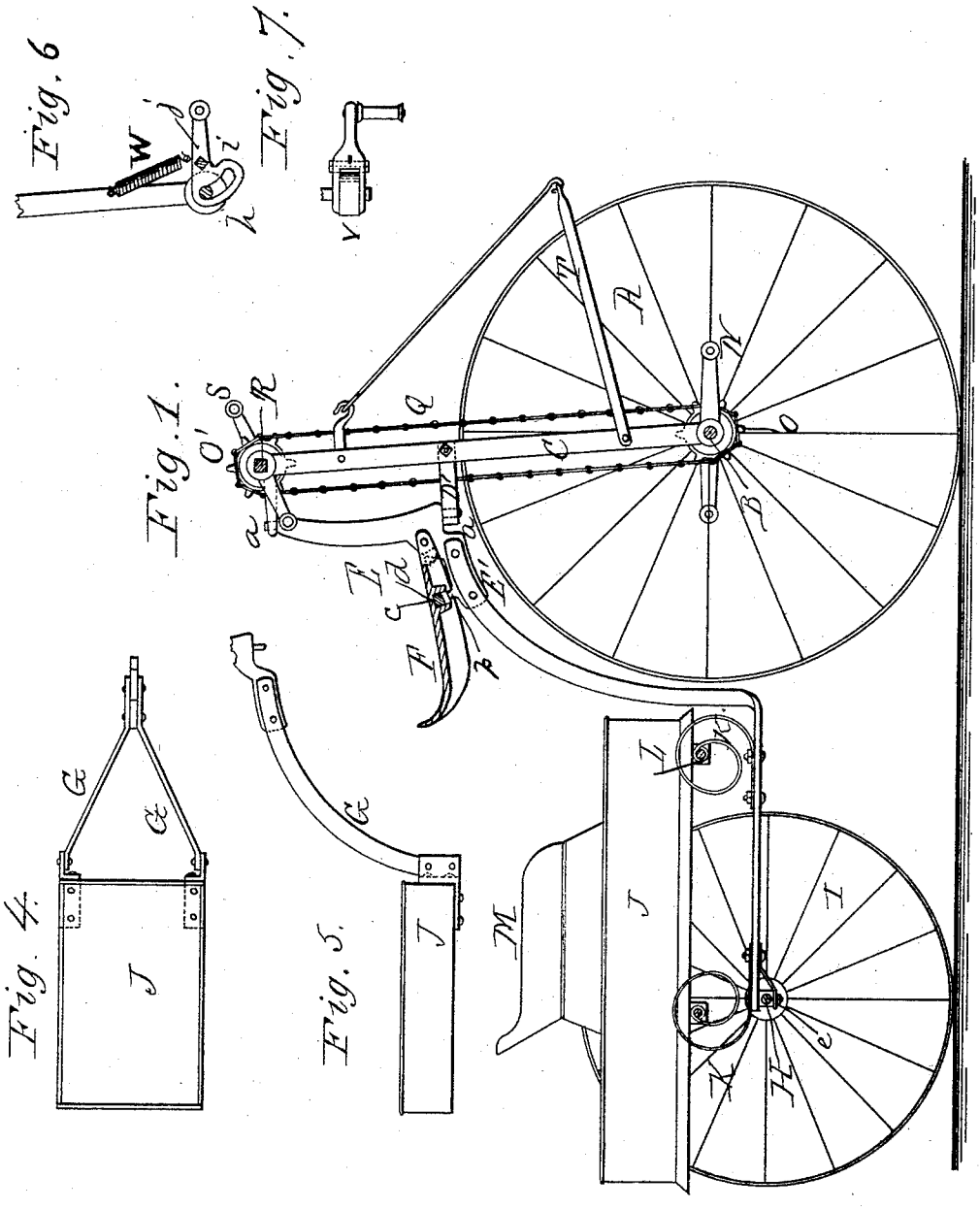
(No Model.) 2 Sheets—Sheet 1.

