

No. 673,861.

Patented May 14, 1901.

J. B. CUMMINGS.

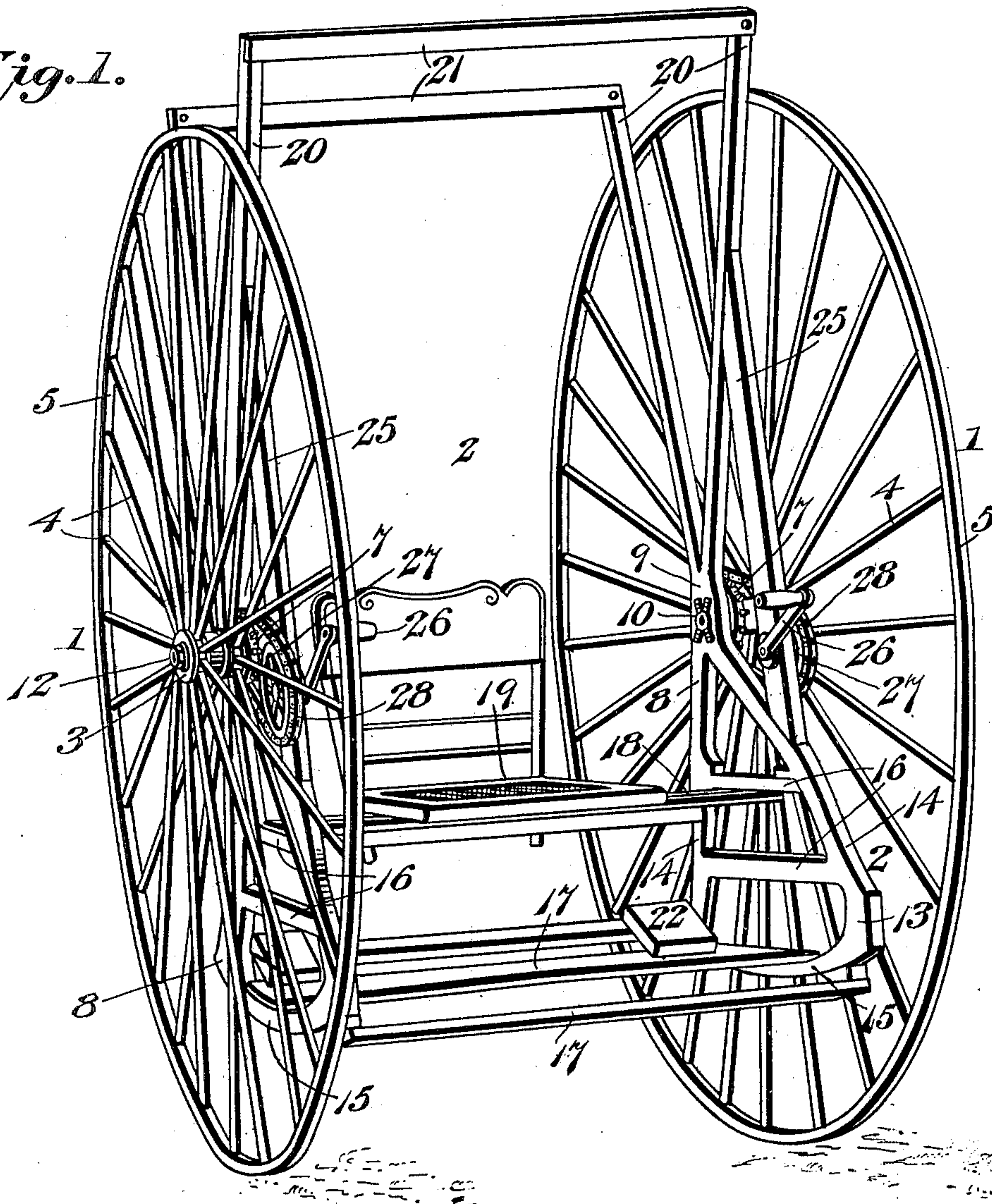
MECHANICALLY PROPELLED VEHICLE.

