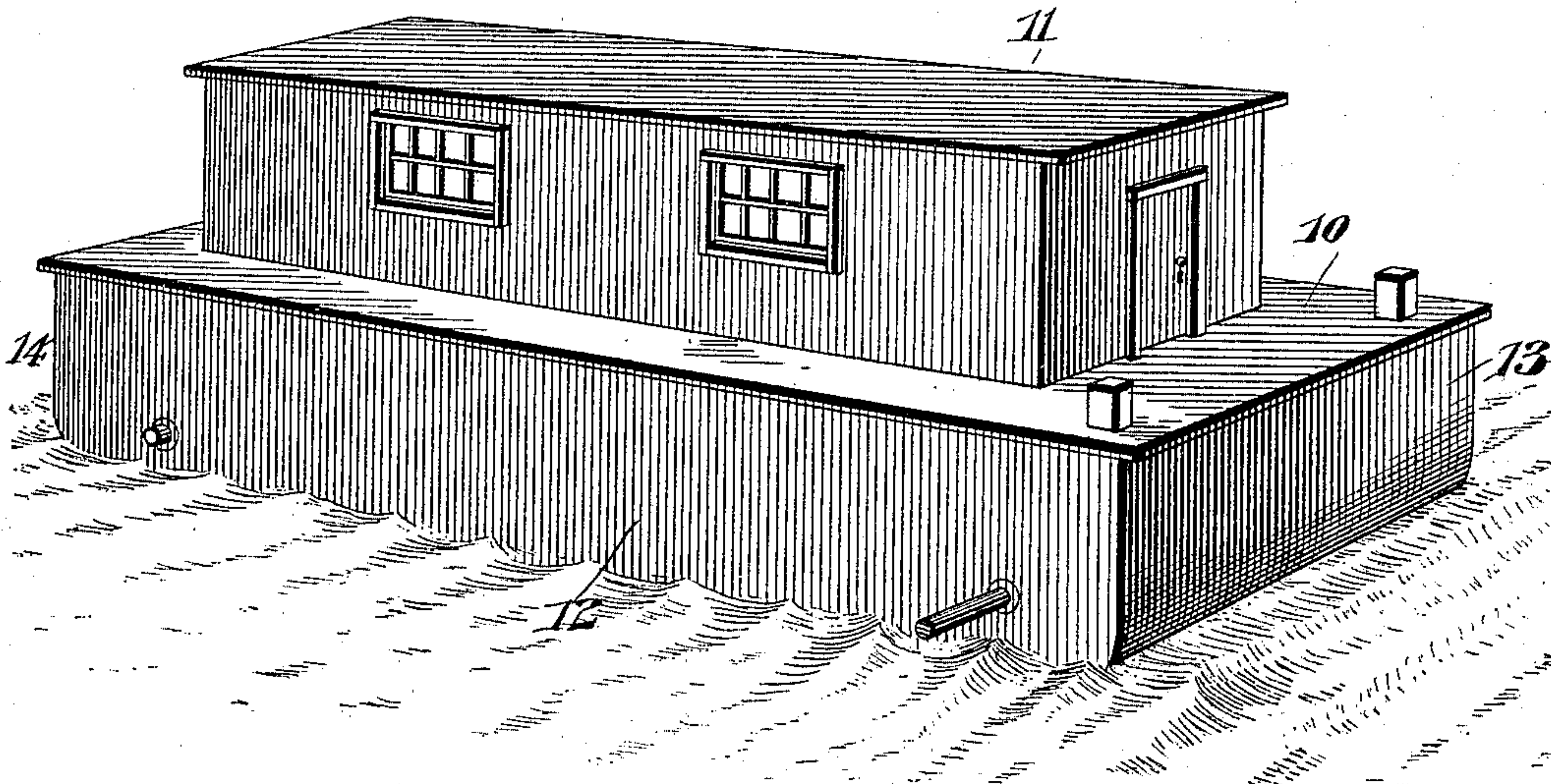