H. LA CASSE.

VELOCIPEDE.

No. 327,979. Patented Oct. 6, 1885.



Witnesses:
C. H. Durand.
G. S. Elliott

Inventor:
Henry La Casse
by Alexander Milburn
Attorney

N. PETERS, Photo-Lithographer, Washington, D. C.

(No Model.) 2 Sheets—Sheet 2.

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Fig. 3.

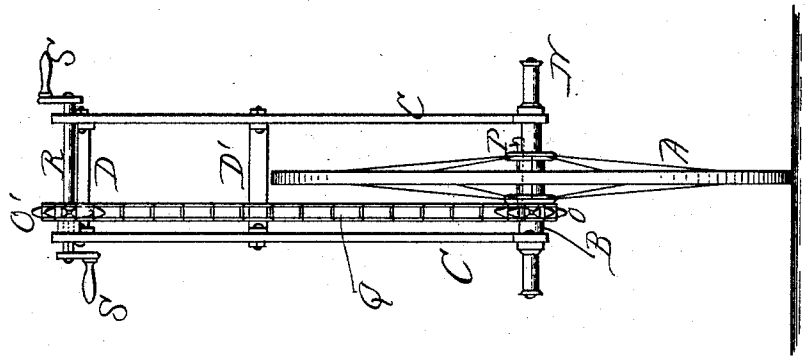
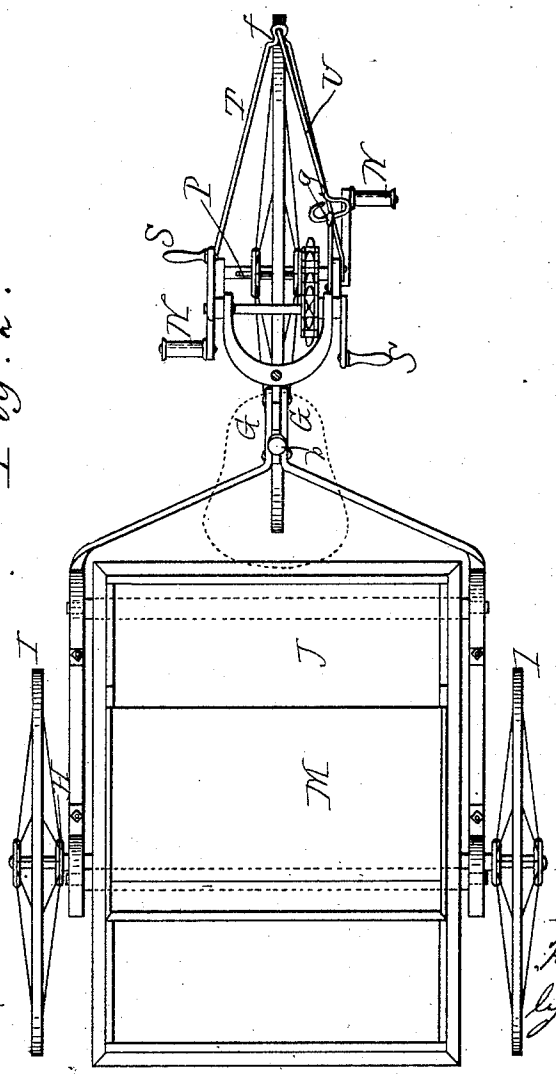


Fig. 2.



Witnesses:
C. H. Durand
G. S. Elliott

Inventor:
Henry La Casse
by Atty Mahon
attorney

N. PETERS. Photo-Lithographer. Washington, D. C

UNITED STATES PATENT OFFICE.

HENRY LACASSE, OF AUBURN, NEW YORK.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 327,979, dated October 6, 1885.

Application filed January 13, 1885. Serial No. 152,765. (No model.)

