

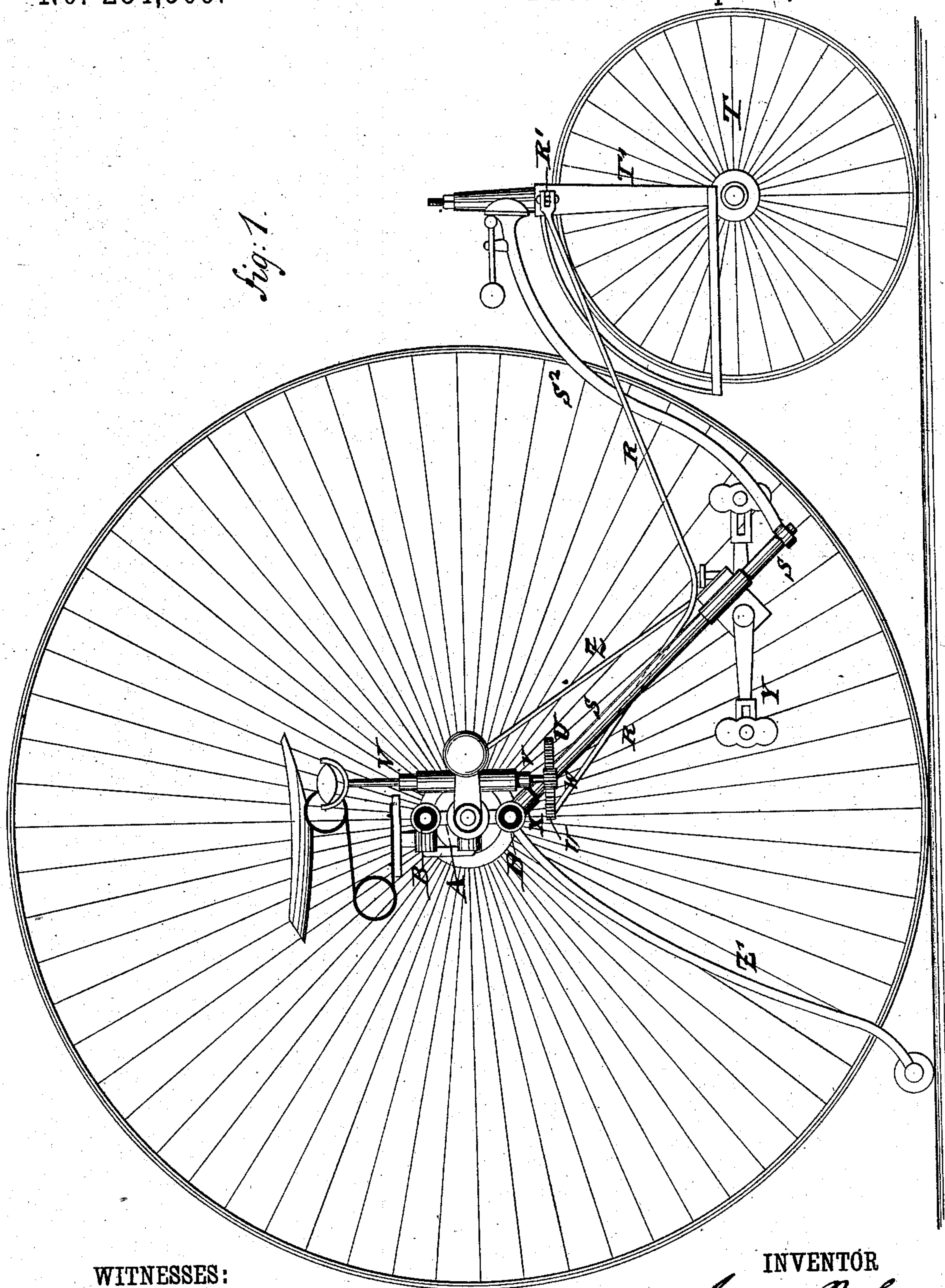
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3 Sheets—Sheet 1.

J. J. STASSEN.
VELOCIPÈDE.

No. 284,509.