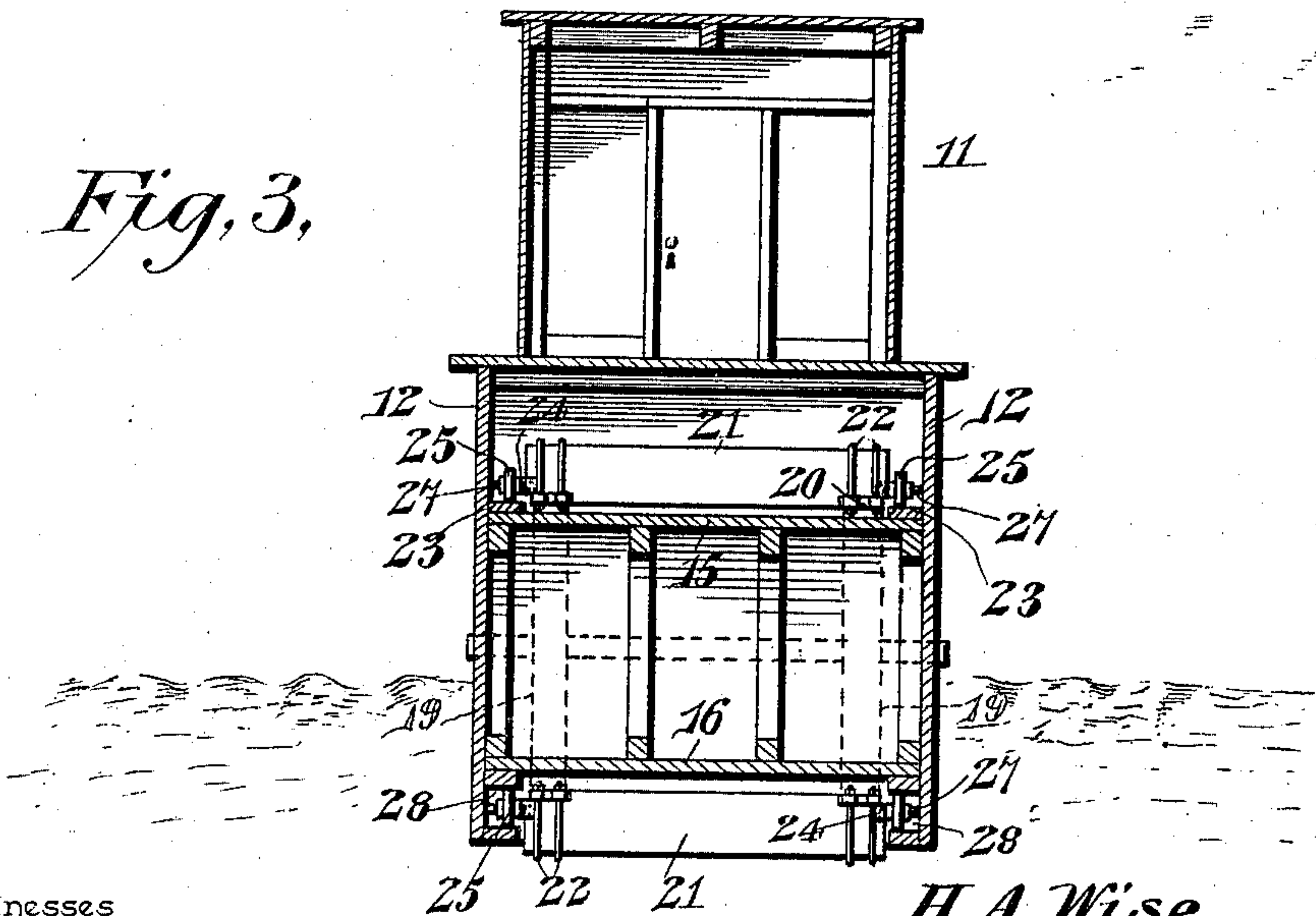