(Application filed Aug. 16, 1900.)

(No Model.)

2 Sheets—Sheet 1.

*Fig. 1.*



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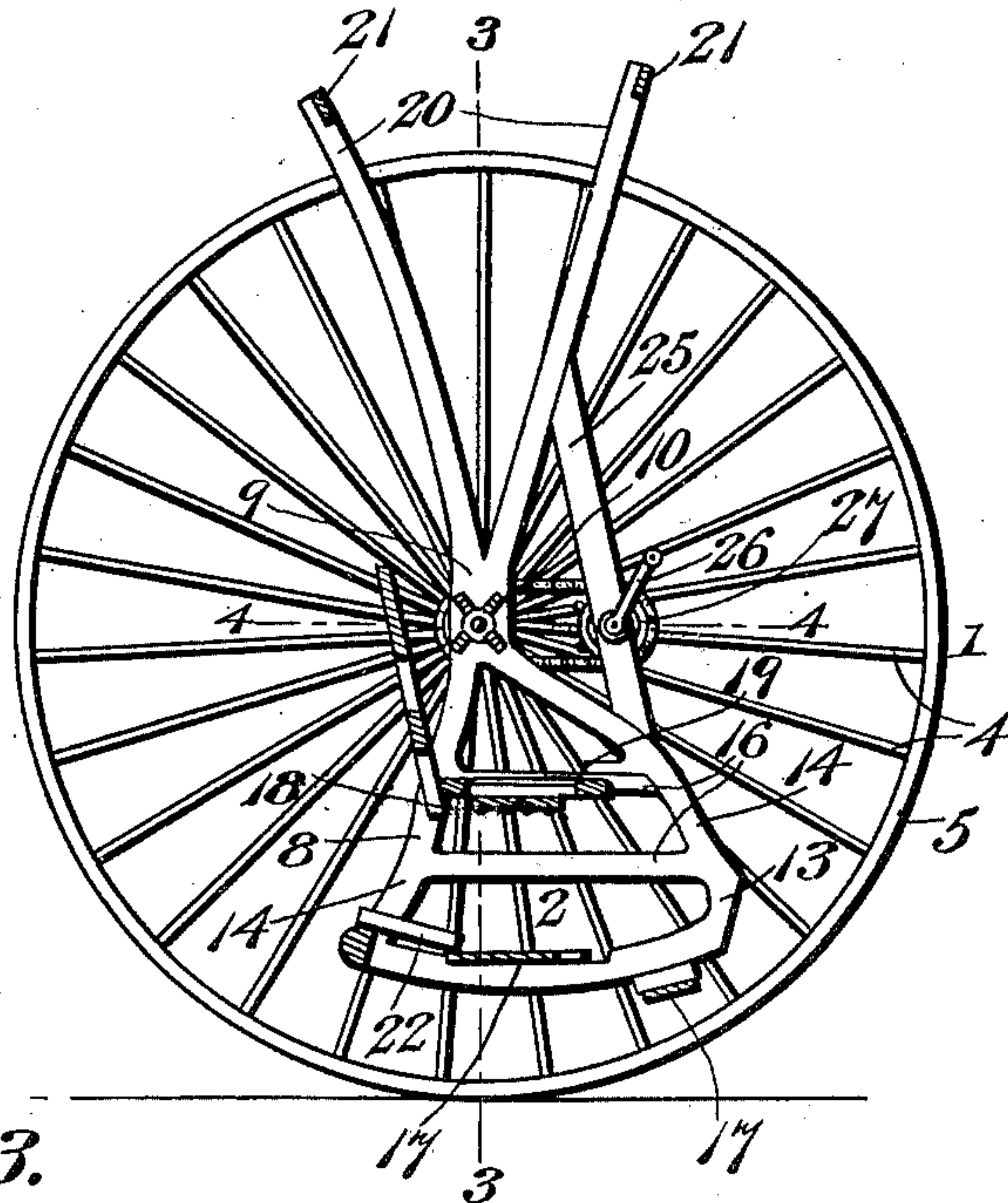
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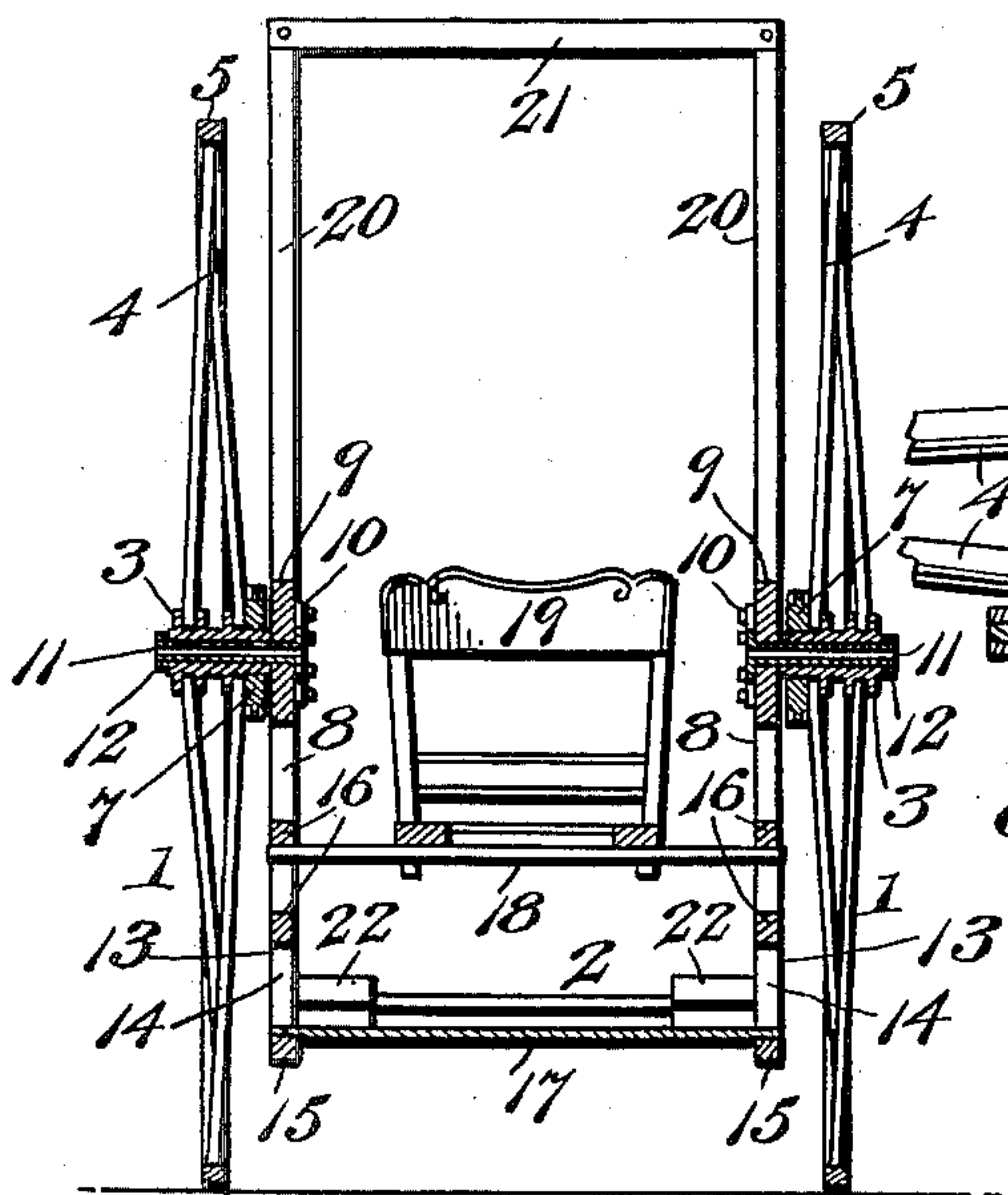
