No. 619,224. Patented Feb. 7, 1899.

A. RASMUSSEN.

WATER VELOCIPEDE.

(Application filed Sept. 1, 1898.)

(No Model.)

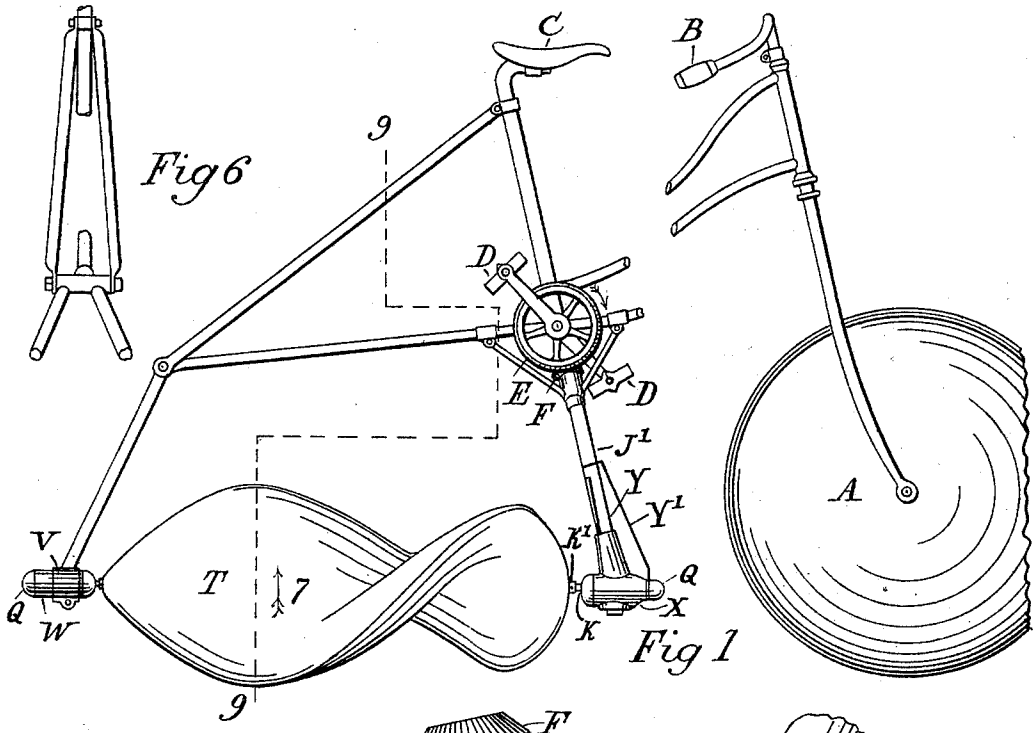


Fig 6

Fig 1

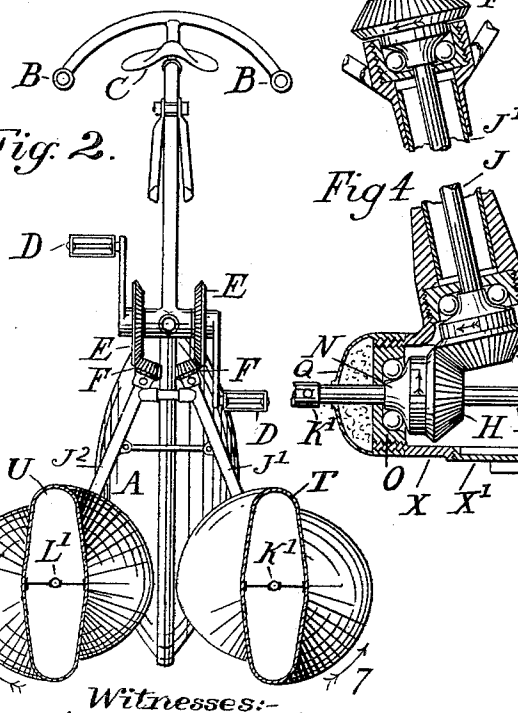


Fig. 2.