Fig. 3,



Witnesses

James K. McLachlan

[Signature]

By *His* Attorneys,

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Inventor

Chas. H. Snow & Co.

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2 Sheets—Sheet 2.

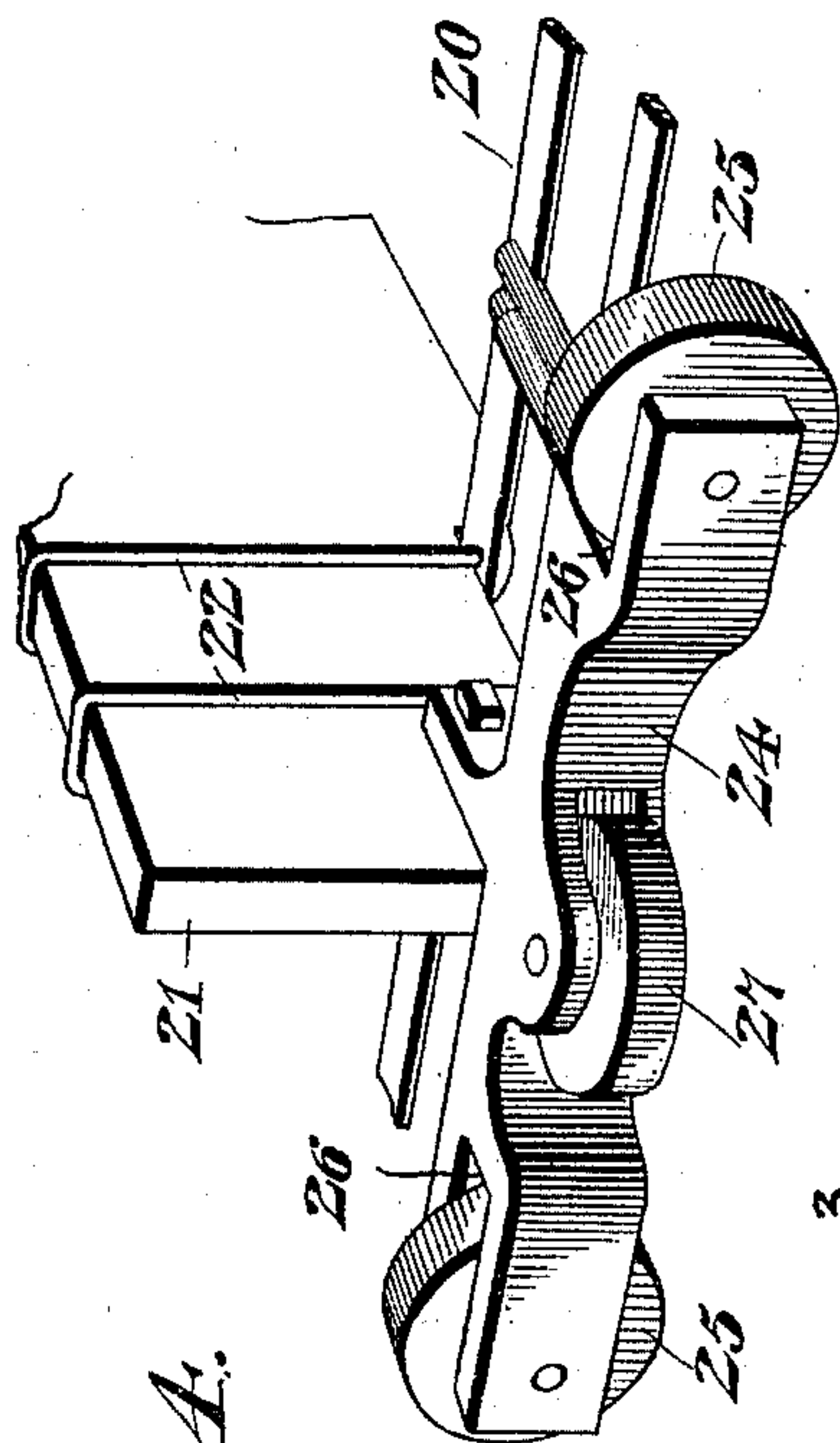


Fig. 4.

