

No. 828,130.

PATENTED AUG. 7, 1906.

F. W. LEHMAN.

ICE CYCLE.

APPLICATION FILED JAN. 22, 1906.

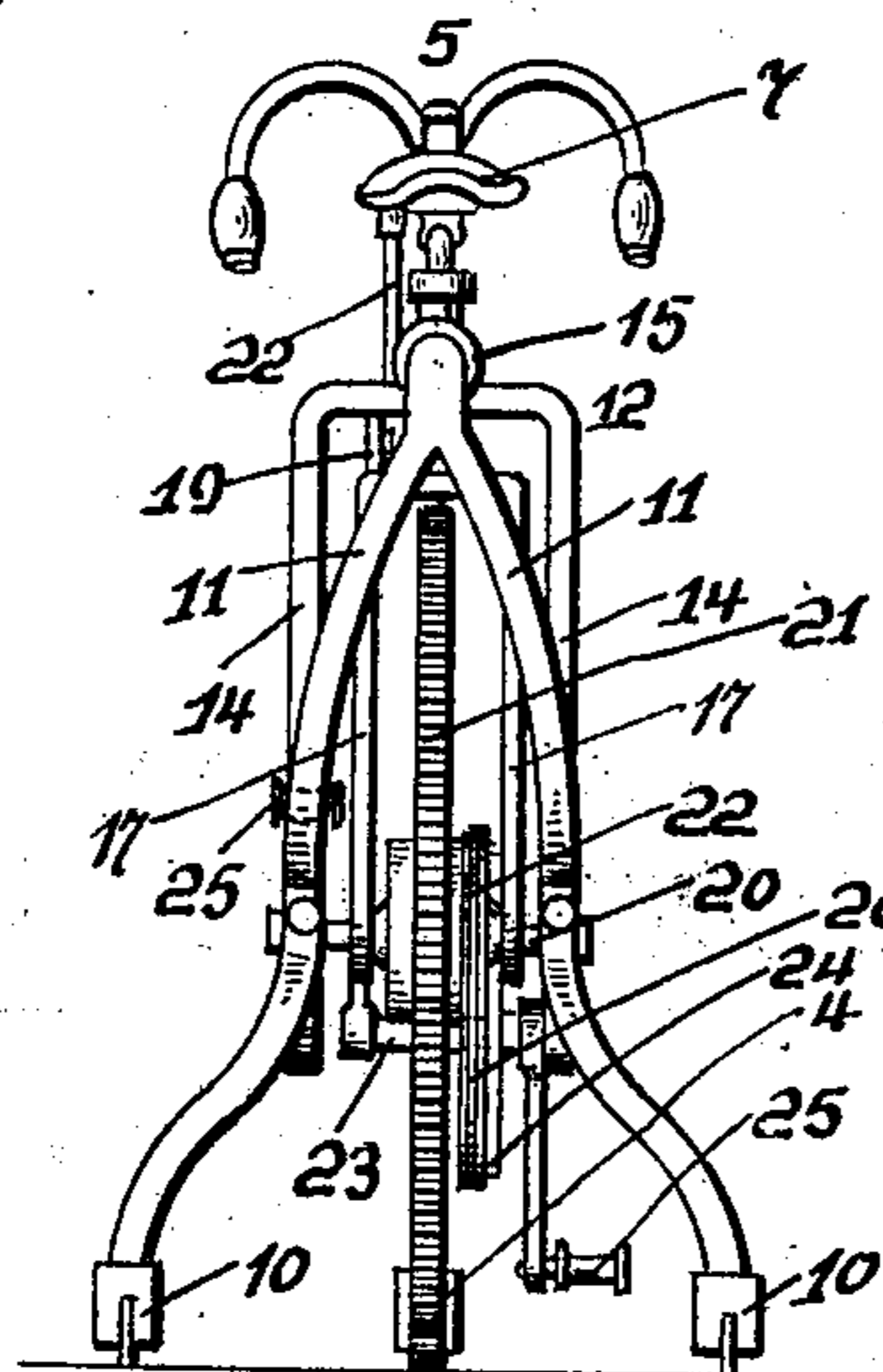
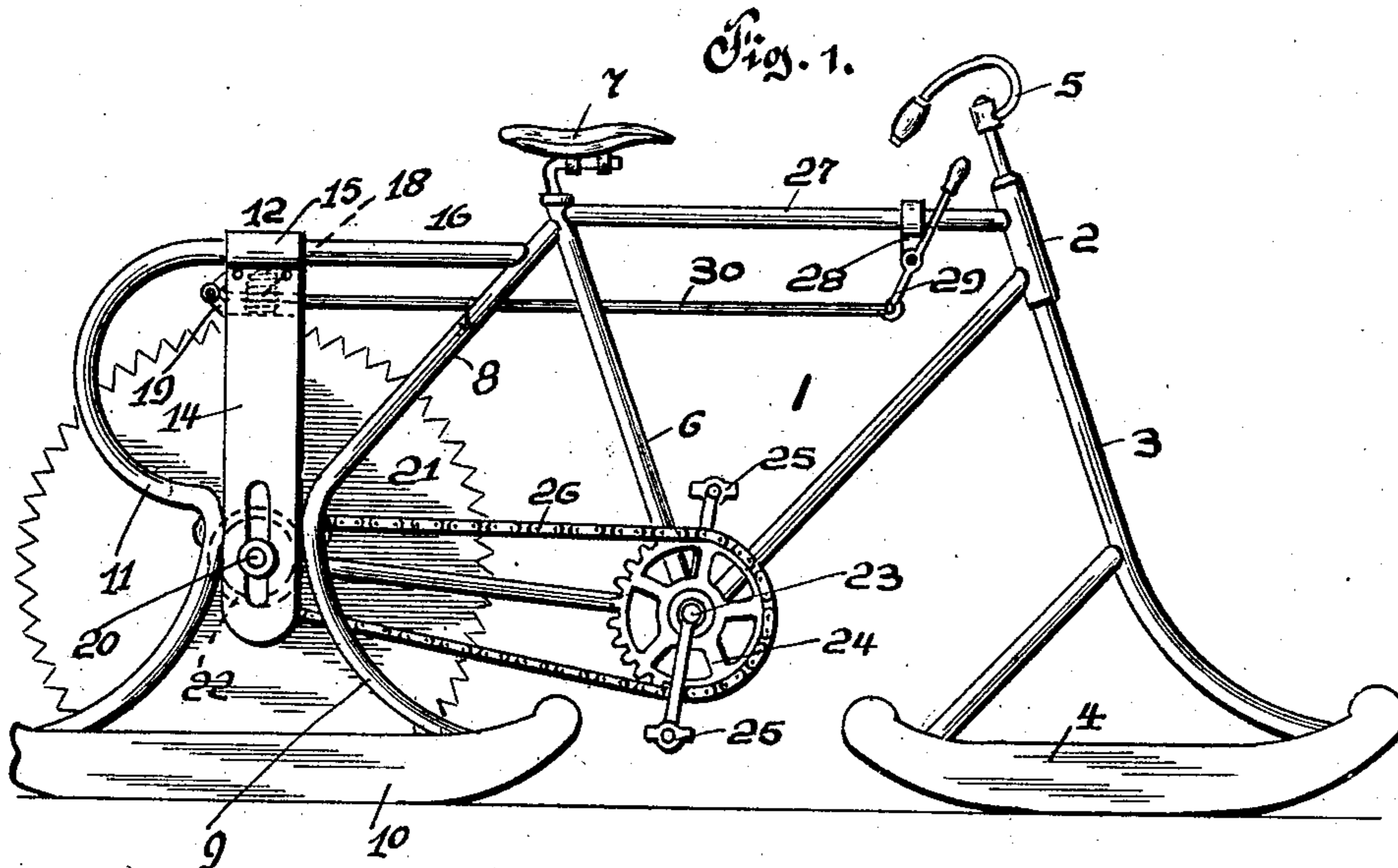


