

(No Model.)

2 Sheets—Sheet 1.

T. O'BRIEN.

TRICYCLE.

No. 287,566.

Patented Oct. 30, 1883.

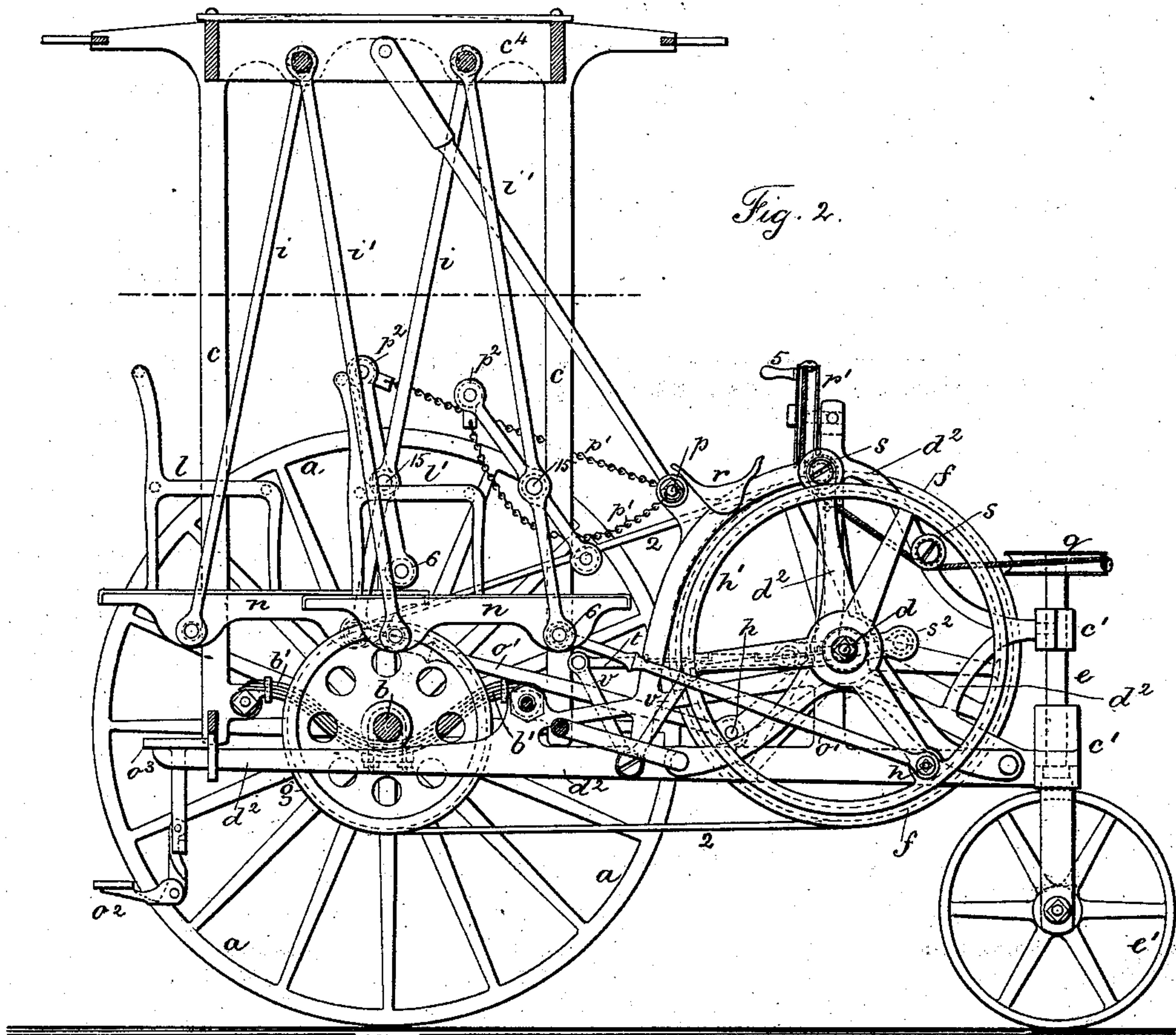


Fig. 2.