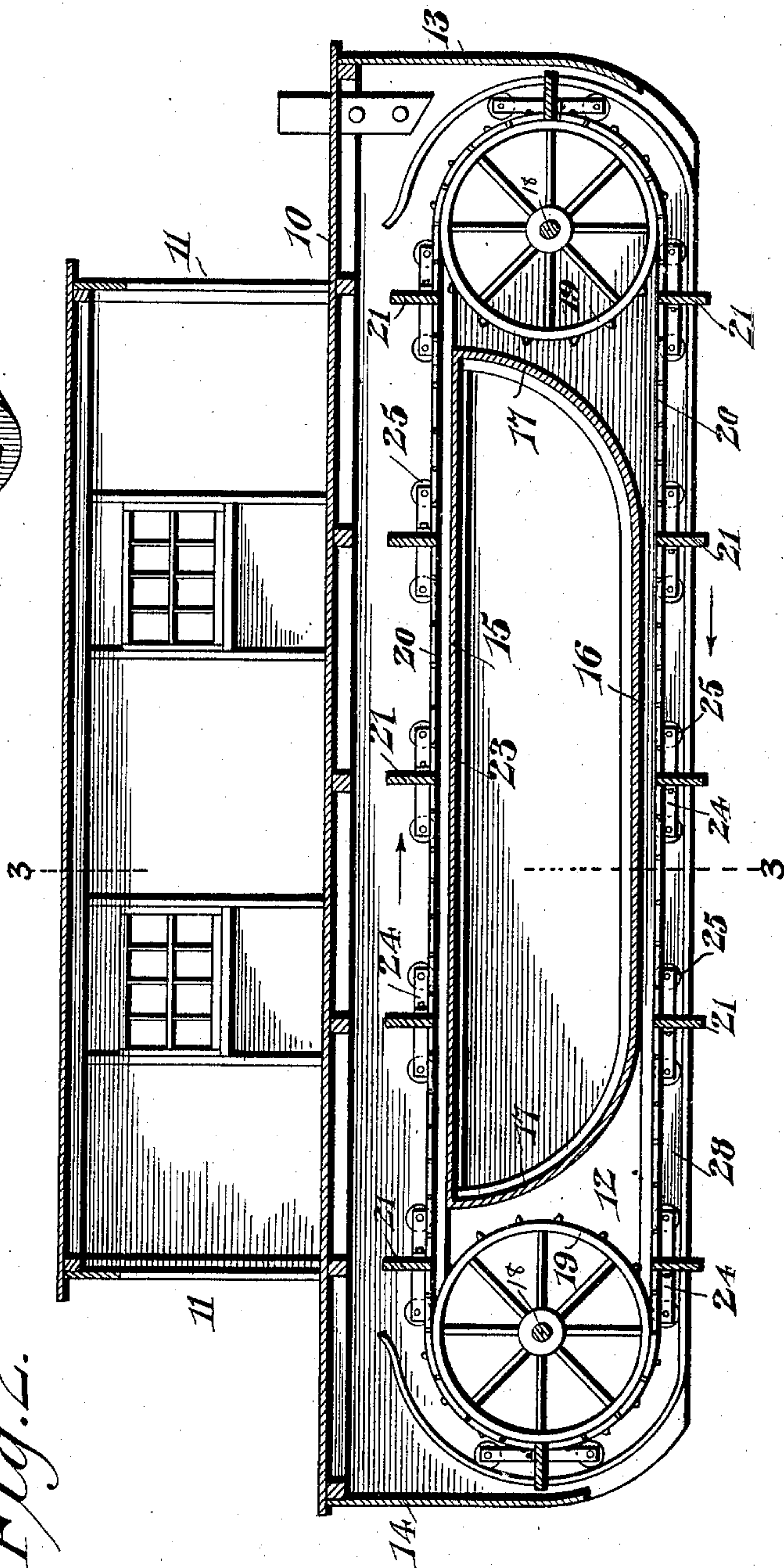


Fig. 2.

Witnesses

Jas. K. McLaughlin

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By His Attorneys,

H. A. Wise.

Inventor

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UNITED STATES PATENT OFFICE.

HERBERT A. WISE, OF LUXORA, ARKANSAS.

WATER-MOTOR.

SPECIFICATION forming part of Letters Patent No. 640,982, dated January 9, 1900.

Application filed January 31, 1899. Serial No. 704,012. (No model.)

To all whom it may concern:

Be it known that I, HERBERT A. WISE, a citizen of the United States, residing at Luxora, in the county of Mississippi and State of Arkansas, have invented a new and useful Water-Motor, of which the following is a specification.

My invention relates to water-motors of that class employed in connection with floating supports, such as barges; and the object in view is to provide a simple, compact, and efficient construction and arrangement of parts whereby the endless paddle-carrier is suitably supported and guided to reduce friction to the minimum and obtain the maximum power, the carrier supporting and guiding devices being arranged in connection with a floating frame or barge constructed to support machinery to be operated by the power derived from the moving paddles or blades.

Further objects and advantages of this invention will appear in the following description, and the novel features thereof will be particularly pointed out in the appended claims.

In the drawings, Figure 1 is a perspective view of a barge constructed to support a mechanism embodying my invention. Fig. 2 is a longitudinal section of the same. Fig. 3 is a transverse section on the plane indicated by the line 3 3 of Fig. 2. Fig. 4 is a detail view in perspective of a portion of the blade with its terminal guide and the adjacent portions of the carrier.

Similar reference characters indicate corresponding parts in all the figures of the drawings.

The supporting-framework embodies a main or upper deck 10, upon which is erected a housing 11, adapted for the machinery to be driven by the mechanism embodying my invention, side walls or gunwales 12, depending, preferably vertically, from the main deck, and front and rear walls 13 and 14, of which the former constitutes a break or guard for deflecting floating objects, and thus preventing contact thereof with a motor inclosed within the frame between the parallel side walls or gunwales 12. Located between said gunwales and below the plane of the main deck 10 is a water-tight float, consisting of a lower deck 15, a bottom 16, and rounded or

inclined heads or ends 17, said deck being preferably flat and horizontal and spaced from the plane of the main deck a sufficient distance to allow the blades connected by the endless carrier to pass therebetween.

