Dec. 13, 1927. 1,652,284

G. N. MADSEN

VELOCIPEDE

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Fig. 2.

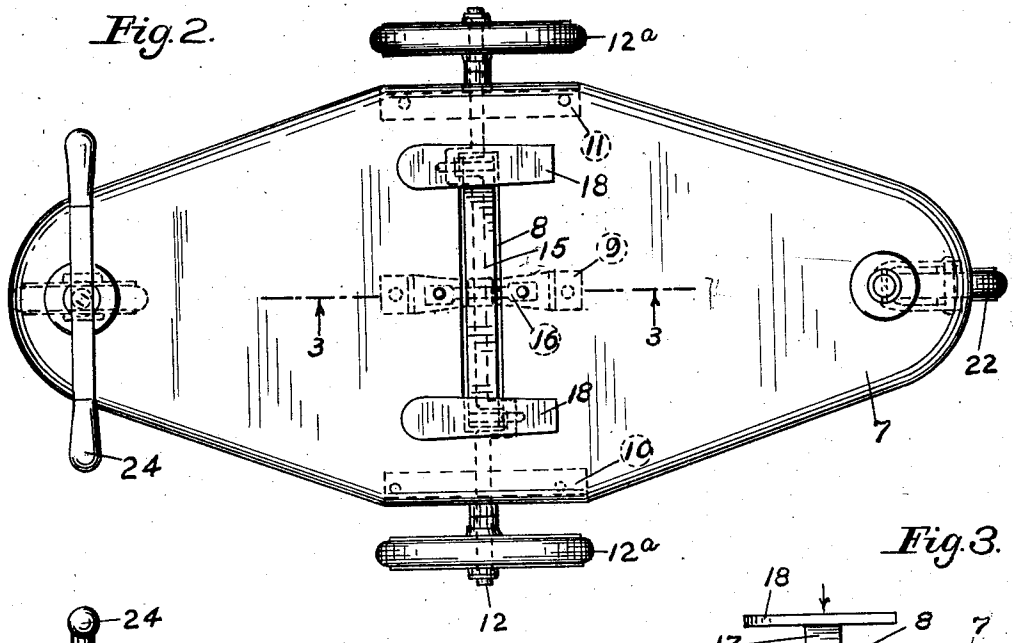


Fig. 3.

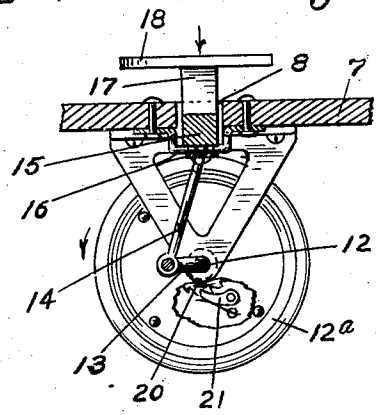


Fig. 1.

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Fig. 4.

