

C. E. TRIPLER & W. H. ROFF.
Velocipede.

No. 232,783.

Patented Sept. 28, 1880.

Fig. 1.

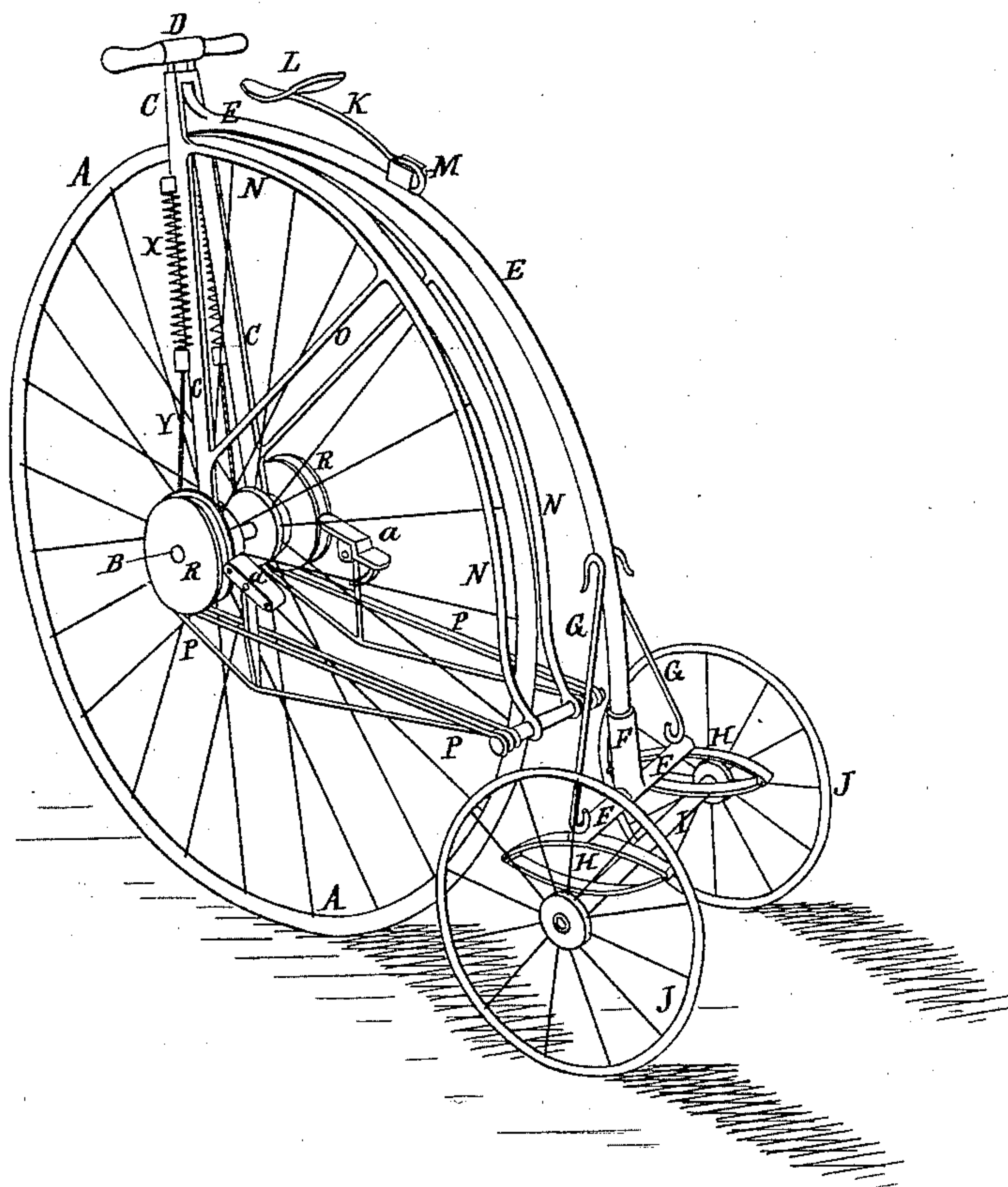
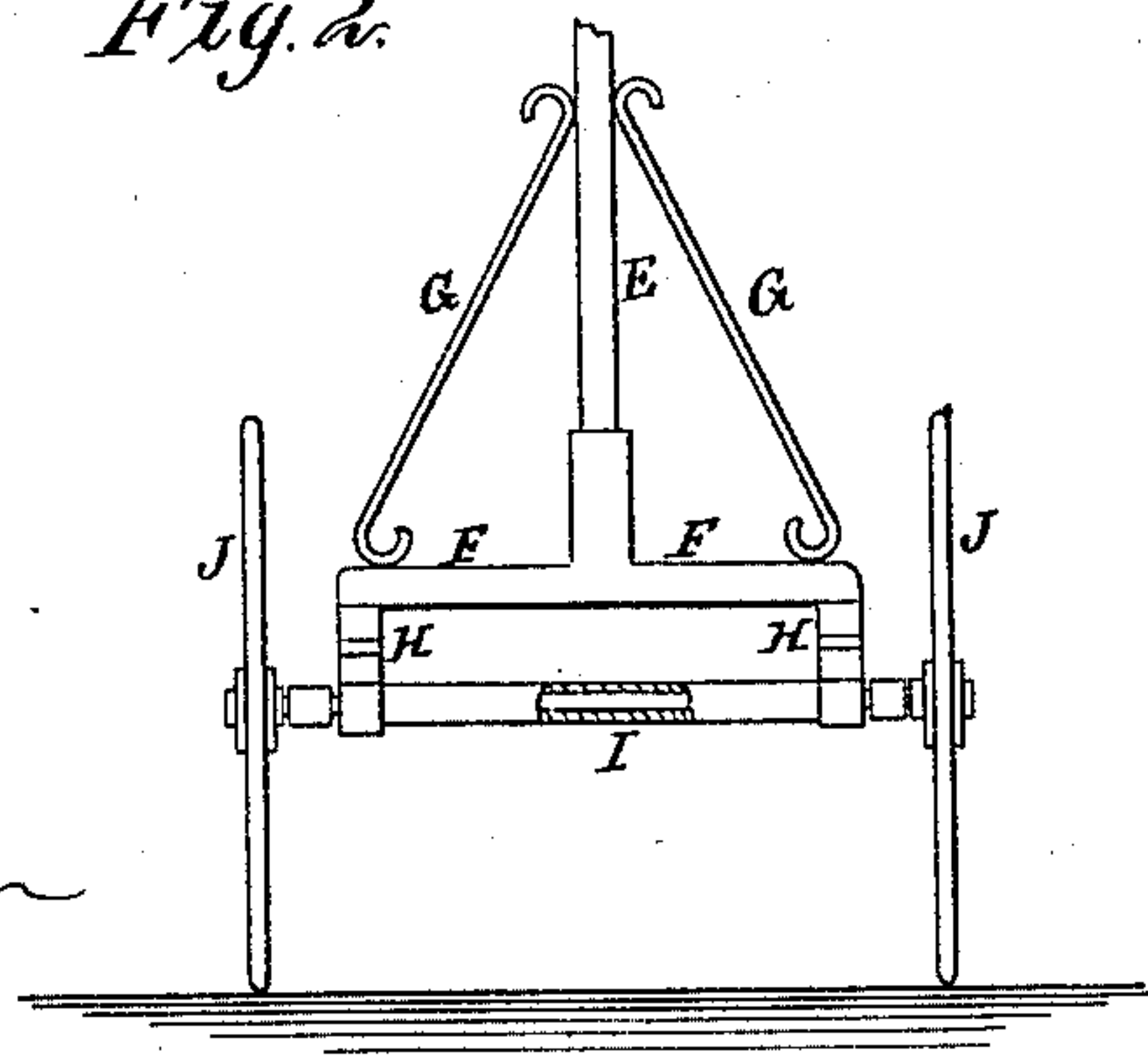