Patented Sept. 4, 1883.



WITNESSES:

A. Schehl.
Otto Risch.

INVENTOR

Joseph J. Stassen

BY

Paul Goepe

ATTORNEY

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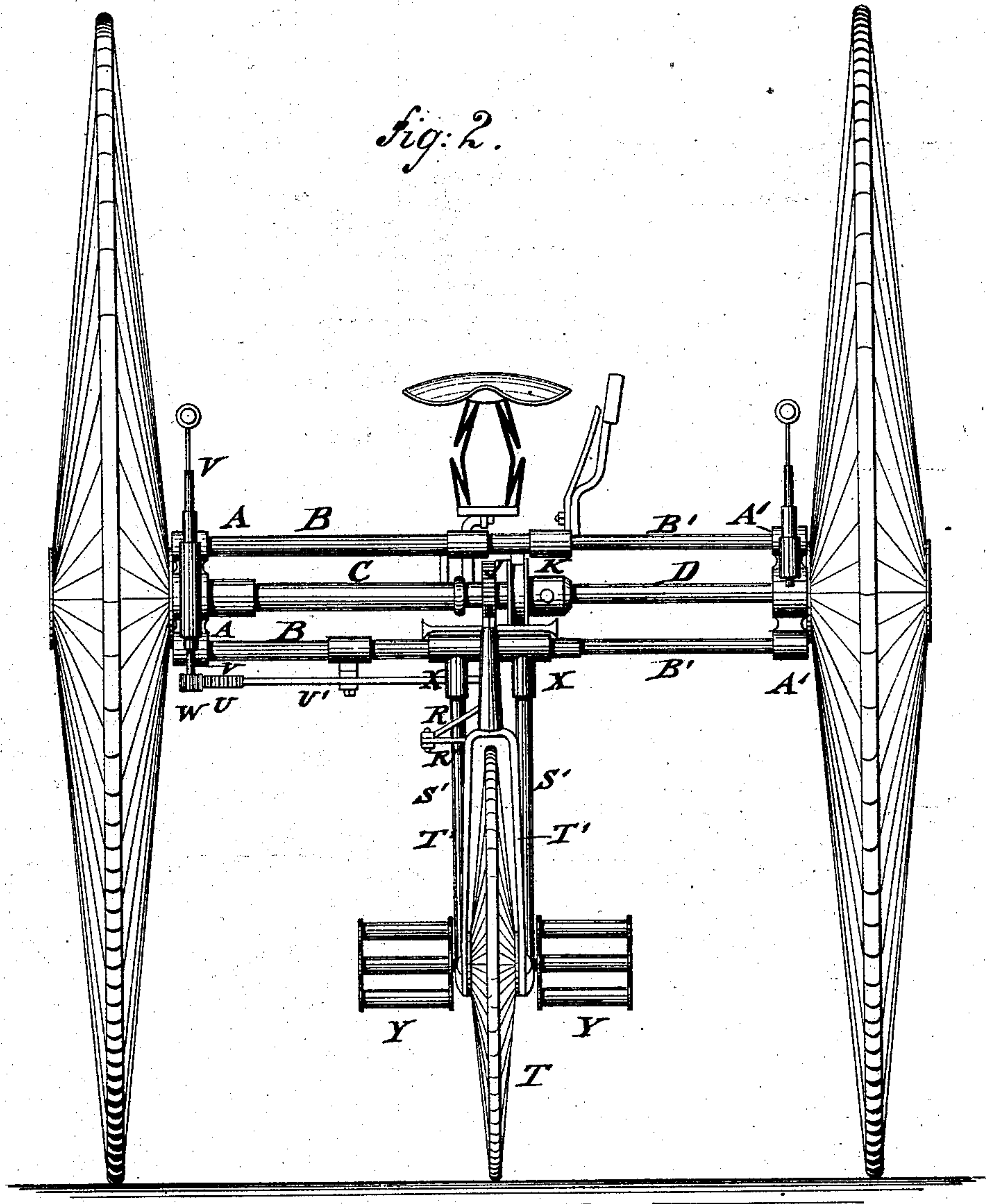
