(No Model.)

A. & F. YOST.

UNICYCLE.

No. 481,883. Patented Aug. 30, 1892.

Fig. 1.

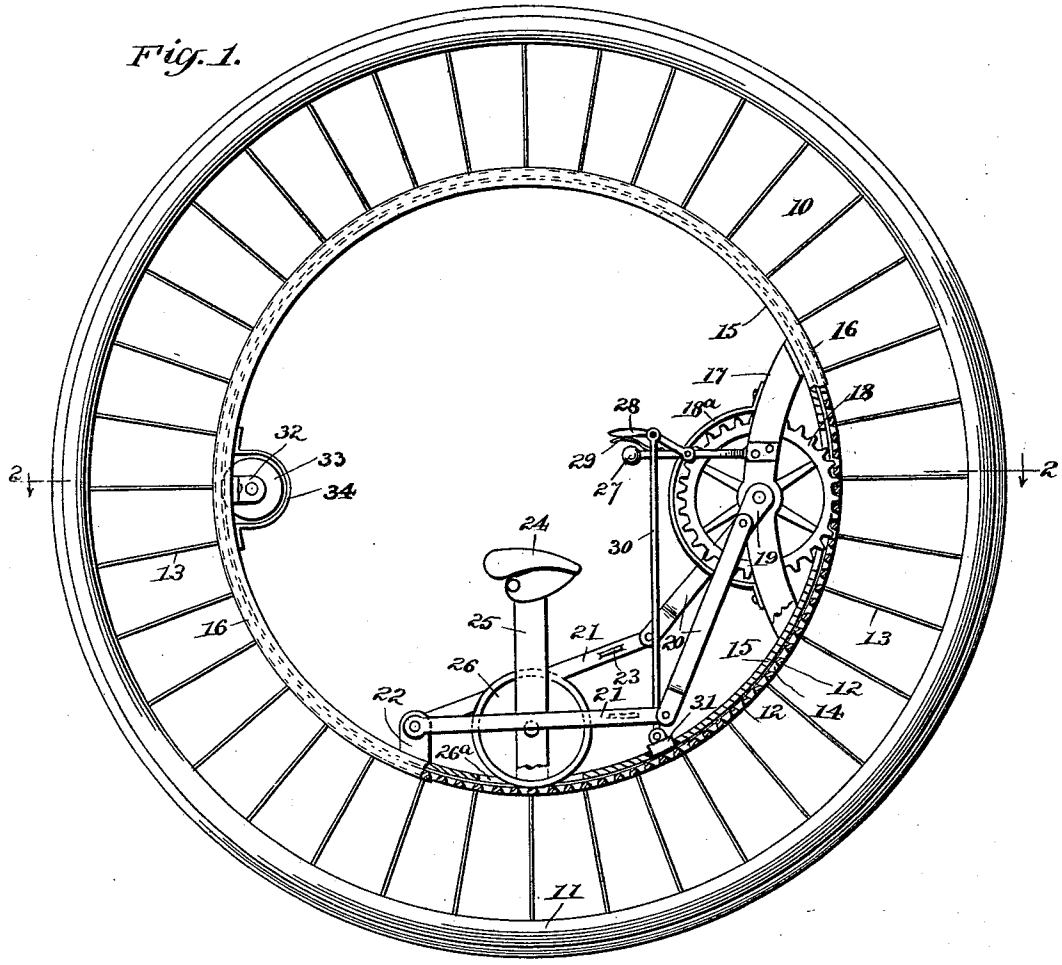
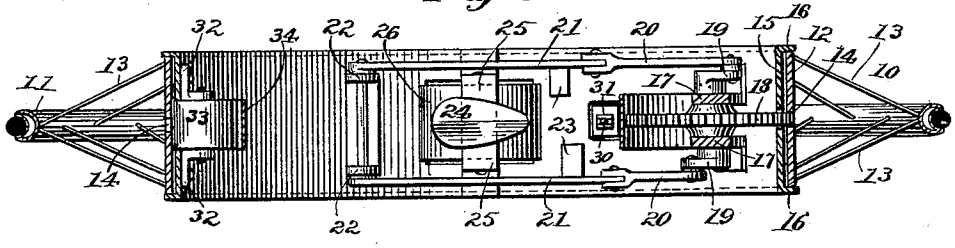


Fig. 2.



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ABRAHAM YOST AND FERNANDO YOST, OF NEW YORK, N. Y.

UNICYCLE.

SPECIFICATION forming part of Letters Patent No. 481,883, dated August 30, 1892.

Application filed September 4, 1891. Serial No. 404,709. (No model.)

To all whom it may concern:

Be it known that we, ABRAHAM YOST and FERNANDO YOST, of the city, county, and State of New York, have invented a new and Improved Unicycle, of which the following is a full, clear, and exact description.