Fig. 2.



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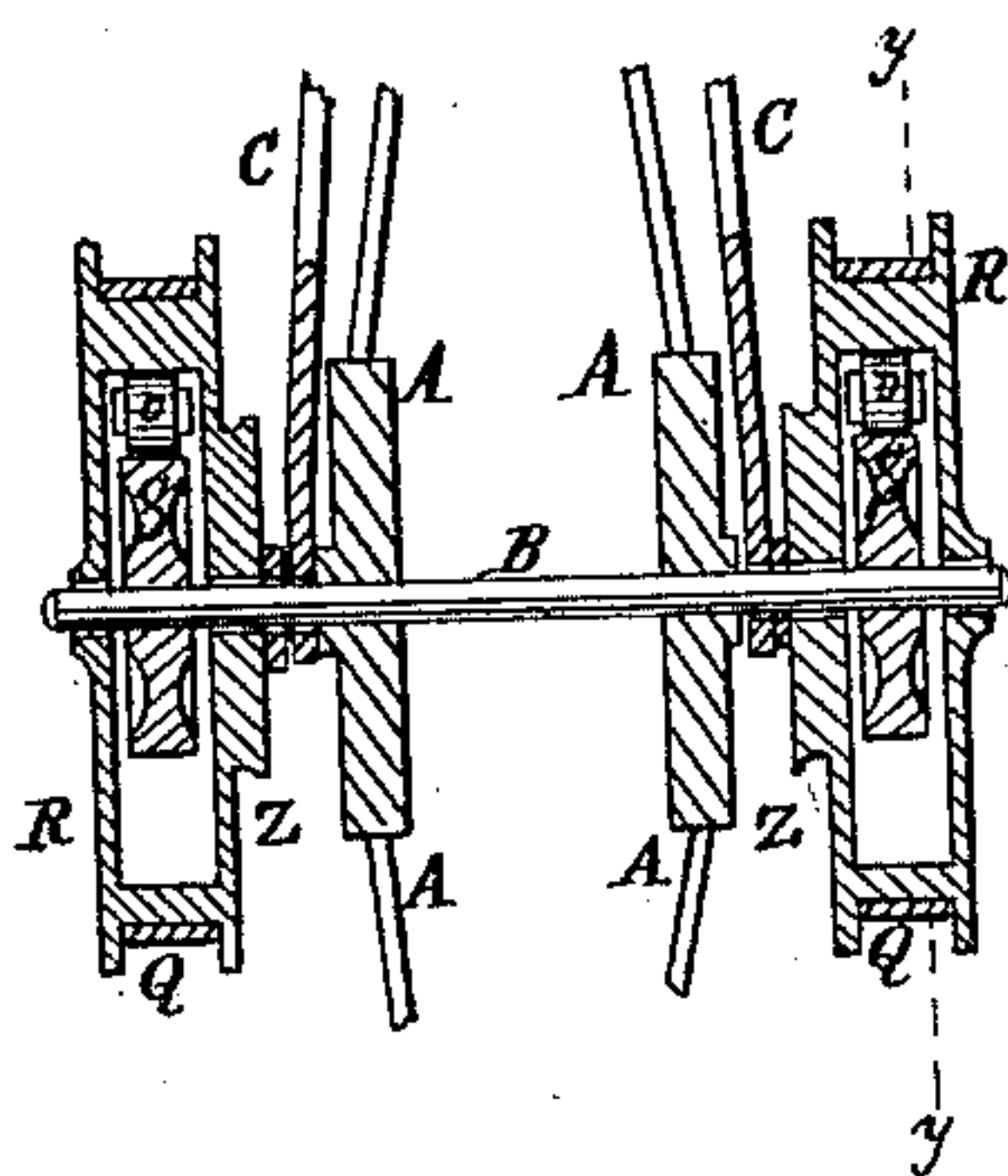
