

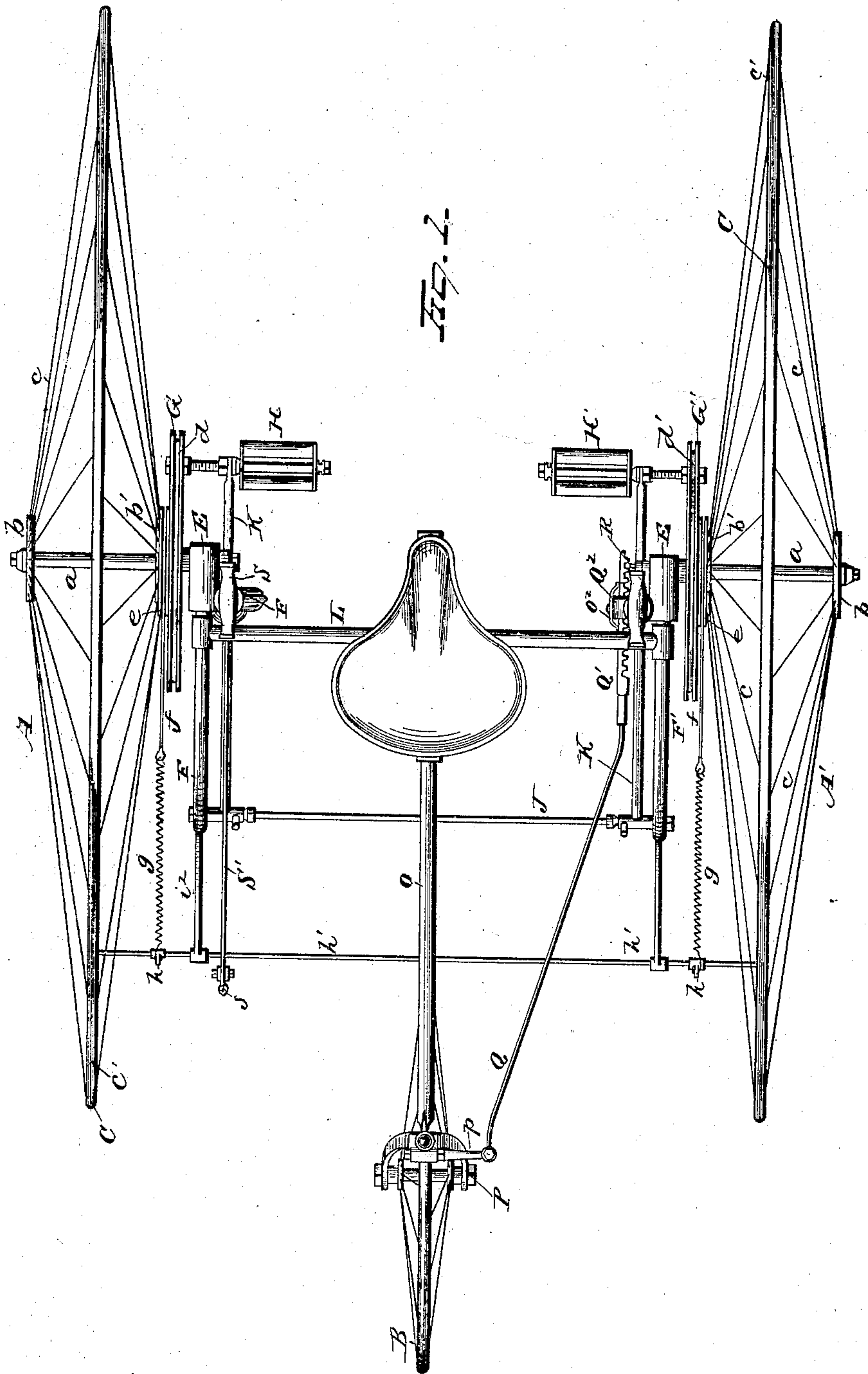
(No Model.)

3 Sheets—Sheet 1.

A. H. OVERMAN.
TRICYCLE.

No. 257,375.

Patented May 2, 1882.



