

No. 656,265.

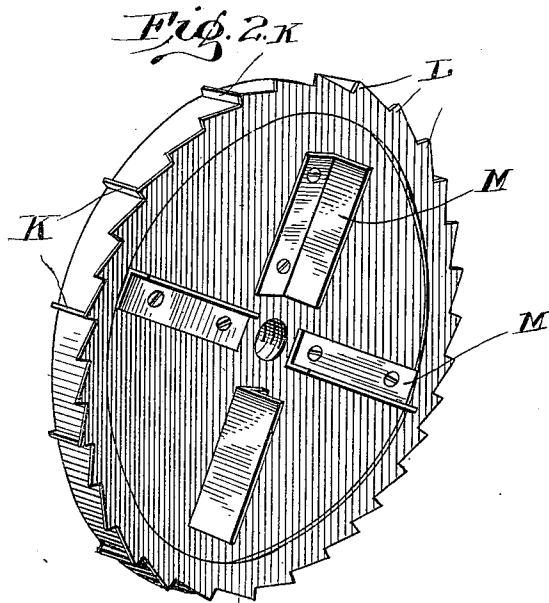
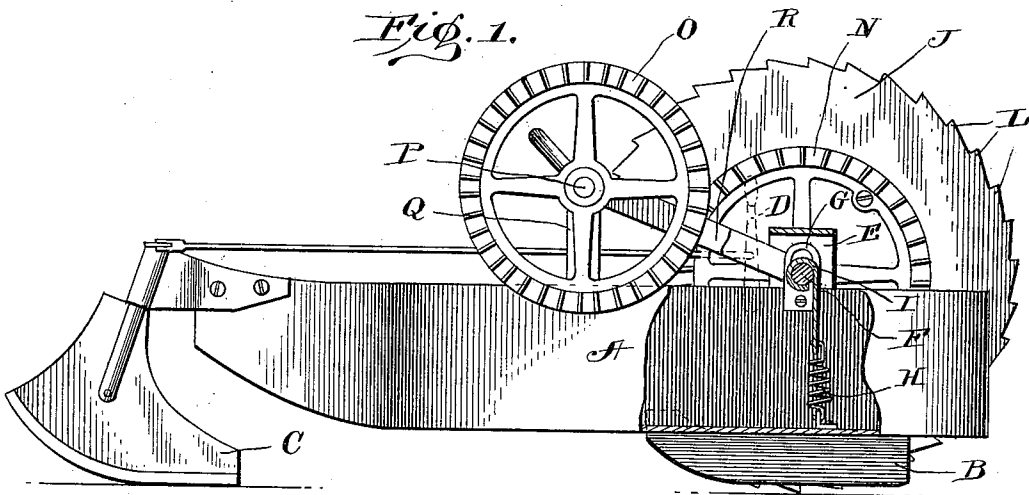
Patented Aug. 21, 1900.

T. RICHMOND.

COMBINATION TRICYCLE FOR LAND, WATER, AND ICE.

(Application filed Apr. 23, 1900.)

(No Model.)



witnesses:  
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# UNITED STATES PATENT OFFICE.

THOMAS RICHMOND, OF JESUP, IOWA.

## COMBINATION-TRICYCLE FOR LAND, WATER, AND ICE.

SPECIFICATION forming part of Letters Patent No. 656,265, dated August 21, 1900.

Application filed April 23, 1900. Serial No. 13,968. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS RICHMOND, a citizen of the United States of America, residing at Jesup, in the county of Buchanan and State of Iowa, have invented certain new and useful Improvements in Combination-Tricycles for Land, Water, and Ice, of which the following is a specification.

This invention relates to tricycles, and more particularly to that class known as "combination-tricycles" for land, water, and ice.

One object of this invention is to provide a tricycle which may be propelled by land, water, or ice and one that only requires a slight change in the steering apparatus to adapt it for its different uses.

With these and other objects in view my invention consists in the particular construction of the various parts and in the novel manner of combination and arrangement of said parts, all of which will be hereinafter more fully described, and specifically pointed out in the claims.

In the drawings forming a part of this specification, Figure 1 is a view in side elevation with one of the propelling-wheels and cogs removed, also a portion of the side being broken away. Fig. 2 is a detail view of one of the propelling-wheels.

Referring by letters to the drawings, A represents a boat, which may be constructed in any desirable manner and of any material found suitable by which the structure may be made light and desirable. The boat is provided on each side, approximately near its stern, with detachable grooved runners B, which are adapted to be used upon the ice and may also be employed as keels when the tricycle is used in the water. Although it is not necessary to detach the runners when the tricycle is used upon land, it may be found advisable in order to pass more smoothly over the uneven surface of the ground. The boat is guided by a grooved runner C, which is pivoted in an arm secured to the bow and connected by a suitable arm and rod to a hand-lever D, attached to the side of the boat adjacent to the seat E. This runner is employed when the tricycle is used upon ice or in the water and may be replaced by a wheel when the tricycle is used upon land.

Mounted across the boat above the grooved

runners B is an axle F, which is journaled in slotted bearings G, secured to the sides of the boat, so as to admit of a rise and fall in passing over uneven surfaces, the rise and fall being limited by coiled springs H, secured to the bottom of the boat and to sleeves or collars I, mounted loosely upon the axle.

Secured to each end of the axle is a propelling-wheel J, which is provided upon its circumference with a series of projections K and a band of notched teeth L. These wheels are adapted to engage the land or ice when the tricycle is so used. These wheels are further provided with a series of paddles M, mounted upon their outer sides and adapted to be employed when the tricycle is used in the water. The propelling-wheels are driven by suitable cogs N, mounted upon the axle and secured to the wheels, or they may be formed on the body of the wheels, if so desired. The cogs N are adapted to mesh with similar cogs O, mounted on a crank-shaft P, which is journaled in the uprights Q and braced to the axle by stay-rods R. The crank-shaft may be operated by hand or foot or any other power found more desirable.

I do not limit myself to the precise details of construction herein shown and described, as I may without departing from the spirit of my invention make various minor changes therein.

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

1. In a combination-tricycle, a boat having detachable runners and a steering device, of propelling-wheels mounted in the said boat, the said propelling-wheels having projections and teeth upon their circumferences and paddles upon their sides, and mechanism for driving the said propelling-wheels, substantially as shown and described.

2. In a combination-tricycle, a boat having detachable runners and a detachable steering device, of an axle mounted in slotted journals upon the boat, the said axle having upon each end thereof similar propelling-wheels, of cogs secured to the propelling-wheels adapted to mesh with similar cogs mounted upon a crank-shaft, substantially as shown and described.

3. In a combination-tricycle, a boat provided with runners and a steering device, of

an axle mounted upon the said boat in slotted bearings, of coiled springs connected to the bottom of the boat and to sleeves upon the said axle, of similar propelling-wheels mounted upon the ends of the said axle, the said propelling-wheels being provided with projections and teeth upon their circumferences and paddles upon their sides, of cogs secured to the said propelling-wheels and adapted to

mesh with similar cogs mounted upon a crank-shaft, substantially as shown and for the purpose set forth.

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

THOMAS RICHMOND.

Witnesses:

J. A. LAIRD,

DANIEL CLUBINE.