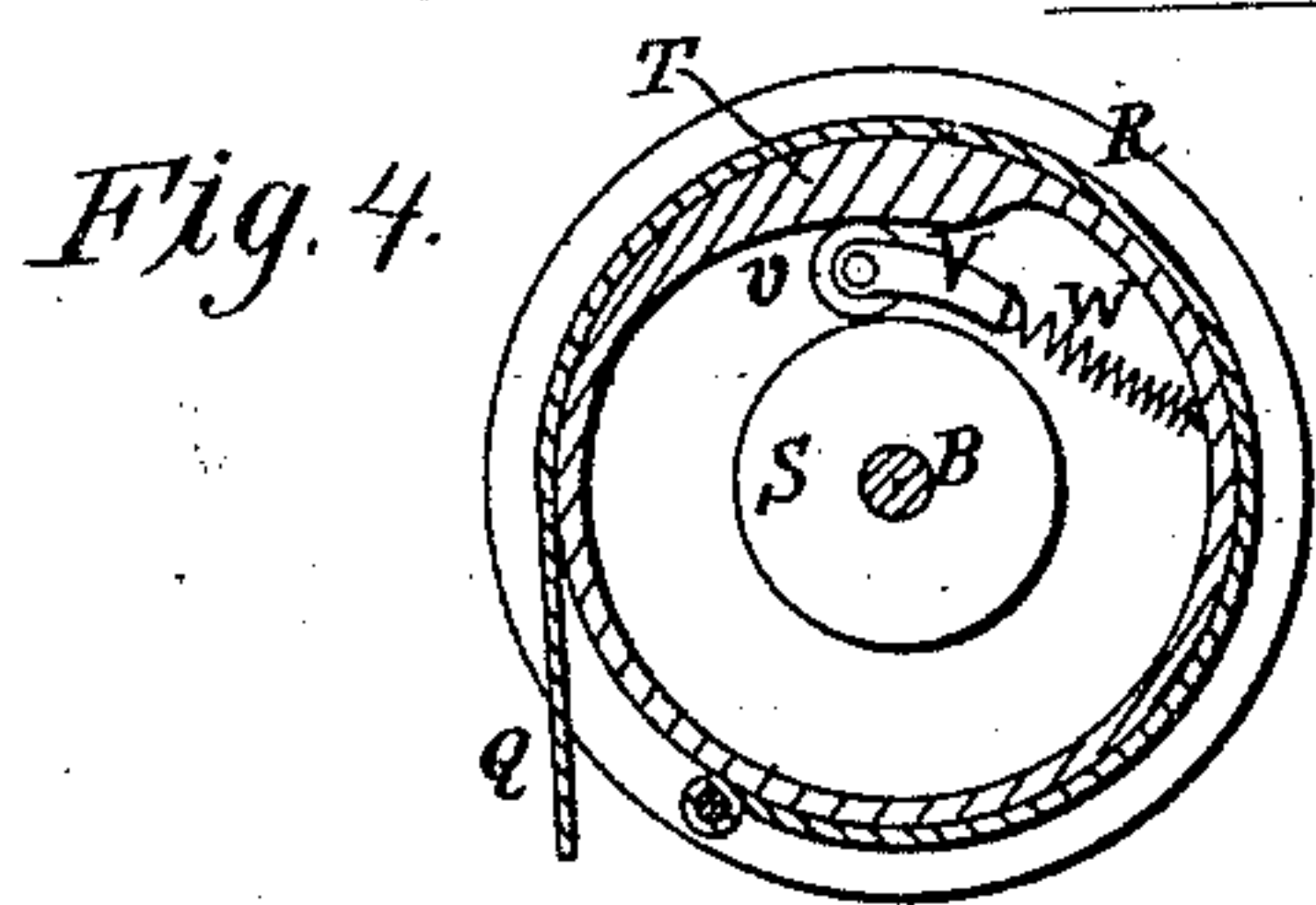
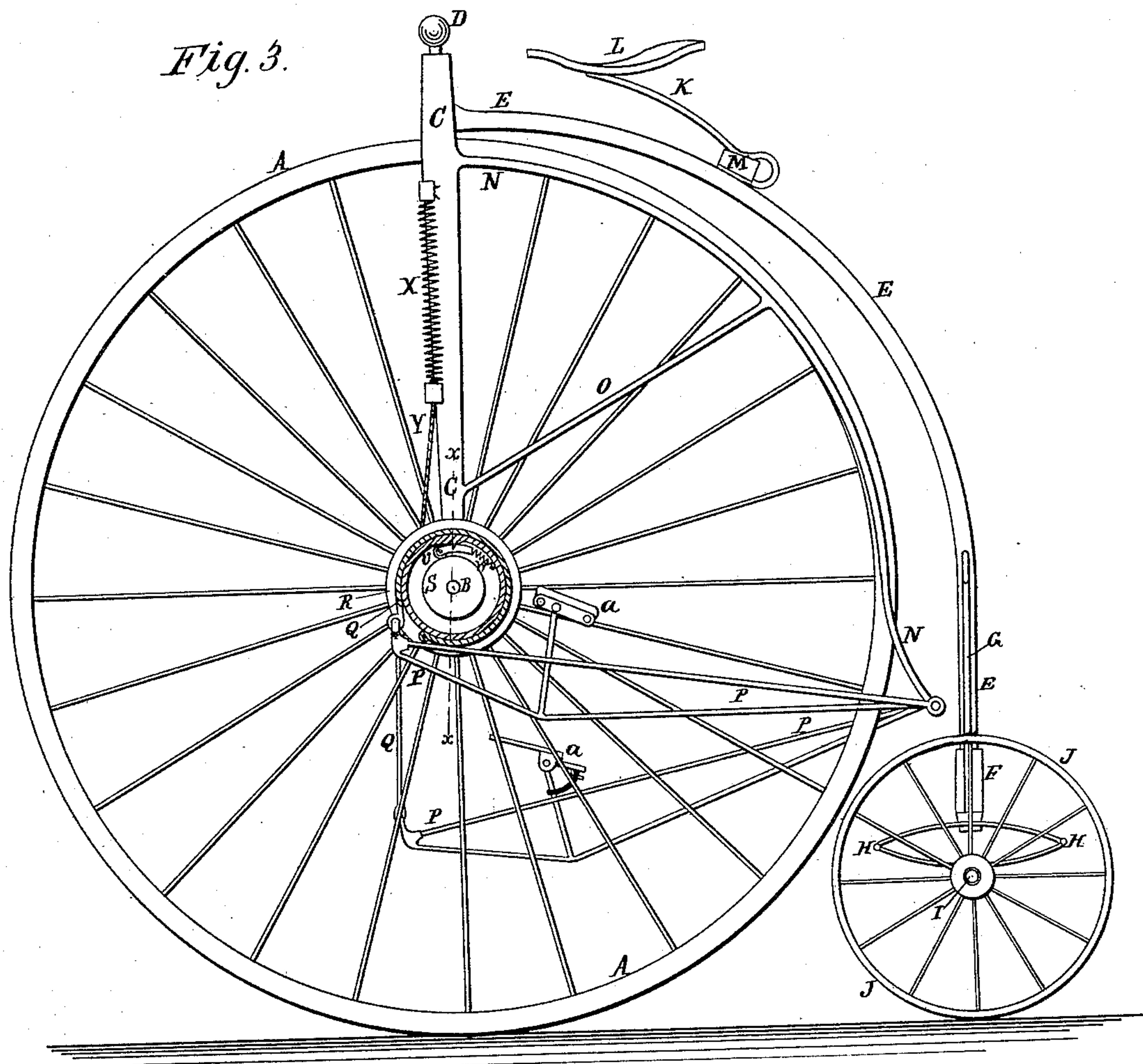
BY