WITNESSES

E. J. Nottingham
Bernard Moran

INVENTOR

A. H. Overman
By J. A. Symon
Attorney

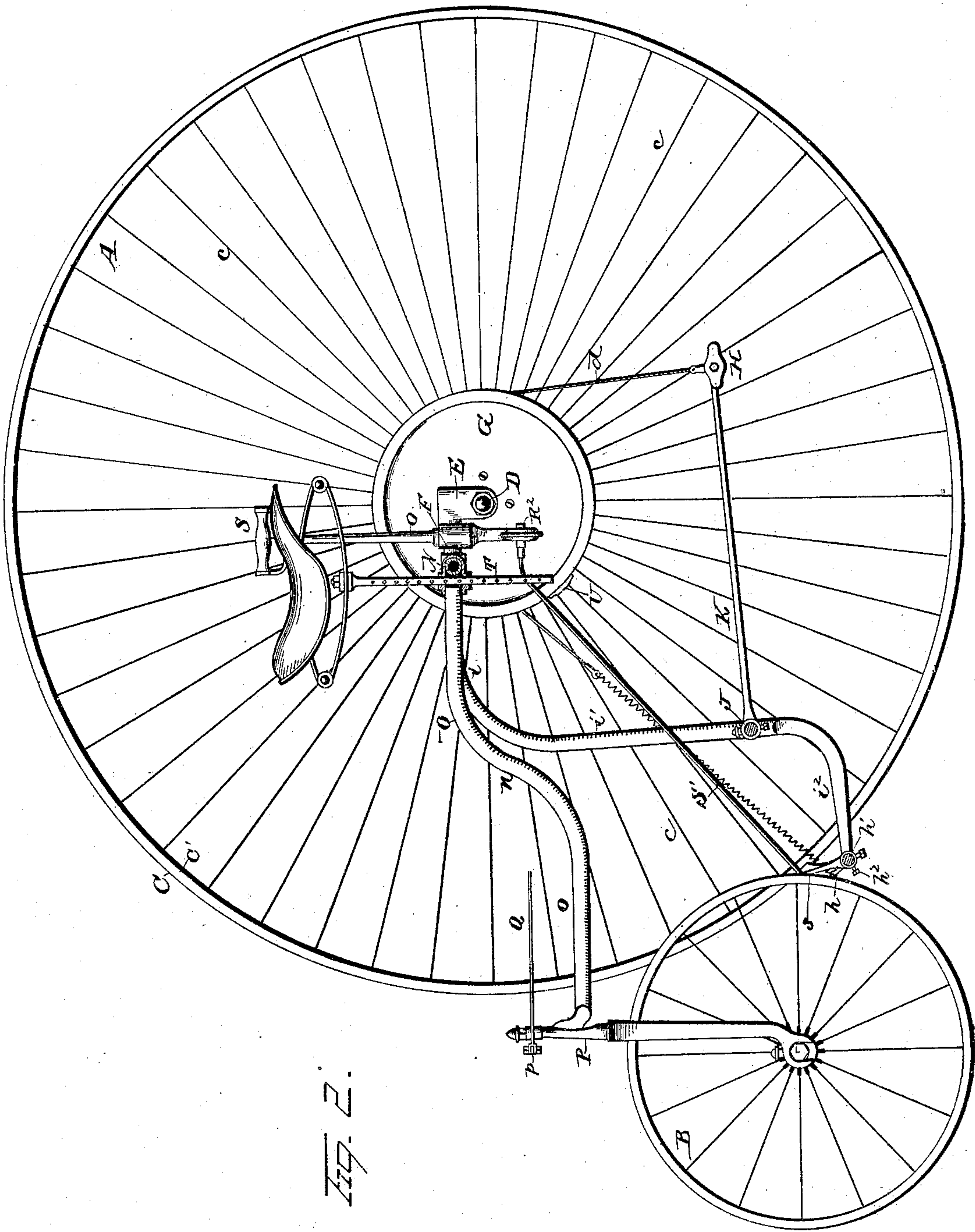