Upon transverse shafts or spindles mounted in the opposite side walls or gunwales 12 of the supporting-frame are arranged chain-wheels 19, respectively in front and in rear of the extremities of the intermediate float, and traversing these wheels is an endless carrier, consisting in the construction illustrated of chains 20. These chains have open links which pull over sprockets on the wheels 19. These chains are connected transversely at intervals by blades 21, adapted to occupy a position perpendicular to the plane of the adjacent portions of the chain and preferably secured to the links of the chain by stirrup-bolts 22 or the equivalent thereof. Guide-strips 23 are arranged adjacent to the side walls or gunwales of the supporting-frame adjacent to the surface of the lower deck, which constitutes the upper wall of the float, and secured to the extremities of the blades are travelers 24, having terminal antifriction-rolls 25, mounted in bifurcations 26 of the travelers to traverse said strips 23, each traveler constituting a cross-head at the end of a blade, and thus extending in front and in rear thereof to maintain the blade in its normal position perpendicular to the plane of the adjacent portion of the chain and at the same time support the blade and the adjacent portion of the chain to prevent frictional contact of said parts with the adjacent portions of the supporting-frame and float. Also at an intermediate point each traveler is provided with an axially-vertical roll 27, adapted for contact with the inner surface of the gunwale to prevent contact of the extremities of the traveler with the same and, in other words, to maintain the blades centered in the interval between the gunwales and prevent lateral displacement and vibration. Also extending from the ends of the deck 15 and passing under the float throughout its length, adjacent to the sides or gunwales of the supporting-frame, are guide-channels 28, designed to receive the travelers and guide them in a proper path under the float during the time that said blades are exposed to the pressure of the water-current.

These guide-channels are terminally rounded or returned to extend around the terminal carrier-wheels 19, as clearly shown in Fig. 2.

Any suitable means may be employed for communicating the motion of the shafts to the machinery to be driven, such mechanism forming no part of my invention. Also it will be understood that auxiliary motors constructed as above described and located exteriorly of the side walls or gunwales 12 may be coupled with the shafts 18 to increase the power of the mechanism and also that the apparatus as described may be arranged either in alinement with or obliquely to the direction of the current of water. The housing formed by the side walls or gunwales and the end walls 13 and 14 of the exterior frame protects the inclosed carrier and blades, and the apparatus may be towed to the point of use without the risk of injuring the motor by reason of the protection afforded by said exterior frame or shell.

In practice various changes in the form, proportion, and the minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of the invention.

Having described my invention, what I claim is—

1. In a water-motor of the character set forth, the combination of a bottomless frame having side walls or gunwales and a front guard or break, a water-tight float housed between said side walls or gunwales, carrier-wheels having their shafts mounted in bearings in the side walls or gunwales beyond the extremities of the float, guides secured to the gunwales adjacent the upper portion of the float and near the bottom of the side walls or gunwales in the form of channels terminating in opposite curved ends beyond the carrier-wheels, and endless chains adapted to traverse said wheels, and spaced blades transversely connecting said chains and provided with terminal cross-heads at opposite ends

supporting front and rear rollers with their axes disposed horizontally in a transverse direction and intermediate rollers with their axes arranged vertically, the said intermediate rollers extending outwardly a greater distance than the adjacent similar projections of the cross-heads, said rollers engaging respectively the guides and guide-channels and portions of the side walls or gunwales of the bottomless frame.

2. In a water-motor of the character set forth, the combination with a bottomless frame having side walls or gunwales provided with upper and lower guides, the lower guides forming channels terminating in curved ends extending above the upper guides, of carrier-wheels having their shafts mounted in bearings in the side walls or gunwales within the curved terminals of the lower guides, a water-tight float housed between the side walls or gunwales of the said frame and provided with an upper flat top and opposite curved ends, the said float being less in length than the distance between the shafts of the carrier-wheels, and endless carrier-chains traversing said wheels and movable above and below the float, said carrier-chains having spaced blades transversely connecting the same and provided with terminal cross-heads forming travelers for movement on the guides and inside the curved ends or terminals of the lower channels, the said cross-heads also having opposite end rollers with their axes disposed horizontally in a transverse direction, and intermediate rollers with their axes arranged vertically, said intermediate rollers extending outwardly beyond the plane of the adjacent sides of the cross-heads.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

HERBERT A. WISE.

Witnesses:

A. G. BROWN,
JAMES HEARN.