To all whom it may concern:

Be it known that I, HENRY LACASSE, of Auburn, county of Cayuga, State of New York, have invented new and useful Improvements in Velocipedes or V-shaped Wagons, of which the following is a full and exact description, reference being had to the accompanying drawings, making part of this specification.

My invention relates to velocipedes having a box-body forming a part thereof, and has for its object to simplify the construction and cheapen the production of the machine, and to render the same capable of being propelled by foot-power, by hand-power, or by both foot and hand power, and also to provide means for pulling or drawing the machine by power applied in front of the same; and to these ends it consists in the construction and also in the combination of parts, hereinafter particularly described and specified, reference being had to the accompanying drawings, forming a part thereof, and in which—

Figure 1 is a side elevation of the machine; Fig. 2, a plan view thereof; Fig. 3, a front elevation; Figs. 4 and 5, a plan and side elevation, respectively, of a modification in the manner of securing the backbone and body together; and Figs. 6 and 7, a side and plan of a modification in the means for transmitting motion from the pedals to the drive-wheel shaft.

In the accompanying drawings, the letter A designates the front driving or propelling wheel, to the axle B of which there are secured the lower ends of the two upright bars C, constituting the driving-wheel frame, and which are connected together near their upper ends by a cross or tie brace, D, extending backwardly from the bars, and at a point near to the periphery of the wheel by a similarly constructed and applied brace, D'. These brace-rods are formed with openings or perforations to receive the pivots *a* of the saddle-bar E, so as to permit the propelling-wheel and the bars C to be turned about said saddle-bar. This bar has a rear extension, E', formed with an upwardly-extending pin, *b*, and to it is pivoted the forward end of a saddle, F, which is formed with a socket, *c*, on its under side, in which is fitted a rubber or other elastic cushion, *d*, which will strike against the end of pin *b* when the seat is depressed by the weight of the rider, and thus cushion the seat. The socket fitting over the pin also braces the saddle against side pressure and relieves its connection with the bar from injurious strain.

To the sides of the rear extension of the saddle-bar there are riveted or otherwise secured the upper ends of the two bars G, which will be termed the "backbone" of the velocipede, these bars extending downwardly and diverging from the saddle-bar, as shown in Figs. 2 and 4, and then extending rearwardly and horizontally in parallel lines, as shown in the same figures. Under the construction shown in Figs. 1 and 2 these bars are bent so as to present a flat upper surface and extend as far back as the axle H of the wheels I, to which these are secured outside of the body J by bolts and brace-rods *e*, as shown. The body J is secured at both its front and rear to the horizontal portion of the bars G by suitable springs, K, secured at one end to a cross-bar, L, under the body, and at the other end to the bars G by nuts and bolts, as illustrated.

Instead of extending the bars G to the rear axle, as shown in Figs. 1 and 2, they may terminate in front of the body J, as shown in Figs. 4 and 5, and be secured to said body by means of angle-plates attached to the corners of the body, to which plates the bars will be fastened by bolts or rivets. The body in such case may be secured to the rear axle by springs, in a similar manner to that illustrated in Fig. 1, and the front springs dispensed with; or it may be secured in any other way that may be suitable. The body may also be provided with a seat, M, affixed thereon in a suitable balancing position.

The velocipede is propelled by means of pedals N, secured to the axle of the front driving-wheel. In order, however, to provide for it being propelled by additional power, I fit loosely to the driving-wheel axle, inside of the bars C and next to the hub of said wheel, a sprocket-wheel, O, which will have a key-seat formed in it, to receive a movable key or spline, P, which passes through the drive-wheel hub

and can be pushed into the seat in the sprocket-wheel, so as to lock the same to the drive-wheel on its shaft, when desired, and cause the same to turn with said shaft. From this sprocket-wheel a sprocket-chain, Q, extends up to and around another sprocket-wheel, O′, secured rigidly to the shouldered end of shaft R, which passes through the bars C at their upper ends, and has crank-handles S secured thereto. Now, when it is desired to use hand-power instead of foot-power, or in addition thereto, to propel the velocipede, it is only necessary to push the spline P into its seat in the wheel O, and then by turning the shaft R motion will be transmitted therefrom through the sprocket-chain to the drive-wheel. It will thus be seen that the handles S, which serve to guide the velocipede, can also be brought into use to propel the machine.