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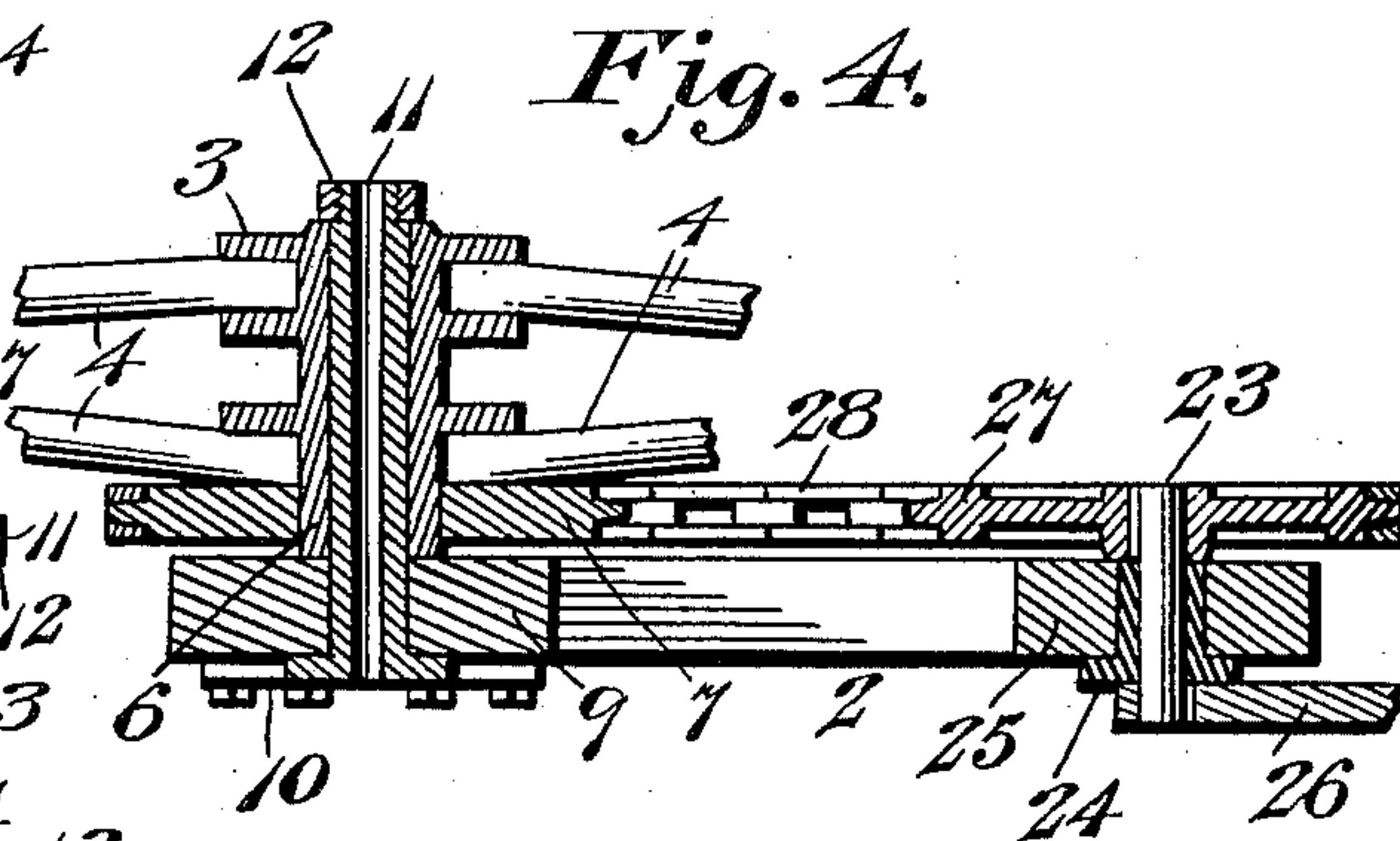
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

