

(No Model.)

R. H. CHARLESLEY.
TRICYCLE.

No. 284,612.

Patented Sept. 11, 1883.

Fig. 1.

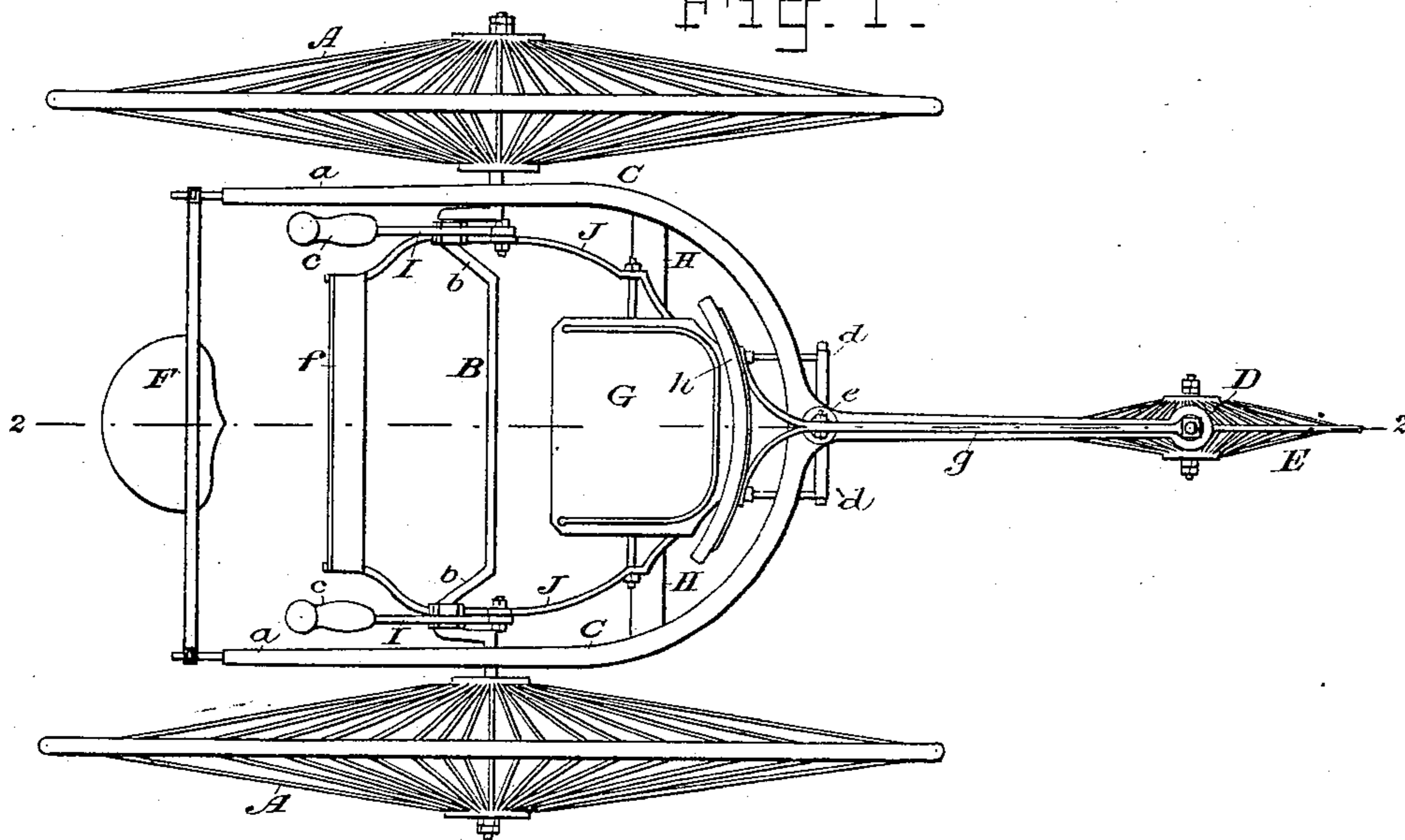
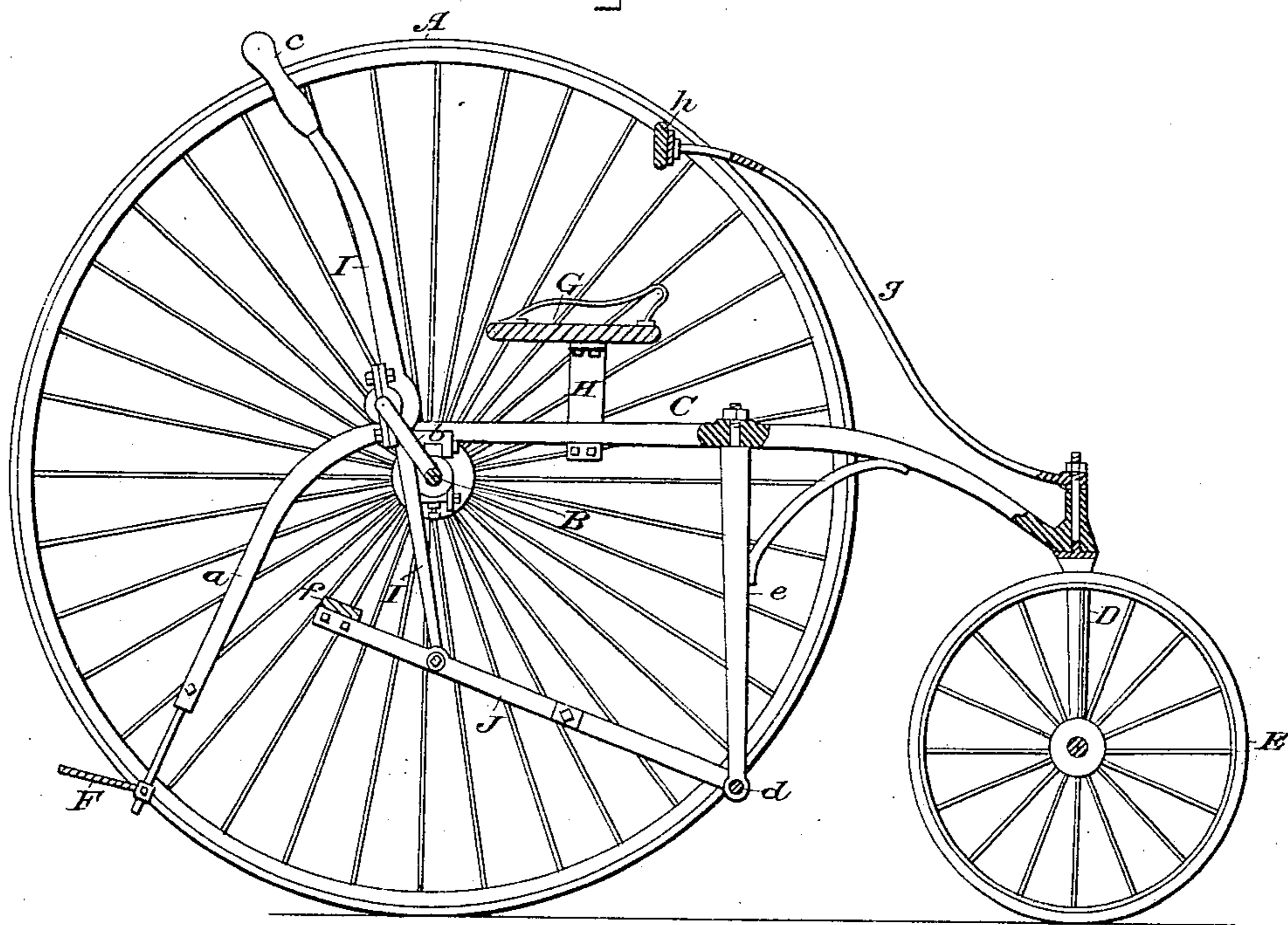