To further provide for propelling the machine, I secure a rod, T, at opposite ends to the bars C, either by pivoting the same thereto or securing it by bolts, so as not to turn, or by bending the ends around the drive-wheel shaft next to the wheel, the said rod extending forward of the driving-wheel, and at such point formed with an eye, *f*, to receive the hooked end of a draft rod or tongue, U, which may be formed with an eye at the other end, to engage with a hook, *g*, secured to one of the bars C, so as to hold up said draft-pole when not in use. When desirable or necessary, the velocipede may be drawn by power applied at the end of said draft-pole.

Instead of the ordinary crank or pedal, (shown in Fig. 1,) disks V, with smooth peripheries, may be rigidly secured to the end of the drive-wheel shaft, and the pedals N formed with a bifurcated end, constituting ears *h*, in which will be formed elongated curved slots or journal-bearings *i* for the ends of the drive-wheel shaft to fit in. The pedals will also be formed with angular pawl or iron *j*, applied at the base of the bifurcated end, so as to be brought against the periphery of the disk V when depressed, and thus by frictional contact revolve said disk and its drive-wheel shaft.

A suitable spring, W, will have one end secured to the pedal and the other to the upright bar C, so as to retract the pedal after it has been depressed. The construction of pedal just described is simple and strong, and makes the pedal easy to work, and in its working is attended by no noise.

It is obvious that the sprocket wheels and chains might be omitted altogether and the other parts still be operative; but the advantages stated are gained by their use.

Having described my invention and set forth its merits, what I claim is—

1. The combination of the drive-wheel frame, the bars for connecting the same extending backwardly therefrom, the saddle-supporting bar pivotally supported by said bars, the rearwardly-diverging bars connected to each side of said saddle-bar, and a vehicle-body supported by said rearwardly-diverging bars, substantially as and for the purpose set forth.

2. The combination of the drive-wheel frame, the saddle-bar connected with said frame and having an upwardly-extending pin formed upon its rear end, the saddle hinged to said bar and having a socket formed therein to receive the pin, and an elastic cushion interposed between the pin and saddle, substantially as and for the purpose set forth.

3. The combination of the drive-wheel axle carrying the pedals, having a sprocket-wheel connected therewith by means of a tight and loose connection, a shaft carrying hand-cranks having a sprocket-wheel keyed thereto, and a drive-chain connecting the two sprocket-wheels, whereby the chains are held stationary when the sprocket-wheel is disconnected from the axle, substantially as described.

4. The combination, with the drive-wheel and its frame, of the sprocket-wheel supported on a crank-shaft at the upper part of the drive-wheel frame, the sprocket-wheel fitted loosely on the drive-wheel shaft, the spline to pass through the hub of the drive-wheel into the sprocket-wheel, the drive-chain connecting the sprocket-wheels and the pedals to the drive-wheel, substantially as described.

5. The combination, with the drive-wheel and its frame, of the rod having its opposite ends secured at opposite sides of the said frame and extended forward of the drive-wheel, and the draft-rod hinged to said rod, substantially as described.

6. The combination, with the drive-wheel and its frame, of the disks secured to the shaft of the drive-wheel, the bifurcated pedals secured to the same shaft and provided with an angular pawl to engage with said disks, and the springs to retract said pedals after they have been depressed, substantially as described.

In testimony whereof I have hereunto set my hand this 29th day of September, A. D. 1884.

HENRY LACASSE.

Witnesses:
A. W. LAWTON,
C. A. WEEKS.