JUSTELLE B. CUMMINGS, OF FALMOUTH, MAINE.

## MECHANICALLY-PROPELLED VEHICLE.

SPECIFICATION forming part of Letters Patent No. 673,861, dated May 14, 1901.

Application filed August 16, 1900. Serial No. 27,098. (No model.)

*To all whom it may concern:*

Be it known that I, JUSTELLE B. CUMMINGS, a citizen of the United States, residing at Falmouth, in the county of Cumberland and State of Maine, have invented a new and useful Mechanically-Propelled Vehicle, of which the following is a specification.

This invention relates to mechanically-propelled vehicles, especially of the velocipede type, in which a pair of oppositely-located wheels are employed in connection with the seat and mechanism carrying frame suspended between said wheels.

The principal object of the present invention is to provide in connection with a pair of carrying-wheels a frame which is pivotally suspended between the wheels and provided with a hanger portion below the axis of the wheels for the support of the rider's seat and an extension above the axis of the wheels, comprising upwardly-divergent extensions, which are arranged at opposite sides of the vertical plane of the pivotal support of the frame and which extend beyond the circumferential plane of the wheel-rims to form duplicate supports.

With these and other objects in view, which will more readily appear as the nature of the invention is better understood, the same consists in the novel construction, combination, and arrangement of parts hereinafter more fully described, illustrated, and claimed.

The essential features of the invention are necessarily susceptible to some modification without departing from the spirit or scope thereof; but the preferred embodiment of the improvements is shown in the accompanying drawings, in which—

Figure 1 is a perspective view of a mechanically-propelled vehicle or hand-carriage constructed in accordance with the present invention. Fig. 2 is a vertical sectional view of the vehicle. Fig. 3 is a vertical transverse sectional view on the line 3 3 of Fig. 2. Fig. 4 is a detail sectional view on the line 4 4 of Fig. 2.

In its general organization the invention comprises a pair of large oppositely-arranged supporting-wheels 1 1 and a seat and mechanism carrying frame 2, loosely suspended between and supported by the said pair of wheels 1 1 and not only carrying the seat for

the rider, but also the driving mechanism for propelling the vehicle. The said oppositely-located supporting-wheels 1 1 are necessarily of the same size, but are sufficiently large to provide for holding the carrying-frame 2 in an elevated position above the ground, while also permitting of a rapid propulsion of the vehicle with but a slight exertion or movement on the part of the rider within the carrying-frame. The said wheels are of any approved type, but are preferably of a light formation, each essentially consisting of a double hub 3, the spokes 4, arranged in staggered relation with reference to the hub, and the rim 5, to which the outer ends of the spokes are fitted. To provide for carrying out the present invention the hub 3 of each supporting-wheel 1 is provided with an inner extension 6, upon which is made fast a sprocket-wheel 7, which provides means, in connection with the gearing hereinafter described, for positively driving each of the supporting-wheels.