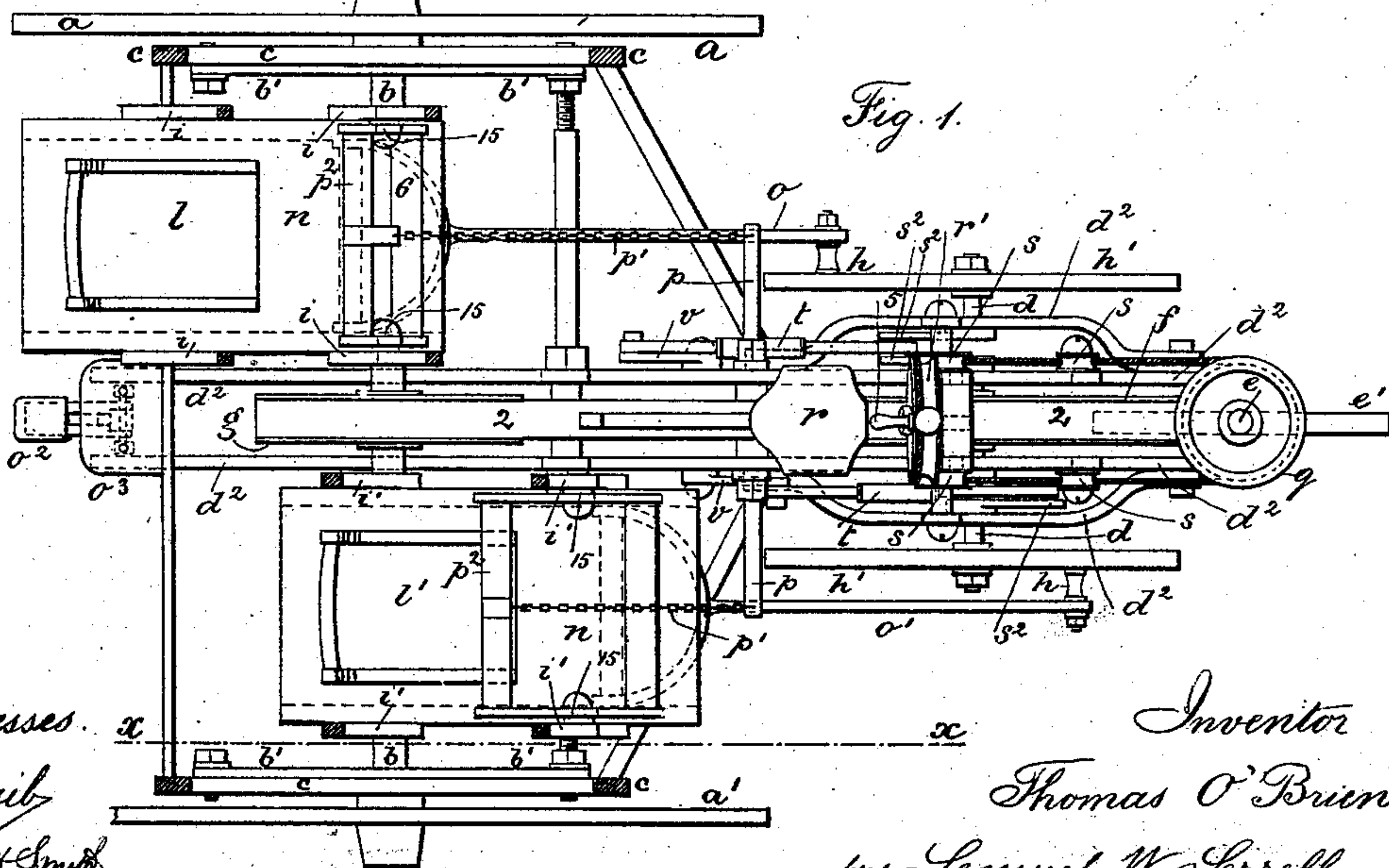


Fig. 1.