Mum & Co
ATTORNEYS.

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UNITED STATES PATENT OFFICE.

CHARLES E. TRIPLER AND WILLIAM H. ROFF, OF NEW YORK, N. Y.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 232,783, dated September 28, 1880.

Application filed February 19, 1880.

To all whom it may concern:

Be it known that we, CHARLES E. TRIPLER and WILLIAM H. ROFF, of the city, county, and State of New York, have invented a new and useful Improvement in Velocipedes, of which the following is a specification.

Figure 1, Sheet 1, is a perspective view of the improvement. Fig. 2, Sheet 1, is a rear elevation of a part of the velocipede. Fig. 3, Sheet 2, is a side elevation, partly in section. Fig. 4, Sheet 2, is a sectional elevation taken through the line *y y*, Fig. 5. Fig. 5, Sheet 2, is a sectional elevation taken through the line *x x*, Fig. 3.

The object of this invention is to furnish velocipedes so constructed as to obtain a more advantageous application of the propelling power than the ordinary cranks, to avoid the noise of pawls and ratchets, and to guard the velocipedes against being overturned should one of the rear wheels pass over an obstruction.

The invention consists in the combination, with the drive-wheel axle and the treadles supported from the drive-wheel standard, of a peculiarly-constructed propelling mechanism; and also in the combination, with the bar or reach and the rear wheels, of springs whereby the rear wheels can pass over an obstruction without tilting the drive-wheel, as will be hereinafter fully described.

Similar letters of reference indicate corresponding parts.

A represents the large forward wheel, the hub of which is attached to the short shaft B. The shaft B revolves in bearings in the ends of the arms of the slotted standard C, the slot of which receives the upper part of the wheel A.

To the upper end of the standard C is attached the cross-bar D, by means of which the wheel A is turned to guide the machine.