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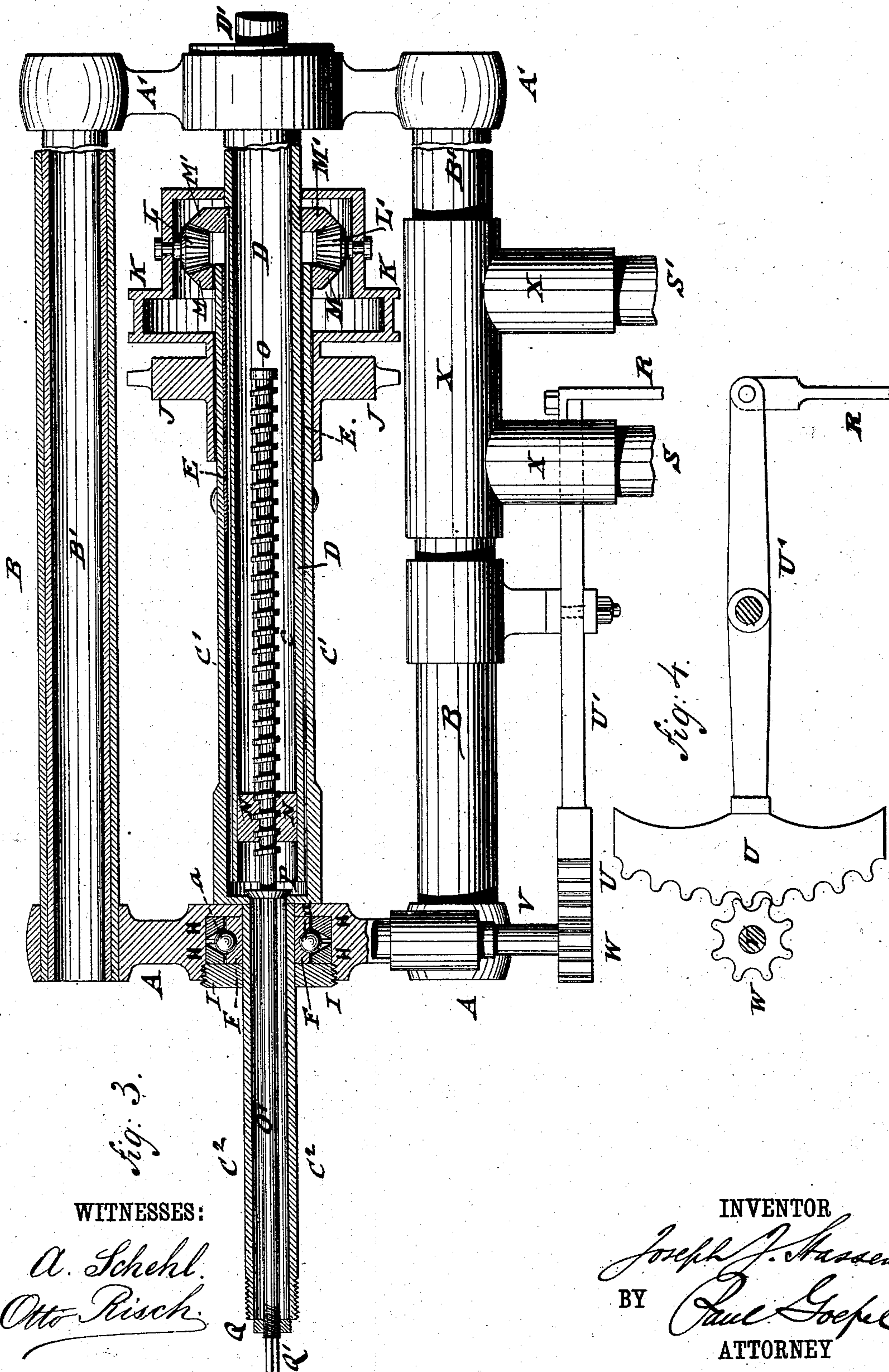
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UNITED STATES PATENT OFFICE.