Fig. 2.

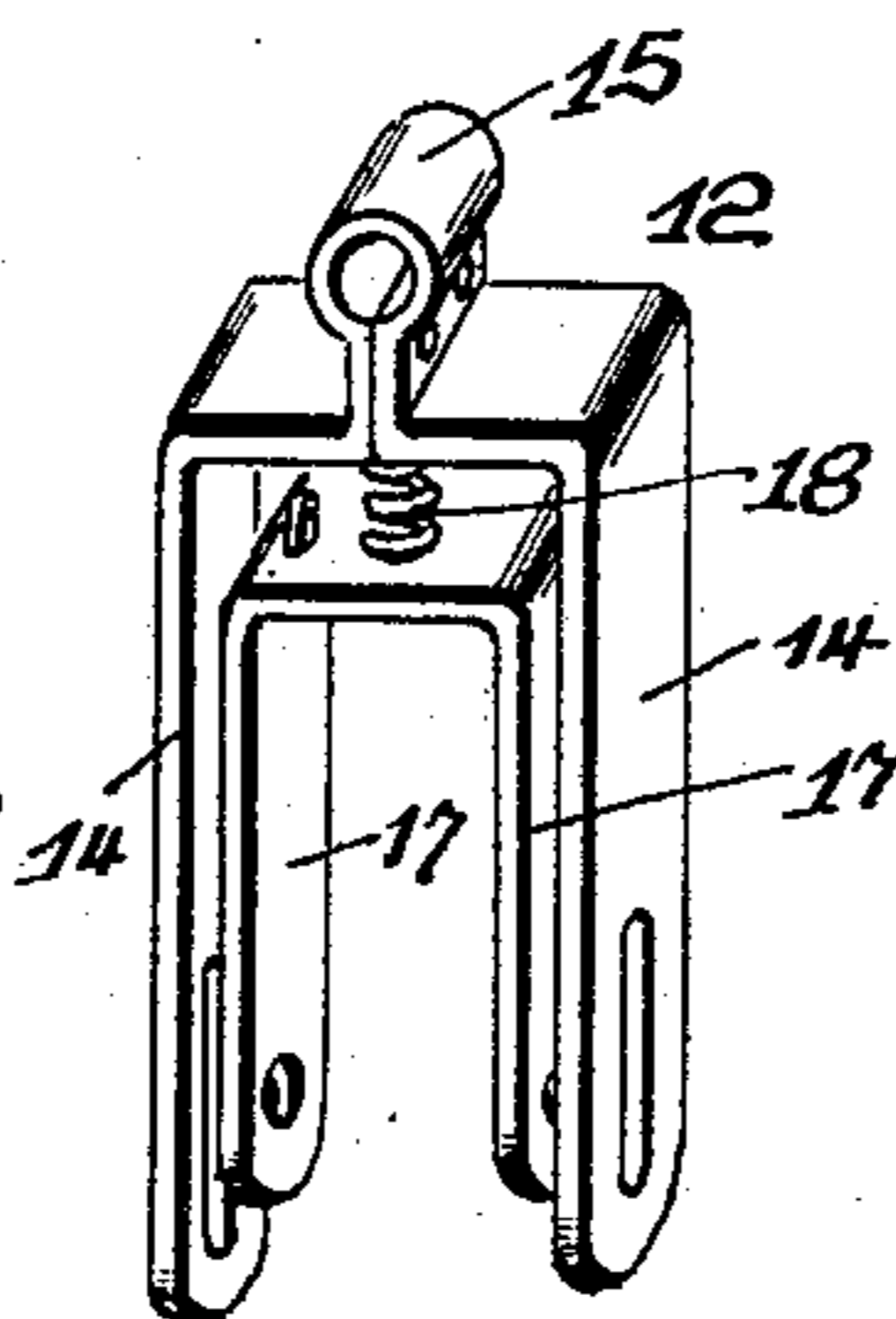


Fig. 3.