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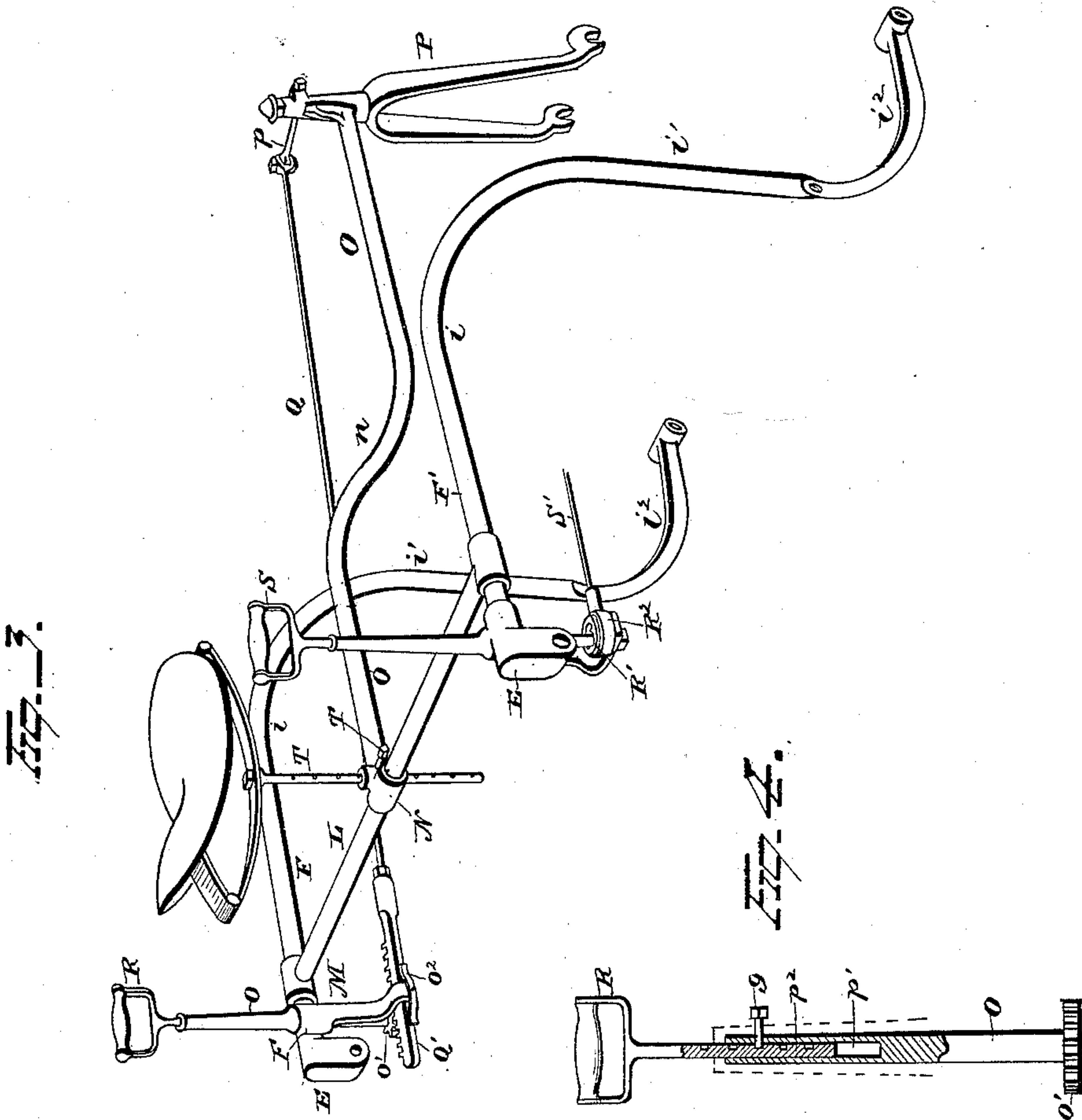
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E. J. Nottingham
Herman Moran.