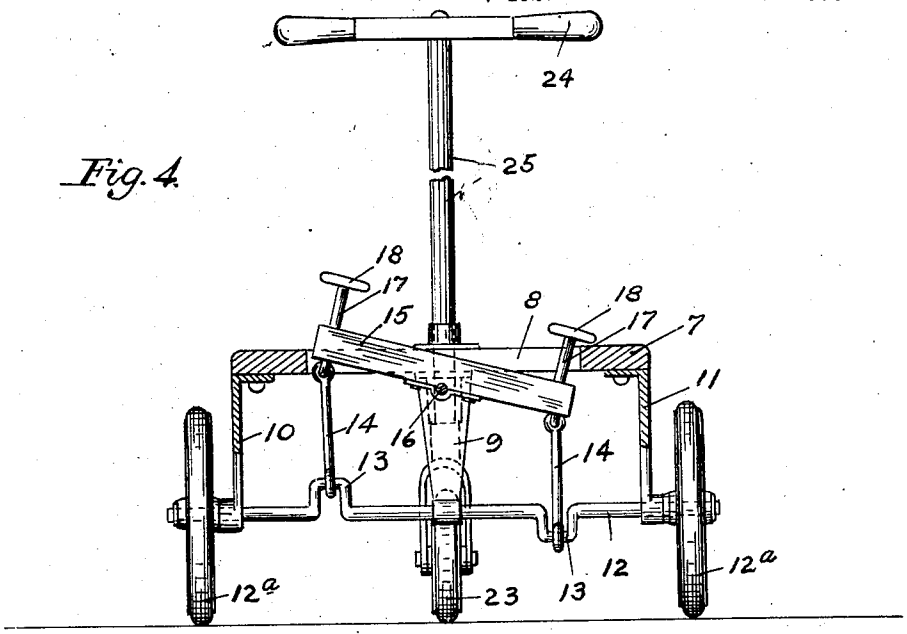


Fig. 5.

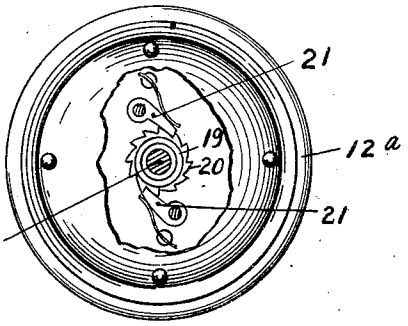
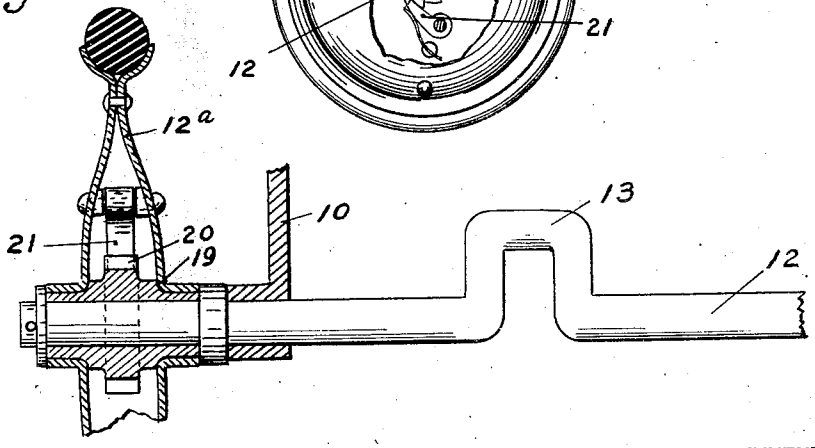


Fig 6.



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UNITED STATES PATENT OFFICE.

GUSTAV N. MADSEN, OF MINNEAPOLIS, MINNESOTA.

VELOCIPEDE.

Application filed February 26, 1927. Serial No. 171,172.

This invention relates to velocipedes and the primary object is to provide a novel and improved form of velocipede, which is propelled by the operator, by a side-ways swaying movement of the body, or by alternately raising and lowering of the feet, and which is steered by the hands of the operator, who assumes a standing position on the vehicle when the same is in motion. Further and more specific objects will be disclosed in the course of the following specification, reference being had to the accompanying drawings, wherein:

Fig. 1 is a side elevation of the velocipede.

Fig. 2 is a top or plan view of the device.

Fig. 3 is a sectional detail view on the line 3—3 in Fig. 2.

Fig. 4 is a cross sectional elevation, substantially as on the line 4—4 in Fig. 1.

Fig. 5 is an enlarged detail view of one of the driving wheels, a fractional portion being broken away.

Fig. 6 is an enlarged sectional detail elevation, transversely through one of the power wheels and a supporting bracket, the crank shaft being shown in full.

Referring to the drawings more particularly and by reference characters 7 designates an elongated base or platform, having a transverse slot 8 across its middle portion. Depending from the platform are three (or more) brackets 9, 10 and 11, in which is journalled a transversely arranged shaft 12 having opposed cranks 13. These cranks are respectively connected, by connecting rods or links 14, to the opposite ends of a rocker beam 15, which is pivotally carried by a bracket 16, so as to rock, in a transverse plane, in the slot 8. The beam 15 is provided with a pair of short standards 17 upon which are carried the pedals or foot members 18. The connecting rods 14 are loosely enough connected, at their ends, to prevent binding with the cranks 13. It will thus be seen that as the operator either sways his body side ways or else alternately treads the pedals 18, he will oscillate the beam 15 and rotate the crank shaft 12.