JOSEPH J. STASSEN, OF EUSTON ROAD, LONDON, ENGLAND.

VELOCIPEDÉ.

SPECIFICATION forming part of Letters Patent No. 284,509, dated September 4, 1883.

Application filed March 12, 1883. (No model.) Patented in England August 21, 1882, No. 4,006.

To all whom it may concern:

Be it known that I, JOSEPH JOHN STASSEN, of Euston Road, London, England, velocipede manufacturer, have invented certain new and useful Improvements in Velocipedes, (for which I have obtained Letters Patent in Great Britain, bearing date August 21, 1882, No. 4,006,) of which the following is a specification.

This invention relates to that class of velocipedes known as "front-steering tricycles," and has for its object to construct the same in such a manner that the frame-work of the same can be quickly reduced in width, so as to allow the velocipede to pass readily through doors and take up less space in being stored away; and the invention consists of a tubular telescoping frame-work, of a tubular telescoping driving-shaft, and of means for setting the tubes and shaft to any required width. The tubular frame is provided with forward-extending tubes for supporting the pedals and the steering-wheel. The hollow telescoping driving-shaft is provided with a central balance-gear that is operated by chain and sprocket wheel transmission from the pedal-shaft. The steering is accomplished by means of a pinion at the lower end of a steering-rod, the pinion engaging a toothed segment at the end of a fulcrumed lever, the opposite end of which is connected by a pivot-rod with the swiveled frame of the steering-wheel, as will more fully appear hereinafter.

In the accompanying drawings, Figure 1 represents a side elevation with one of the driving-wheels removed; Fig. 2, a front elevation of my improved velocipede; Fig. 3, a vertical longitudinal section of the tubular telescoping frame-work and telescoping driving-shaft, drawn on a larger scale; and Fig. 4 is a detail top view of part of the driving-gear.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A A' are short vertical side brackets or posts, that are provided with central bearings for carrying the telescoping sections C D of the driving-shaft. The shaft-section C consists of a tubular portion, C', of greater diameter, and of an end portion, C², of smaller diameter, which latter forms the spindle for one of the driving-

wheels. The diameter of shaft-section D is made somewhat smaller than the diameter of the tubular portion C' of shaft-section C, and is guided in the latter by a brass or other lining, E, that extends partly into tube C', as shown in Fig. 3. The shaft-section D has, like the shaft-section C, a reduced outer portion, D', that forms the spindle for the other driving-wheel. The central bearings of the side brackets, A A', in which the driving-shaft C D revolves, are preferably formed of a grooved collar, F, that is driven on the spindles C² D' of anti-friction balls *a a*, of steel or other hard metal, placed into the groove of the collar F, and of two beveled steel rings, H H, which latter are retained on either side of the balls by means of a nut, I, that screws into the brackets A A', as shown clearly in Fig. 3. In place of the shaft-bearings described, any other approved construction may be used.

To the upper and lower ends of the vertical brackets A A' are rigidly secured transverse telescoping tubes B B', which are drawn together or extended by the same mechanism by which the telescoping sections of the driving-shaft C D are adjusted. This is accomplished by a threaded rod, O, that engages a fixed screw-nut, N, at the interior of the shaft-section D, said threaded rod O being provided with a collar, P, that abuts on the reduced end or spindle C² of shaft-section C, while the plain shank O' of the screw-rod O passes through the spindle C², and is secured at its outer end by a reversed screw-thread and nut, Q, to the end of the spindle C². The shank O' of the screw-rod O is extended beyond nut Q, and provided outside of the hub of the driving-wheel with a square boss, Q', to which a key or spanner is applied. By turning the key or spanner in one direction, the bracket A', the telescoping tubes B' B', and the telescoping shaft-section D are drawn toward the other bracket, A, into the exterior tubes, B B, and shaft-section C, as shown in detail in Fig. 3, while by the reverse motion of the screw-rod O the telescoping frame-work and shaft-sections are extended to their full width, as shown in Fig. 2. By a few turns of the screw-rod O, the width of the velocipede is thus reduced to nearly one-half

of its full width, so that it can be conveniently carried through doors and stored away after use.