INVENTOR

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UNITED STATES PATENT OFFICE.

ALBERT H. OVERMAN, OF HARTFORD, CONNECTICUT, ASSIGNOR TO THE
OVERMAN WHEEL COMPANY, OF SAME PLACE.

TRICYCLE.

SPECIFICATION forming part of Letters Patent No. 257,375, dated May 2, 1882.

Application filed February 1, 1882. (No model.)

To all whom it may concern:

Be it known that I, ALBERT H. OVERMAN, of Hartford, in the county of Hartford and State of Connecticut, have invented certain new and useful Improvements in Tricycles; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it pertains to make and use the same.

My invention relates to an improvement in tricycles, the object being to provide a tricycle of such construction and relative arrangement of parts that the weight of the rider shall be located nearly in the same vertical line as the spindles of the large driving-wheels, and thus render the vehicle easy to handle and enable it to be propelled at a high speed and be subjected to little friction or wear.

A further object of my invention relates to the combination, with the driving-disks connected with the driving-wheels, of the frame constructed so as to provide a space between the driving-wheel spindles, and arranged so as to insure proper stiffness and rigidity to prevent its yielding to the force exerted upon the foot-pedals.

With these ends in view my invention consists in certain improvements on Letters Patent No. 242,212, granted to J. A. McKenzie, assignor to myself, May 21, 1881, as will hereinafter be explained, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a plan view of my improvement. Fig. 2 is a vertical section at one side of the seat. Fig. 3 is a detached view of the tricycle-frame, and Fig. 4 is a detached view of one of the handles.

A A' represent the two large driving-wheels, and B the steering-wheel, which latter is in the present instance located in rear of the driving-wheels. The driving-wheels A A' are each composed of an axle-box, *a*, having metal hub-sections *b b'* secured to the opposite ends thereof, into which are screwed or otherwise fastened the steel wire spokes *c*, the outer ends of which are fastened to the felly *c'*, the latter being constructed with a semicircular groove in its periphery for the retention of the round rubber tire C, or, instead of a round rubber tire,

it may be a flat, in which case the groove in the wheel will be correspondingly varied in form. The inner ends of the axle-spindles D are firmly secured to the depending hangers E, which latter are fastened to the forward ends of the side pieces, F F', of the treadle-frame. The side pieces, F F', are preferably made of wrought-iron tubes bent into proper form, whereby the required strength, stiffness, and lightness in construction are insured.

Upon the spindles D are loosely sleeved the driving-disks G G', which are constructed and connected with the inner hub-sections as set forth in Letters Patent No. 242,212, so that when the disks are rotated forward they will be locked to the wheels and propel the vehicle, and when rotated in the opposite direction they will be disengaged from the driving-wheels.

To the grooved periphery of the disks G G' are secured the wire cords *d d'*, their lower ends being fastened to the frame or bars of the foot-pedals H H'. Hence the foot-pedals H H' being depressed, the driving-disks G G' are rotated and operate to turn the driving-wheels on their spindles.

Each driving-disk is provided with a small grooved disk, *e*, to which is fastened one end of a cord, *f*, the opposite end being secured to one end of a spring, *g*, the opposite end being attached to an arm, *h*, adjustably secured to the cross-bar *h'* by means of a set-screw, *h²*, or other devices. By means of the retractile force of the springs *g* the driving-disks are turned backward on the spindles, thereby raising the foot-pedals for the next stroke of the rider. The side pieces, F F', project rearwardly a short distance, as at *i*, and then curve and extend downwardly, as at *i'*, where another curve is formed, from which point they extend rearwardly again, as at *i²*, and to their rear ends is journaled a transverse rod or bar, *h'*, having suitable brake-shoes connected with their outer ends.

Near the lower portions of the vertical sections of the pieces F F' is secured a cross-bar, J, upon which are journaled the rear ends of the treadle-levers K K, the forward ends of which are attached to the bars *j*, on which are journaled the foot-pedals. Side pieces, F F', are connected near their forward ends by a

cross-piece, L, preferably made of a wrought-iron tube. This cross-piece L is situated at such distance in rear of the spindles as to form an open and unobstructed space, M, between the inner ends of the spindles, for a purpose hereinafter explained.

To the center of the cross-piece L is secured a coupling-piece, N, to which is attached the forward end of the guide-wheel-supporting bar O, the latter being downwardly curved, as at *n*, and having a yoke, P, swiveled thereto, said yoke supporting the guide-wheel P'. The yoke P is provided with an arm, *p*, to which is pivoted one end of the rod Q, the forward end thereof being fastened to the rack Q', situated in a guide-frame, Q², formed integral or connected with the hangers E.