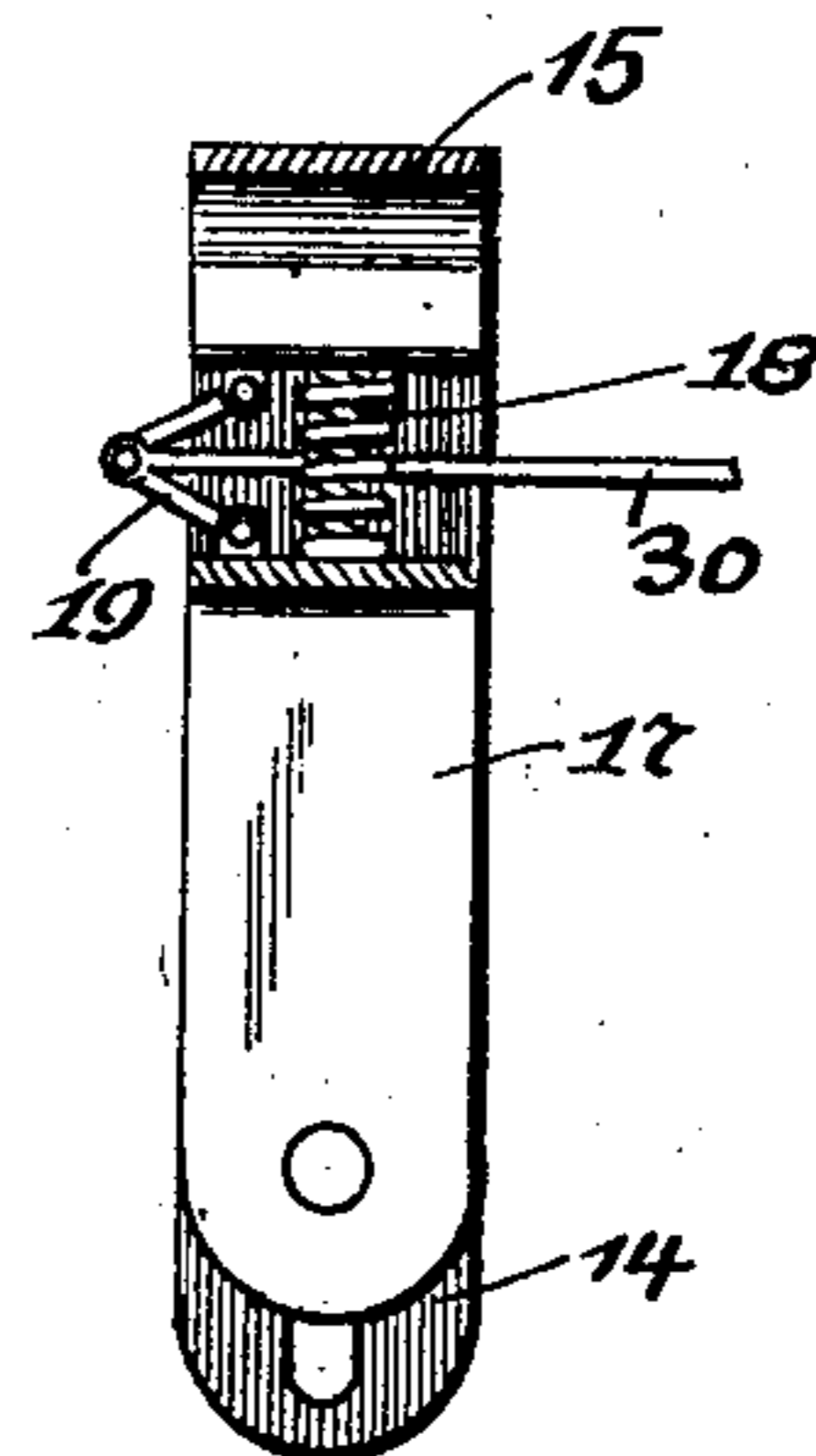


Fig. 4.

Witnesses:

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# UNITED STATES PATENT OFFICE.

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## ICE-CYCLE.

No. 828,130.

Specification of Letters Patent.

Patented Aug. 7, 1906.

Application filed January 22, 1906. Serial No. 297,389.

*To all whom it may concern:*

Be it known that I, FRANK W. LEHMAN, a citizen of the United States of America, residing at Wilmerding, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Ice-Cycles, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to certain new and useful improvements in ice-cycles; and the invention has for its primary object to provide a machine which can be easily and quickly propelled upon a frozen surface and  
15 steered or guided in any desired direction.

Another object of this invention is to provide a novel form of ice-cycle which can be propelled with considerable rapidity across a frozen surface, and in connection with the  
20 ice-cycle I employ novel means for slightly elevating the runners of the cycle or lowering the drive-wheel thereof when irregular surfaces are being passed over. To this end I have constructed a machine somewhat after  
25 the pattern of a bicycle, with the exception that the machine is provided with runners and a toothed or serrated wheel which is driven through the medium of a sprocket-chain, sprocket-wheels, and pedals.

30 The detail construction of my improved ice-cycle will be hereinafter more fully described, and then specifically pointed out in the claims, and referring to the drawings accompanying this application like numerals  
35 of reference designate corresponding parts throughout the several views, in which—

40 Figure 1 is a side elevation of my improved ice-cycle. Fig. 2 is a rear elevation. Fig. 3 is a detail perspective view of a wheel-supporting frame, and Fig. 4 is a vertical sectional view of the same.