The driving-wheels are revolved in the usual manner by a chain and sprocket wheel transmission from the shaft of the pedals, and by a so-called "balance-gear," that consists of a chain-pulley or sprocket-wheel, J, that is mounted loosely on the shaft-section C, and provided with a drum, K, one part of which is of larger diameter, so as to form a surface for the strap-brake that is commonly used in velocipedes. On the remaining portion of the drum K are arranged in bearings in diametrically-opposite points two pinions, L L', which mesh with bevel-wheels M M', of which the bevel-wheel M is keyed to the inner end of the shaft-section C, while the bevel-wheel M' is splined to a longitudinal keyway of the shaft-section D. By means of the balance-gear, the velocipede is adapted to round curves with safety and facility, as the bevel-wheels M M' run at different speeds.

I do not limit myself to the special construction of the balance-gear shown, as other constructions may be used.

The lower tube, B, is provided at its inner end with tubular sockets X X, to which the downwardly-extending tubes S S' are secured. These carry at their lower parts the bearings for the axle of the pedals, and also the curved tube S², that extends forward to the yoke-shaped frame T' of the steering-wheel T. The steering motion is imparted to the steering-wheel T by a vertical handle-rod, V, that is supported in bearings of the bracket A. A pinion, W, is applied to the lower end of the handle-rod V, said pinion engaging a toothed segment, U, at the end of a lever, U', which latter is applied to a fulcrum secured to the lower tube, B, while the opposite end is pivoted to the connecting-rod R. This rod extends forward between the supporting-tubes S S', and is pivoted at its front end to a lateral arm, R', of the forked frame T of the steering-wheel, as shown in Figs. 1 and 2. By turning the steering-rod V in one or the other direction, the velocipede is steered with great facility, while no impediment is offered to mounting or dismounting, or to jumping off at either side of the velocipede in case of emergency, as the steering-rod is located between the tubes S S' and the legs of the rider.

My improved velocipede is further provided

with the usual dirt-guard, Z, that extends over the chain or band which connects the pulleys of the pedals and driving-shaft; also, with a safety-leg, Z', that extends backward and downwardly from the lower tube, B, and with a spring-seat and other accessories usually employed in velocipedes of this class. The telescoping frame-work as well as the central steering-gear may also be employed for "sociable tricycles," as the entire frame-work is constructed with a view to lightness and strength, and as the mechanism for driving and steering is located centrally and well out of the way.

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

1. In a tricycle, the combination of the supporting-brackets A A', carrying transverse telescoping tubes B B and B' B', telescoping shaft-sections C D, the interior shaft-section, D, of which has a fixed nut, N, and a screw-rod O O', engaging the nut N, adapted to extend or contract the telescoping frame-work and shaft-sections, substantially as set forth.

2. In a tricycle, the combination, with the tubular telescoping shaft-sections and suitable motion-transmitting mechanism, of a central balance-gear that engages by interior pinions a bevel-wheel at the end of the outer shaft-section, and a bevel-wheel splined to the longitudinally-grooved inner shaft-section, so as to drive both shaft-sections from the central balance-gear, substantially as set forth.

3. In a tricycle, the combination, with the supporting-bracket A and steering handle-rod V, having a pinion, W, of fulcrumed lever U', having a toothed segment, U, meshing with the pinion W, and connecting-rod R, pivoted to the fulcrumed lever and extending between the supporting-tubes S S' to the frame of the steering-wheel T, substantially as specified.

4. In a tricycle, a tubular telescoping frame-work formed of brackets A A', telescoping tubes B B and B' B', the lower tube, B, having downwardly and forwardly extending tubes S S', that form the pedal-support, substantially as described.

In testimony that I claim the foregoing as my invention I have signed my name in presence of two subscribing witnesses.

JOSEPH J. STASSEN.

Witnesses:

A. CARRICK,
R. W. DUFF.