In the guide-frame Q² is journaled the lower end of the handle-socket *o*, to the lower end of which is fastened a pinion, *o'*, which meshes with the teeth on the rack, the latter being retained in mesh with the pinion by means of the spring *o*². The handle-socket extends above the hanger E, and is provided with a square hole, *p'*, in which is inserted the rod *p*², to the upper end of which is fastened the steering-handle R, the latter being rendered vertically adjustable by means of a set-screw, *g*.

By locating the rack and pinion below the hanger, as described, it is brought in the same horizontal plane as the arm *p* on the yoke, and thus enables the employment of a straight rod, Q, and thereby prevents any yielding or springing of the guiding connections. In the opposite hanger, E, is mounted a handle, S, for actuating the brake. This handle is made adjustable, as explained with reference to handle R.

To the lower end of the handle S is secured an eccentric, R', which is encircled by the eccentric-strap R², the latter having one end of the rod S' attached thereto, the opposite end being secured to an arm, *s*, on the rod or cross-bar *h'*. By turning the handle R the brakes can be applied or released, as desired. Through the coupling-piece N is inserted the seat-standard T, which is vertically adjustable and retained in any desired position by means of the set-screw T'.

Upon the driving-disks are placed the rubber buffers U, to deaden the shock when the treadle-levers come in contact therewith.

It will be observed that the frame carrying the guide-wheel and the frame supporting the brake and the treadle-levers are independent, which is an important improvement in this type of tricycles, as it prevents the vibrations of the frame supporting the treadle-levers being transmitted to the guide-wheel, and thus allows the latter to run smoothly and evenly. Again, by curving the treadle-lever frame, as described, I secure economy of space and also great strength and stiffness to the frame. The handles and seat being made vertically adjustable enables the vehicle to be arranged to suit persons of different heights. By providing

an open and unobstructed space between the foot-pedals and the inner ends of the spindles a person can step in between the pedals, and by taking hold of the seat easily mount the vehicle. Again, by this construction and arrangement of parts the vertically-adjustable seat is allowed to be placed but a slight distance in rear of the vertical plane of the spindles, and thus transmit the weight on the driving-wheels, so that the least force will be required to drive the vehicle.

It is evident that many slight changes in the construction and arrangement of parts might be resorted to without involving a departure from the spirit of my invention, and hence I would have it understood that I do not restrict myself to the exact construction and arrangement of parts shown and described; but,

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

1. In a tricycle, the combination, with the driving-wheels supported on spindles provided with driving-disks and foot-pedals for actuating the driving-disks, of rearwardly and downwardly curved side frame-pieces, having their lower portions connected by a cross-bar, on which are mounted the rear ends of the treadle-levers, and a cross-bar supporting the seat and secured to the side frame-pieces in rear of the spindles, substantially as and for the purpose set forth.

2. In a tricycle, the combination, with the driving-wheels provided with driving-disks and foot-pedals for actuating the driving-disks, of the guide-wheel and a frame consisting of two rearwardly and downwardly curved side pieces for supporting the treadle-levers, a central frame-piece extending rearwardly and supporting the guide-wheel, and a cross-bar secured to the forward portions of the three frame-pieces and supporting the driver's seat, substantially as and for the purpose set forth.

3. In a tricycle, the combination, with the driving-wheels provided with driving-disks and foot-pedals for actuating the driving-disks, of the guide-wheel, a handle-rod supported in a bracket located below the driving-wheel spindles, a pinion secured to the lower end of the handle-rod, and a rod secured at one end to the yoke of the guide-wheel, and its forward end provided with a rack-bar, substantially as and for the purpose set forth.

4. In a tricycle, the combination, with the guide-wheel, rod, rack-bar, and pinion, of the vertically-adjustable guiding-handle, substantially as set forth.

5. In a tricycle, the combination, with the brake-rod, of the eccentric and vertically-adjustable brake-handle, substantially as set forth.

6. In a tricycle, the combination, with vertically-adjustable brake and guide handles, of the vertically-adjustable seat, substantially as and for the purpose set forth.

7. In a tricycle, the spindle-hanger and the rack-bar guide formed integral therewith, substantially as set forth.

8. In a tricycle, the spindle-hanger and the
5 eccentric support, made integral therewith, substantially as set forth.

In testimony whereof I have signed this

specification in the presence of two subscribing witnesses.

ALBERT H. OVERMAN.

Witnesses:

FRANK E. HYDE,
CHAS. P. WALSH.