Fig 4

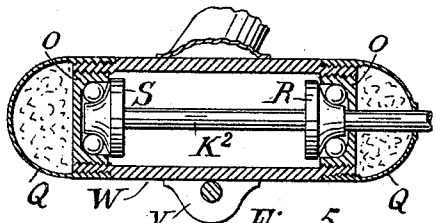


Fig 5

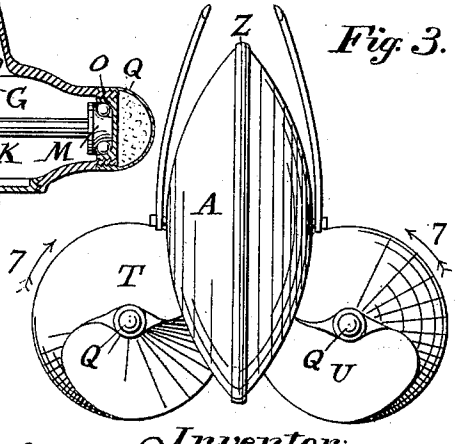


Fig. 3.

Witnesses:-
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UNITED STATES PATENT OFFICE.

ANDREAS RASMUSSEN, OF COBRAM, VICTORIA.

WATER-VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 619,224, dated February 7, 1899.

Application filed September 1, 1898. Serial No. 690,022. (No model.)

To all whom it may concern:

Be it known that I, ANDREAS RASMUSSEN, a subject of the Queen of the United Kingdom of Great Britain and Ireland, residing at Cobram, Colony of Victoria, have invented certain new and useful Improvements in Water-Velocipedes; and I hereby declare the following to be a full, clear, and exact description of the invention.

The object of this invention is to provide a water-velocipede in which the weight shall be supported by the use of three hollow floats, one of which floats constituting a steering-wheel, the same also assisting the rider to maintain his balance and the other two floats constituting screw-propellers which work simultaneously and support most of the rider's weight; but the weight they support will be more or less, according to whether he sits upright or leans forward.

The invention is shown in the drawings herewith, in which the propeller-floats are of equal but opposite screw pitch—*i. e.*, one right-handed and one left-handed—and rotate in the direction of arrows 7 7 in Figures 1, 2, and 3 when the velocipede is being driven forward.

Fig. 1 is a side elevation of my velocipede with part of the frame broken away. Fig. 2 is a rear elevation, partly in section, on the lines 9 9 in Fig. 1. Fig. 3 is an elevation showing the three floats as they appear from the front. Fig. 4 is a vertical section showing the bevel-gearing used, also the bearings at the forward end of each propeller-shaft; and Fig. 5 is a vertical section of the bearings at the rear end of each propeller. Fig. 6 is a rear elevation of part of the frame.

A is the steering-float, of hollow sheet metal or other suitable material and of any desired form and size, so as to be adapted to revolve only partly submerged in the water. This float is controlled by the handles B, as in steering an ordinary bicycle.

The velocipede may be constructed for any number of persons, but will be sufficiently explained from the drawings, which show a velocipede for one rider, who sits upon a saddle C and actuates the pedals D, which drive bevel-gears of suitable kind. Two sets of bevel-wheels are used, one set for each pedal, as shown by the wheels E, F, G, and H, bevel-wheels F and G being fast upon a spindle J within diverging casings J′ and J^2, respectively, while a bevel-wheel H is fixed upon each propeller-shaft near the fore end K, Fig. 4, of each shaft. Each propeller-shaft is provided with fore and rear lengths, which are separable from the main or intermediate part, the latter part K′ L′ (*vide* Fig. 2) being constructed of air-tight tubing stayed within the floats, as desired. The forward section of each shaft, as shown by K in Fig. 4, is inclosed within a casing X and is provided with oppositely-disposed cones M and N, and the inclosing casing is provided with cups O, between which and the said cones the balls of antifriction-bearings run. The rear section of each shaft, as shown by K^2 in Fig. 5, is likewise inclosed within a casing W and is provided with oppositely-disposed cones R and S, between which and the cups O in the casing antifriction-balls run. The cups O are adjustable by being screw-threaded and serve to adjust the bearings and retain the same in position. Screw-caps Q, fitting upon the ends of said casings X and W, form water-tight stuffing-boxes at the ends of the respective shaft-sections K and K^2 by being filled with packing P, as seen in Figs. 4 and 5.