The carrying-frame, which is loosely suspended from the wheels in the space therebetween, essentially consists of the opposite parallel side frame members 8, which are respectively arranged at the inner sides of the oppositely-located wheels 1 and are connected together by suitable cross-pieces to constitute a complete open or skeleton framework, which provides for the support of the rider as well as of the driving mechanism to propel the vehicle. The said opposite parallel side frame members 8 of the carrying-frame are provided at an intermediate point between the extreme upper and lower ends thereof with spindle-supporting portions 9, in which are rigidly fitted, by means of the fastening-spiders 10 or equivalent fastening means, the inner ends of the stationary outwardly-projecting tubular or hollow axle-spindles 11, upon which the hubs 3 of the supporting-spindles are journaled, said hubs being conveniently held detachably upon said spindles through the medium of the axle-nuts 12, fitting on the outer threaded extremities of the spindles and bearing against the outer sides of the wheel-hubs. By reason of the employment of tubular or hollow axle-spindles for the supporting-wheels an air-chamber is provided through the entire length of



said spindles to insure the cooling thereof, and thus prevent overheating of the journals for the wheels.

Referring again to the specific construction of the carrying-frame, the opposite parallel side frame members 8 are each formed below the plane of their pivotal supports with an approximately triangular hanger-section 13, essentially consisting of the downwardly-divergent inclined legs 14, a lower side bar 15, and a plurality of intermediate cross-struts 16, connecting the legs 14 above the plane of the said lower side bar 15. The lower side bars 15 of the pendent hanger-sections 13 of the oppositely-located frame members 8 are connected by a plurality of platform-slats 17, constituting a complete platform or foot-rest for the rider, and certain of the intermediate cross-struts 16 of the oppositely-located pendent hanger-sections 13 have secured thereto the opposite ends of the transversely-arranged seat-support 18, preferably in the form of a bar and designed to have mounted thereon centrally between the sides of the frame a suitable seat 19 for the rider.

Each of the side frame members 8 is provided with upwardly-divergent arms 20, and the said arms of the opposite frame members are connected at their upper extremities by cross-bars 21 to form complete upper frame extensions, thus providing the carrying-frame with what may be termed "a pair of upwardly-divergent top-frame extensions." These extensions serve to brace the sides of the frame at points above the pivotal connection with the wheels, and at the same time by extending said upper frames beyond the wheel-rims or above the tops to the wheels the cross-bars 21 form an admirable support for a canopy, which may be detachably connected with the cross-bars, so that it may be removed when not needed. The cross-bars 21 also form rests for supporting a vehicle when inverted or turned upside down for the purpose of oiling the operative parts of the vehicle or for adjusting the bearings and other members.

Various mechanical expedients may be resorted to for propelling the vehicle; but the preferred means are shown in the drawings, and include the journaling of crank-axles 23

in the bearing sleeves or boxes 24, fitted in front braces 25, which are fitted to the front steadying-arms 20 of the carrying-frame and the front leg portions 14 of the pendent hanger-sections 13. The said crank-axles 23 have fitted to their inner ends the crank-handles 26, while the outer ends of said axles have mounted thereon the driving gears or sprockets 27, over which pass the driving-chains 28, which also engage with the sprockets 7 upon the inner hub extensions 6. It will thus be seen that there is a crank-handle 26 located at each side of the driver's seat 19, so that both hands may be employed to provide for positively transmitting motion to each supporting-wheel, and thus propelling the vehicle.

Having thus described the invention, what is claimed as new, and desired to be secured by Letters Patent, is—

1. In a vehicle of the class described, the combination with the oppositely-located wheels, of the carrying-frame pivotally suspended between said wheels, and provided below its point of support with a hanger portion and above said point of support with an extension having cross-bars parallel to each other and the axis of the wheels and disposed respectively at opposite sides of the vertical plane of the pivot, and extended beyond the rims of the wheel, substantially as set forth.

2. In a vehicle of the class described, the combination with the oppositely-located wheels, of a carrying-frame loosely supported from and between said wheels, said frame being provided below its point of pivotal support with a hanger portion carrying the seat, and above its pivotal support with oppositely-arranged pairs of upwardly-divergent top extensions, disposed respectively at opposite sides of the vertical plane of the pivotal support and extending beyond the wheel-rims, substantially as set forth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JUSTELLE B. CUMMINGS.

Witnesses:

EDWARD M. RAND,  
RICHARD WEBB.