It may here be noted that as the brackets 9 and 16, which span the slot 8, are secured at both ends they will effectively strengthen and render rigid the platform 7, where it would otherwise be considerably weakened by reason of the long slot 8.

The ends of the shaft 12 are provided with ratchet driven ground wheels 12^a, as shown particularly in Figs. 3, 5 and 6. The construction shown requires that the shaft be provided with a hub 19 having an integral ratchet pinion 20. The wheel, in the present instance, is of the hollow disc type having spring held pawls 21 for engagement with the pinion. This arrangement permits the wheels to travel faster than the shaft 12, when the driver wishes to rest temporarily, and also allows one wheel to travel faster than the other, as when making a turn.

The rear end of the platform 7 is provided with a caster acting wheel 22, for trailing contact with the floor or sidewalk, and the front end of the platform is provided with a steering wheel 23, which is steered by the operator whose hands engage the handles 24 of the column 25.

It is understood that suitable modifications may be made in the general design and structural details of the invention as herein shown, provided, however, that said modifications come within the spirit and scope of the appended claims.

Having now therefore fully shown and described my invention, what I claim to be new and desire to protect by Letters Patent is:

1. A velocipede comprising a suitable platform having a steering wheel at its front end, and a caster wheel supporting the rear end, a pair of intermediate, laterally arranged drive wheels, connected by a crank shaft, a foot operated beam, arranged to rock in a transverse vertical plane, and having connections with the cranks of the shaft for rotating the same.

2. A velocipede comprising a suitable platform having a steering wheel at its front end, and a caster wheel supporting the rear end, a pair of intermediate, laterally arranged drive wheels, a beam mounted for rocking movement in a plane transverse to the velocipede, and having connections with said drive wheels for rotating the same.

3. A velocipede comprising a suitable platform having a steering wheel at its front end, and a caster wheel supporting the rear end, a pair of intermediate, laterally arranged drive wheels, a beam mounted for rocking movement in a plane transverse to the velocipede, and having connections with said drive wheels for rotating the same, and foot supporting devices carried by said beam.

4. A velocipede comprising a suitable platform having a steering wheel at its front

end, and a caster wheel supporting the rear end, a pair of intermediate, laterally arranged drive wheels, a beam mounted for rocking movement in a plane transverse to the velocipede, and having connections with said drive wheels for rotating the same, said connections being so formed as to permit either drive wheel to rotate faster than the other.

5. A velocipede comprising a platform having a transversely arranged slot therein, a manually operable beam tiltably mounted in said slot, laterally arranged drive wheels operatively connected with the beam, a caster wheel supporting the rear end of the platform, and steering means at the front end of the platform.

6. A velocipede having a steering device at its forward end and a caster wheel supporting its rear end, a pair of laterally spaced drive wheels supporting the sides of the velocipede, a rocker beam tiltably mounted to the platform for oscillating movement in a transverse plane, and for manual manipulation, and drive connections between said drive wheels and beam.

7. A velocipede comprising a platform having a transversely arranged slot therein, a manually operable beam tiltably mounted in said slot, alterally arranged drive wheels supporting the platform and operatively connected with said beam, a bracket, serving as a fulcrum for said beam, and secured to the platform at opposite sides of the slot, so as to serve as a brace, and means for steering the velocipede.

8. A velocipede comprising a platform having a transversely arranged slot therein, a manually operable beam tiltably mounted in said slot, laterally arranged drive wheels supporting the platform and operatively connected with said beam, and steering means at the forward end of the platform, said drive wheels being ratchet driven whereby one may rotate faster than the other.

9. A velocipede comprising a suitable platform having a transverse slot therein, a crank shaft journaled under the platform and parallel with the slot, a journal bearing for said shaft consisting of a bracket which is secured to the platform at opposite sides of the slot so as to serve as a brace, wheels carried by the ends of the shaft so as to be driven thereby, a manually operated beam tiltably mounted in said slot, connecting rods between said beam and the cranks of the crank shaft, and means for steering and holding the platform in a horizontal position.

In testimony whereof I affix my signature.

GUSTAV N. MADSEN.