Witnesses.
J. Hail
Chas. H. Smith

Inventor
Thomas O'Brien
per Lemuel W. Serrell atty

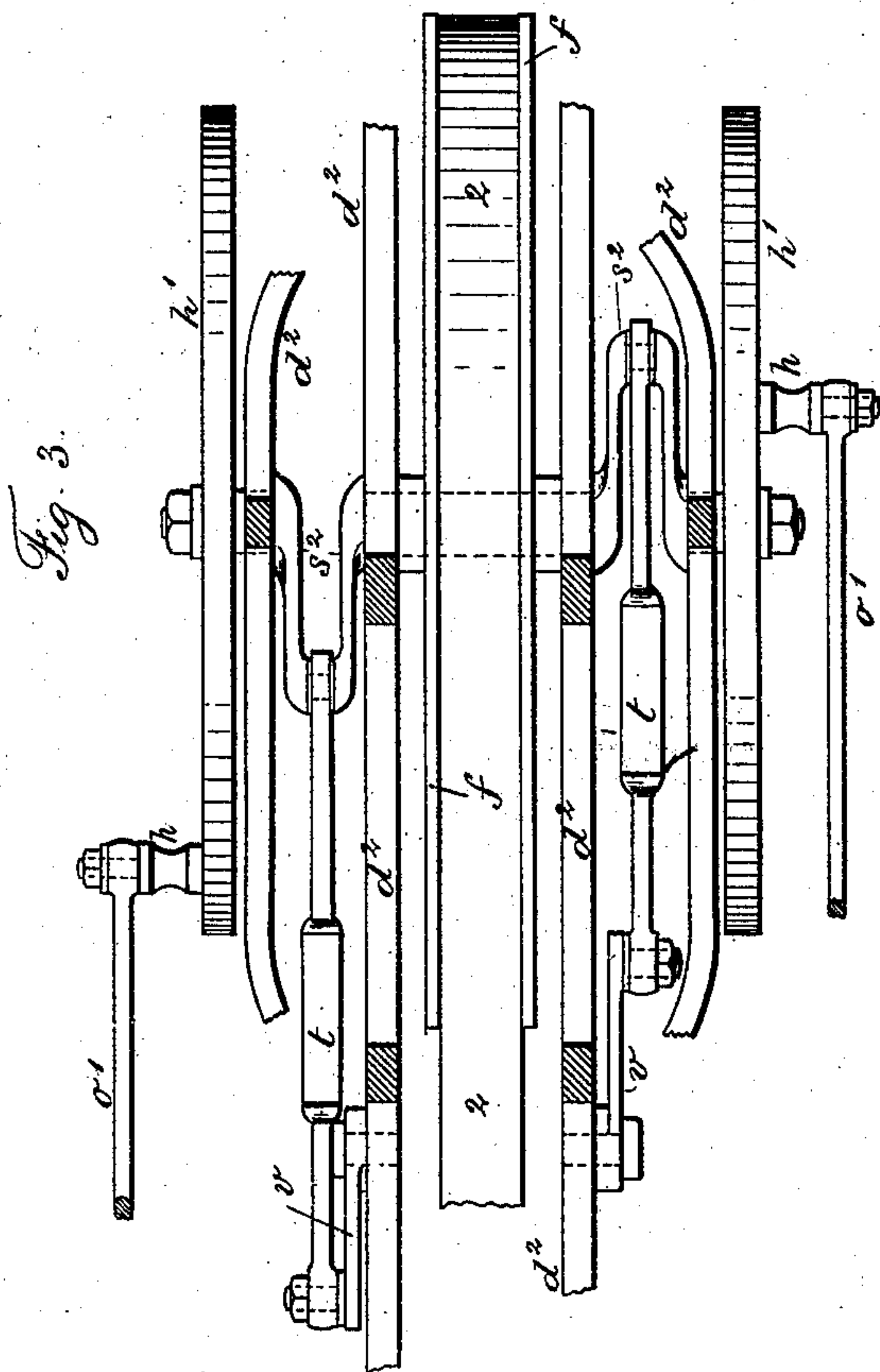
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Inventor
Thomas O'Brien
per Samuel W. Serrell
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UNITED STATES PATENT OFFICE.

THOMAS O'BRIEN, OF NEW YORK, N. Y.

TRICYCLE.

SPECIFICATION forming part of Letters Patent No. 287,566, dated October 30, 1883.

Application filed March 15, 1883. (No model.)

To all whom it may concern:

Be it known that I, THOMAS O'BRIEN, of the city and State of New York, have invented an Improvement in Velocipedes, of which the following is a specification.

This device I term a "pendulous-seat tricycle;" and in it I make use of seats for two persons, the said seats being suspended, so as to be swung, and from these there are connecting-rods to the driving-cranks. I also provide means for bringing the power of the feet and hands into action in swinging the seats, and I employ a steering-wheel to guide the apparatus, and sometimes a third seat is combined with the pendulous seat, so that a person can drive the tricycle alone or aid in its propulsion. This allows for three or more persons enjoying a ride together and for obtaining the exhilarating effect of the swinging movement as well as that from propulsion.

In the drawings, Figure 1 is a plan view with part of the upper frame removed. Fig. 2 is a side view, with one wheel and the side frame removed, at the line $x x$; and Fig. 3 is a detached view, in larger size, of the crank-shaft and treadle-bars.

The driving-wheels $a a'$ are upon an axle, b , and there are springs b' between the said axle and a frame, $c c$, that is connected with the frame d , and extends forward and supports the propelling crank-shaft d , and it also is provided with front bearings, $c' c'$, for the vertical pivot e of the steering-wheel e' .