To put my invention into practice, I employ a parallelogrammatic frame 1, preferably constructed of strong and durable tubing. The one corner of the frame is intersected by a forked sleeve 2, carrying a depending fork 3, to the lower bifurcated end of which is attached a runner 4, while the upper end of the fork is provided with a set of  
50 handle-bars 5 of a conventional form. The frame 1 is intersected by a bar 6, which carries a conventional form of saddle or seat 7. The angularly-disposed tubing which forms the rear fork 8 of the frame 1 extends downwardly and is bent forwardly, as at 9, and  
55 connected to runners 10 10. The rear fork

is provided with an auxiliary fork 11, which is also connected to the runners 10 10, and between the tubing of the forks 8 and 11 is supported a wheel-supporting frame 12, having depending slotted side arms 14 14. The upper end of the wheel-supporting frame is formed with a sleeve 15, which fits upon the horizontal portion 16 of the auxiliary fork 11.

Mounted in the wheel-supporting frame is  
65 a yoke 17, which is connected to the wheel-supporting frame by a coiled spring 18 and toggle-levers 19. Journaled in the lower ends of the yoke 17 is an axle 20, which protrudes through the slots of the arms 14 14 of  
70 the wheel-supporting frame. Upon the axle 20 is mounted a large toothed or serrated wheel 21 and a conventional form of sprocket-wheel 22.

At the base of the bar 6 is formed a housing  
75 in which a crank-axle 23 is journaled, carrying a conventional form of sprocket-wheel 24 and pedals 25 25. A sprocket-chain 26 passes over the wheel 24 and the sprocket-wheel 22 of the rear axle 20. This construction and manner of propelling the rear axle  
80 20 is similar to a conventional form of bicycle.

The cross-bar or tubing 27 of the frame 1 is provided with a depending boss 28, to which  
85 is pivotally connected a lever 29, the lower end of said lever being connected by a rod 30 to the joint of the toggle-lever 19, the object of which will presently appear.

In operation the ice-cycle is propelled and  
90 guided similar to a bicycle or velocipede; but when an irregular and rough surface is encountered I have devised novel means for either elevating the runners 10 10 or lowering the wheel 21. This is accomplished through  
95 the lever 29, rod 30, and toggle-levers 19 and the resiliently-mounted yoke 17, retained in the wheel-supporting frame. Should the runners 10 enter ruts or grooves, the wheel 21 may recede and still propel the ice-cycle over  
100 a frozen surface. Should the runners ride upon elevated surfaces, the wheel 21 may be lowered into engagement with the frozen surface between said surfaces by pulling upon the handle of the lever 29, which opens the  
105 toggle-levers 19 and forces the yoke 17 downwardly, carrying with it the wheel 21. Upon the lever being released the spring 18 is adapted to return the yoke to its normal position.

I preferably construct my improved ice-cycle of strong and durable tubing of a light

construction, while the drive-wheel and runners thereof are constructed of steel, which will withstand the rough usage to which they are subjected.

5 Such changes in the construction and operation of my improved ice-cycle as are permissible by the appended claims may be resorted to without departing from the spirit and scope of the invention.

10 What I claim, and desire to secure by Letters Patent, is—

1. An ice-cycle embodying a frame, a front fork carried by said frame, a rear fork carried by said frame, runners carried by said forks, 15 a seat carried by said frame, handle-bars carried by the front fork and adapted to move the runner thereof, a wheel-supporting frame carried by the rear fork, a yoke loosely mounted in said frame, a toothed wheel journaled in said yoke, means to revolve said 20 wheel, and means to raise and lower said wheel comprising toggle-levers between the said wheel-supporting frame, and said yoke,

means for opening said toggle-lever, and a spring for retaining said yoke, substantially 25 as described.

2. An ice-cycle embodying a frame, forks carried by said frame, runners carried by said forks, a seat carried by said frame, handle-bars carried by one of said forks and adapted 30 to move the runner thereof, a wheel-supporting frame carried by the other fork, a yoke loosely mounted within said frame, a toothed wheel journaled in said yoke, means to revolve said wheel, and means to adjust said 35 wheel comprising a spring and toggle-levers interposed between the wheel-supporting frame and the yoke, a lever fulcrumed on the main frame, and a rod connecting said lever and toggle-levers. 40

In testimony whereof I affix my signature in the presence of two witnesses.

FRANK W. LEHMAN.

Witnesses:

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