To the upper part of the standard C is hinged the upper end of the bar or reach E, which is curved downward so as to be at a little distance from the rim of the wheel A, and to its lower end is rigidly attached the center of the cross-bar F. The connection between the bar E and the cross-bar F is strengthened by the inclined braces G, the upper ends of which are attached to the opposite sides of the said bar E. The lower ends of the braces G are attached to the ends of the cross-bar F.

To the lower sides of the ends of the cross-bar F are attached the upper parts of elliptic or other springs, H, the lower parts of which are attached to the axle I of the small rear wheels, J. With this construction, should one of the wheels J pass over an obstruction, the springs H will allow the axle I to take an inclined position without affecting the position of the bar or reach E or of the large wheel A.

To the bar E, at a little distance from its upper end, is attached or hinged the lower end of the standard K of the seat L.

Between the lower part of the standard K and the bar E is interposed a rubber block, M, to relieve the rider from the jar should the wheel A pass over an obstruction.

To the standard C, at the opposite sides of the upper part of the rim of the wheel A, are attached the upper ends of two curved bars, N, which are curved to pass down along the opposite sides of the wheel-rim for a distance a little greater than a quarter of a circumference, and are strengthened by the braces O, attached to them and to the lower parts of the standard C. The ends of the curved bars N are bent outward, are connected by a short rod or bolt, and to them are pivoted the rear ends of two skeleton or truss levers, P. The levers P pass forward below the hub of the wheel A, and to their forward ends, at the forward side of the said hub, are attached the ends of the straps Q, which are wound around, and their other ends are attached to the flanged pulleys R. The flanged pulleys R run loose upon the ends of the shaft B, and are made hollow to receive within them the small wheels S, which are rigidly attached to the said shaft B.

Upon the inner side of the rims of the pulleys R are formed, or to them are attached, inclined blocks or plates T, between which and the small wheels S are placed small rollers *v*. The rollers *v* are pivoted to a stirrup or loop, V, which is connected with the pulleys R by small springs W, to keep them in place. With this construction, when the levers P are pressed downward the straps Q turn the pulleys R, which movement clamps the rollers U between the inclines T and the small wheels S, and causes the said small wheels S to turn, carrying with them the wheel A, and thus giving a forward movement to the machine. When the

downward pressure upon the levers P is removed the pulleys R are turned back, winding up the straps Q, and raising the levers P to their former position by the springs X, which may be spiral springs or rubber springs or other suitable springs. The upper ends of the springs X are attached to the upper part of the standard C, and their lower ends are attached to the upper ends of cords, Y, which are wound around and their other ends are attached to the pulleys Z, formed upon or attached to the inner sides of the pulleys R. With this construction the backward movement of the pulleys R releases the rollers *v* and allows the pulleys R to be turned back without affecting the forward movement of the small wheels S and the driving-wheel A, so that the levers P will be raised for another stroke without using any of the power applied to the propulsion of the machine.

In working the machine the rider sits upon the seat L and rests his feet upon the foot-rests *a*, hinged to short standards attached to the levers P.

If desired, the bars N and the outer ends of the levers P may be arranged at the forward part of the wheel A; but we prefer the arrangement first described, as it allows the bars N to serve also as fenders to prevent the rider's clothes from coming in contact with the wheel A.

If desired, the treadles P may be omitted and the power applied to the straps Q by

means of stirrups or slides; or the straps Q may be carried up at the rear sides of the pulleys R and operated by the rider with his hands.

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

1. In a velocipede, the combination, with the axle B of the drive-wheel A and with the treadles P, supported from the drive-wheel standard C by the bars N, of the small wheels S, the flanged pulleys R, the inclines T, the friction-rollers *v*, the straps Q, and the springs X, cords Y, and pulleys Z, substantially as herein shown and described, whereby motion is given to the drive-wheel and the treadles are raised for another stroke without neutralizing any of the propelling power, as set forth.

2. In a velocipede, the combination, with the axle B and the drive-wheel A, of the loose pulley R, carrying straps Q, and having pulley Z, carrying cord and spring Y X, the wheel S, the inclines T, and the clutch-roller *v*, substantially as herein shown and described, whereby propelling power is applied to the driving-wheel, as set forth.

3. The combination, with the reach E and shaft I, of the T-bar F, braces G, and springs H H, as shown and described.

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Witnesses:

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