The crank-shaft d has upon it a pulley or band-wheel, f , with a band or chain, 2, to the wheel g upon the axle b . These wheels f and g may be of any desired relative size. The front wheel, f , will usually be the largest, so that the wheel g and axle b will revolve the fastest.

At the end of the crank-shaft d there are cranks h . They are preferably crank-pins projecting from the wheels h' , that form fly-wheels to the crank-shaft d .

Above the axle b the frame $c c$ is supported by the springs b' , and provided with a top frame, c^t , that may have upon it an awning or cover, to protect the parties riding in the hanging seats $l l'$.

The frame is provided with pivots for the suspension-bars $i i'$, which are pivoted at their

lower ends to the platforms n , there being four of these suspension-bars to each platform, so that the platform will remain level, or nearly so, as it is swung back and forth. Upon these platforms there are the chairs or seats $l l'$, and below the platforms the connecting-rods $o o'$ to the crank-pins $h h$ are pivoted, so that the occupants of the seats, as they swing such seats back and forth, propel the tricycle through the connecting-rods $o o'$, cranks $h h$, wheels f and g , and driving-wheels $a a'$.

To allow a person to step into the apparatus, a movable step, o^2 , is provided at the back. This may be folded up, when not in use, in a similar manner to a carriage-step. From this the person can step upon the cross-bar or spring o^3 , and upon either platform.

In order to allow the occupants of the seat the opportunity to exert the strength of the hands or feet, I employ a cross-bar, p , with chains or cords p' , which can be pulled upon by the occupants of the swings as they go forward; or such chains may be attached to lever-handles p^2 , that are pivoted at 15 between the suspending-bars $i i'$, and there is a foot-piece, 6, to each pair of lever-handles, so that the same can be pushed upon by the feet as the upper end of the handle and the chain are drawn upon in propelling the machine.

At the upper end of the pivot of the steering-wheel there is a grooved wheel, q , and steering cords or chains passing back in any convenient manner, so as to be operated upon by the parties riding in the velocipede. I have, however, shown a saddle, r , for a third rider, in front of whom is a wheel, r' , with cords or chains to the wheel q , the same passing around the guide-wheels s , and being fastened, respectively, to the said wheels q and r' , and to the wheel r' a lever-handle, 5, is applied, so that a person seated upon the saddle r can turn the wheel r' and steer the tricycle in any desired direction.

When the seat r is provided, it is usual to employ cranks $s^2 s^2$ on the crank-shaft d , between the fly-wheels $h' h'$ and the central band-wheel, f , and to connect with those cranks s^2 the treadle-bars t , to the rear ends of which there are links v , and there are foot pieces or bearings upon these treadle-bars, so that the person who is seated upon the saddle r may

propel the tricycle himself alone, by his feet acting upon the bearing-pieces, treadle-bars, and cranks to revolve the shaft and the axle *b*; or the vehicle may be propelled by the joint
5 action of all three parties upon the respective cranks.

This tricycle is adapted to parks, boulevards, and roads, and affords a healthful exercise in which two or three persons can participate.
10

I do not claim a rocking seat and a connection to a crank, as this has been used.

I claim as my invention—

1. The combination, with the wheels *a a'*,
15 steering-wheel *e'*, and frame-work, of the seats *l l'*, and suspending-rods between the seat and frame, a crank-shaft, and connection from the pendulous seats to the cranks *h h*, substantially as set forth.

20 2. The combination, with the wheels *a a'*, axle *b*, steering-wheel *e'*, and frame-work, of the seats *l l'*, the suspending-bars for the same, the crank-shaft, fly-wheels *h' h'*, and connecting-rods to the platforms of the pendulous
25 seats, substantially as set forth.

3. The combination, with the wheels *a a'*, the axle, steering-wheel, and frame-work, of the crank-shaft, the wheels *f* and *g* and connecting-belt, the seat *r*, and treadles connected with the cranks of the shaft, substantially as
30 set forth.

4. The combination, with the wheels *a a'*, axle *b*, steering-wheel *e'*, and its actuating mechanism, of the pendulous seats *l l'*, the cross-bar *p* and cords or chains, the crank-
35 shaft *d*, the wheels *f* and *g*, and belt 2, substantially as specified.

5. In combination with the tricycle, one or more pendulous seats and connections to the driving-shaft, substantially as set forth,
40 whereby the tricycle is propelled by the swinging movement of the pendulous seats.

Signed by me this 14th day of March, A. D. 1883.

THOMAS O'BRIEN.

Witnesses:

GEO. T. PINCKNEY,
CHAS. H. SMITH.