Our invention relates to improvements in one-wheeled riding-machines; and its object is to produce a machine of the character described which is adapted to be driven by a rider sitting within the wheel, and which is provided with a very simple and efficient driving mechanism.

To this end our invention consists in certain features of construction and combinations of parts, which will be hereinafter described and claimed.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures of reference indicate corresponding parts in both the views.

Figure 1 is a side elevation, partly in section, of the machine embodying our invention; and Fig. 2 is a sectional plan on the line 2 2 of Fig. 1.

The machine is provided with a main wheel 10, the essential parts of which are the tire 11, an inside flat circular band 12, which is large enough to permit a rider to take a position inside of it and which is placed concentric with the tire, and the connecting-spokes 13, which extend from the edges of the band 12 to the inner side of the tire 11. The band 12 is provided centrally with teeth 14, which engage the teeth of a driving gear-wheel, as described hereinbelow, the teeth being formed by stamping holes in the band.

Within the band 12 is a somewhat similar band 15, which fits loosely against the band 12 and which is provided with flanges 16 on opposite sides, which flanges overlap the edges of the band 12 and hold the two bands in the correct relative positions. The inner band 15 is stationary, and on the inner side of the band and in the front portion of the machine is a light frame 17, in which is pivoted a gear-wheel 18, which projects through a slot in the inner band and engages the teeth 14 of the band 12.

The inner edge of the gear-wheel is protected by a guard 18^a, which is secured to the frame 17 and prevents the rider from coming into injurious contact with the gear-wheel. The shaft of the gear-wheel is provided with oppositely-arranged cranks 19, to which are pivoted toggle-levers 20, the levers extending downward and rearward in the machine, and the lower ends of these levers are pivoted to similar levers 21, which extend to the back portion of the wheel, where they are pivoted to lugs 22, fixed to the stationary band 15. The levers 21 are provided with pedals 23, adapted to support the feet of a rider, and by moving these pedals up and down the toggle-levers will be moved, the gear-wheel 18 revolved, and a rotary motion imparted to the main wheel 10.

We have shown the toggle-levers as being a convenient means for revolving the gear-wheel 18; but, if desired, the ordinary sprocket wheel and chain mechanism may be used for revolving the wheel.

A seat 24 is arranged above the levers 21 and at a convenient height, the seat being secured to a frame 25, which extends downward between the levers and is secured to the inner band 15. An antifriction roller 26 is pivoted in the frame 25, and projects downward through a slot 26^a in the inner band 15, so as to bear upon the band 12, and this roller will consequently support the entire weight of the inner band, the mechanism carried by the band, and the rider.

The machine is provided with a common form of handle-bar 27, which is secured to the frame 17, and on the upper side of this handle-bar is pivoted a lever 28, which is normally pressed upward by a spring 29 and which is pivoted to a depending rod 30, having pivoted to its lower end a brake-shoe 31, which shoe works in a slot in the inner band 15 and is adapted to press against the band 12. The pressure of the spring 29 normally holds the shoe out of contact with the band 12; but by pressing downward on the lever 28 the shoe is forced against the band 12 and the machine is stopped.

Pivoted in lugs 32 on the rear portion of the inner band 15 is a friction-roller 33, which projects through a slot in the band 15 and presses against the band 12, and the object of this roller is to hold the band 15 well forward, so that the gear-wheel 18 will always be in close contact with the teeth 14 of the band

12. The friction-roller 33 is covered by a guard 34 to prevent the rider from coming in contact with it.

It will be understood that any common form of gearing may be used for imparting a rapid motion to the gear-wheel 18, as the movement of the main wheel 10 will be necessarily slower than the gear-wheel, and it is therefore necessary to drive the gear-wheel very rapidly.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A unicycle comprising a main wheel having an inner band with teeth therein, a stationary band mounted within the toothed band and having side flanges to overlap the latter, a gear-wheel journaled in a framework secured to the stationary band and projecting through a slot in the said band so as to engage the teeth in the toothed band, a seat supported on the stationary band, handle-bars secured to the framework in front of the seat, and a pedal mechanism for driving the gear-wheel, substantially as described.

2. A unicycle comprising a main wheel having an inner toothed band, a stationary band mounted within the toothed band and having overlapping side flanges, a gear-wheel journaled in a suitable frame work supported by the stationary band and extending through a slot to engage the teeth of the toothed wheel, a frame supported on antifriction rollers held to contact with the toothed band, a seat carried by the frame, and handle-bars supported in front of the seat, substantially as described.

3. In a unicycle of the character described, the combination of the main wheel having an inner band, a stationary band adapted to ride upon the revolving band, a brake-shoe projecting through the stationary band and adapted to impinge upon the revolving band, and a lever mechanism for operating the shoe, substantially as shown and described.

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