While the intermediate sections of both shafts are shown at K′ and L′ in Fig. 2, the front and rear sections of but one of such shafts are shown—that is, by K and K^2 in Figs. 4 and 5; but it will be understood that these shafts are the counterpart of each other and the illustration of but one is necessary.

The tubular central shafts K′ L′ are connected to the respective end shafting K and K^2 by suitable means which will allow of easy disconnection, because not only will it often be advisable to pack the velocipede into a smaller space when not in use, but it will often be necessary to substitute larger or smaller floats, or floats of different pitch, or floats varying in other points of detail, according to the use to which the velocipede is to be put.

By reason of cups O being provided at each extremity of the shaft the end thrusts of the propellers are suitably sustained.

The hollow propeller-floats shown by the letters T and U are screw-shaped exteriorly, so as to act as propellers when revolved by for-

ward pedaling, while back pedaling will give the velocipede a reverse movement. The floats will be of such size as to be almost wholly but not quite submerged, except at the ends, which are pointed, so as to be entirely submerged at all times; and it is provided that the pedals are fixed to their spindle so as to work in unison, so that the speed of rotation of each propeller-float will be equal to that of the other. Both of said floats are equally distant one on each side of the longitudinal central plane of the frames, so that the center of gravity is in a plane midway between their axes.

Clips V at the extreme rear of the frame of the machine surround the rear casings W of the propeller-shafts, and being clamped upon said casing securely grip and hold the same, but upon being released allow said casings to be withdrawn for the purpose of disconnecting the propeller-floats T and U from the frame.

I wish it understood that I do not confine myself to propeller-floats closely placed, but may have them at any desired distance apart, which can easily be effected by a modification of the bevel-gearing.

X′ is a plug closing an aperture in the casing X, through which the bevel-wheel G is passed when being fitted into place.

The fronts of the lower ends of the casings J′ J^2 are covered by another shield Y, which has a sharp V-shaped front edge Y′ to act as a cut-water.

In carrying this velocipede upon land it may be conveniently propelled by any person who stands at the rear and uses the casings W as handles, raising the propellers clear of the ground and allowing float A to act as the wheel of a wheelbarrow.

Z is a stout rubber band sprung onto the sharp edge around wheel A. This band serves as a protector against stones on land, which might injure the fragile shell of the wheel, and as a fender in the water, preserving the velocipede from concussion.

What I claim is—

1. In a water-velocipede the combination of a propeller-float having a shaft K′ or L′ fastened thereto, a shaft K^2 secured separably to one end of the same, and a shaft K secured separably to the other end, two cones R and S upon shaft K^2, two cones N and M upon shaft K, and ball-race cups O screwed into the casings W and X of the shafts K^2 and K, substantially as set forth.

2. In a water-velocipede, the combination with a pair of propeller-floats, sectional shafts secured thereto, hollow water-tight casings inclosing the ends of said shafts; driving-gearing connected with said shafts within one pair of said casings; and bearings for the end sections of said shafts, within both pairs of said casings, substantially as described.

3. In a water-velocipede, the combination with a pair of propeller-floats; sectional shafts secured thereto; hollow casings inclosing the ends of said shafts; antifriction-bearings for said shafts within said casings; and stuffing-boxes closing the ends of said casings, substantially as described.

4. In a water-velocipede, the combination with a pair of propeller-floats; driving-shafts therefor, journal-bearings for the ends of said shafts and water-tight casings inclosing said bearings separately, of bevel-gears on said driving-shafts within one pair of said casings; a second pair of shafts, and gears thereon meshing with the gears on said driving-shafts, and means for rotating said second pair of shafts, substantially as described.

In witness whereof I have hereunto signed my name, this 15th day of July, 1898, in the presence of two subscribing witnesses.

ANDREAS RASMUSSEN.

Witnesses:
G. G. TURRI,
W. H. CUBLEY.