Fig. 2.



WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT H. CHARSELEY, OF OXFORD, COUNTY OF OXFORD, ENGLAND.

TRICYCLE.

SPECIFICATION forming part of Letters Patent No. 284,612, dated September 11, 1883.

Application filed March 27, 1883. (No model.) Patented in England October 8, 1880, No. 4,088, in Belgium February 14, 1882, No. 57,002, and in France February 16, 1882, No. 147,386.

To all whom it may concern:

Be it known that I, ROBERT HARVEY CHARSELEY, a subject of the Queen of Great Britain, residing at Oxford, county of Oxford, England, have invented certain Improvements in Tricycles, of which the following is a specification.

My present invention relates to certain improvements in tricycles, whereby both hands and both feet may be brought into play as propelling forces, or only one of both or one of either may be used, or the feet alone or the hands alone may be employed for the propulsion of the vehicle.

In the drawings, which serve to illustrate my invention, Figure 1 is a plan of my improved tricycle; and Fig. 2 is a sectional elevation of the same, the section being taken substantially on line 2 2 in Fig. 1.

Let A A represent the ordinary driving-wheels of a tricycle, and B the axle. In order that the vehicle may turn the more readily, one wheel is made to turn freely on the axle, while the other is fixed thereon.

C is a Y-shaped frame, in the stem of which the fork D of the steering-wheel E is rotatively mounted in a vertical socket. The two arms of the frame C rest upon the axle B, which is rotatively mounted in the arms, and the forward ends, *a*, of the latter are bent down and connected together by a rod to form a support for a foot-rest, F.

G is a seat for the rider, which is mounted upon the frame C, back of the axle, being supported on an arched spring-bar, H.

In the axle are bent or formed two cranks, *b b*, arranged in the same plane, and I I are two levers in which said cranks are rotatively mounted. The upper ends of the levers I are provided with handles *c*, and their lower ends below the crank-bearings extend down and are coupled, respectively, to two treadle-levers, J J. The rear ends of these levers extend back and are pivoted at *d* to a pendant, *e*, from the frame C. Their forward ends are connected by a treadle-bar, *f*, to receive the feet when the latter are employed to assist in the propulsion.

In propelling my improved tricycle, the rider, if he wishes to employ only the hands,

grasps the handles *c c*, and, resting his feet on F, pulls on the levers I, when the cranks are below the axle, as if rowing with sculls, and pushes on the same when the cranks are above the axle. The direction of the tricycle is reversed by reversing this action. If he wishes to employ both feet and hands, he places his feet on the treadle-bar *f*, and, by straightening out the legs at the same time that he pulls on the levers, applies the strength of both the arms and legs to the propulsion of the vehicle. The action of the treadle on the cranks is nearly at right angles to that of the hand-levers, the former being downward and the latter toward the rear. Consequently the dead-point of the cranks is overcome. It is this combination of the rod which connects the treadle with the cranks, with the hand-levers, all in one, which forms the most important feature of my invention.

It will be seen that the lever I has a moving fulcrum-point where it connects with the treadle-lever, and that the weight (that is, the crank) is between the fulcrum and the power. This construction enables any one who has the use of only one leg or one hand to propel the vehicle; but the best results are reached, of course, when both hands and both feet are employed. In order to rest the arms, the feet may be employed alone, or vice versa.

The steering is effected by the back. To the upper end of the fork D, in which the steering-wheel is mounted, is fixed an arm or tiller, *g*, which extends forward to the position occupied by the back of the rider. To this tiller is fixed a curved piece, *h*, which forms, in substance, a back for the seat G, although not in any way connected therewith. The back of the rider rests in this curved piece *h*, and when he wishes to change the direction of the tricycle he has only to swing or sway his body sidewise in order to turn the steering-wheel on its vertical axis, which will effect the result. This steering device was shown in my English patent of August 17, A. D. 1869, No. 2,451, and I do not claim it herein.

I wish it understood that I do not limit myself to the precise construction of the tricycle as herein described, as some modification of

the construction may be permitted without material departure from my invention.

Having thus described my invention, I claim—

5 1. In a tricycle provided with a cranked axle, the combination, with the treadle-levers and treadle, mounted substantially as shown, of the levers I, coupled at their lower ends to the treadle-levers and at intermediate points
10 to the cranks, substantially as set forth, whereby said levers serve as hand-levers and also as connecting-rods between the treadle-levers and cranks, for the purpose specified.

15 2. The combination, with the frame C of a tricycle, provided with pendent ends *a* and a foot-rest, F, the cranked axle, and the driving-

wheels, of the seat G, mounted on the frame back of the axle, the treadle-levers and treadle, and the levers I, coupled to the treadle-levers at their lower extremities and to the cranks in the axle at an intermediate point, substantially as set forth.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

ROBERT HARVEY CHARLESLEY.

Witnesses:

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