No. 627,596. Patented June 27, 1899.

L. SCHUTTE.

MONOCYCLE.

(Application filed Jan. 20, 1898.)

(No Model.) 3 Sheets—Sheet 1.

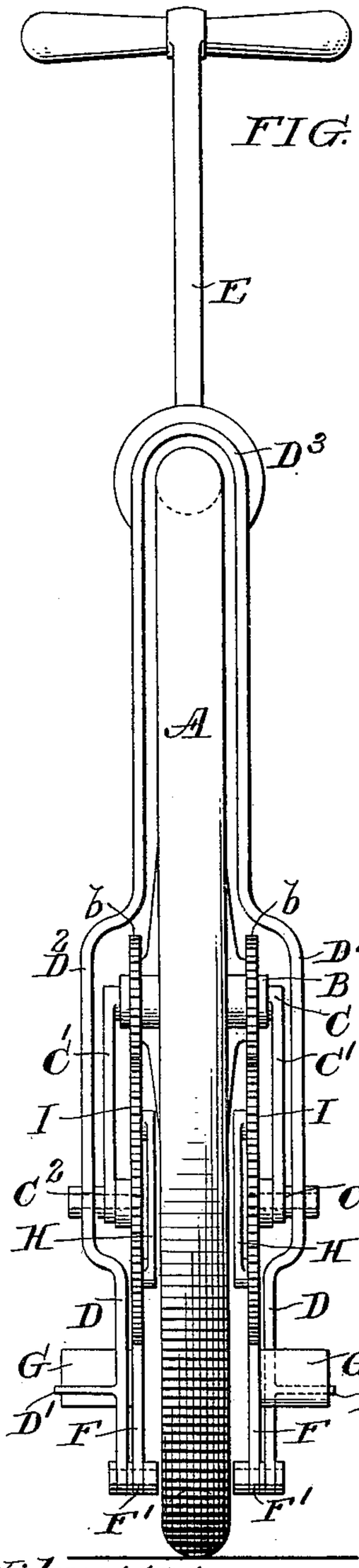

FIG. 2.

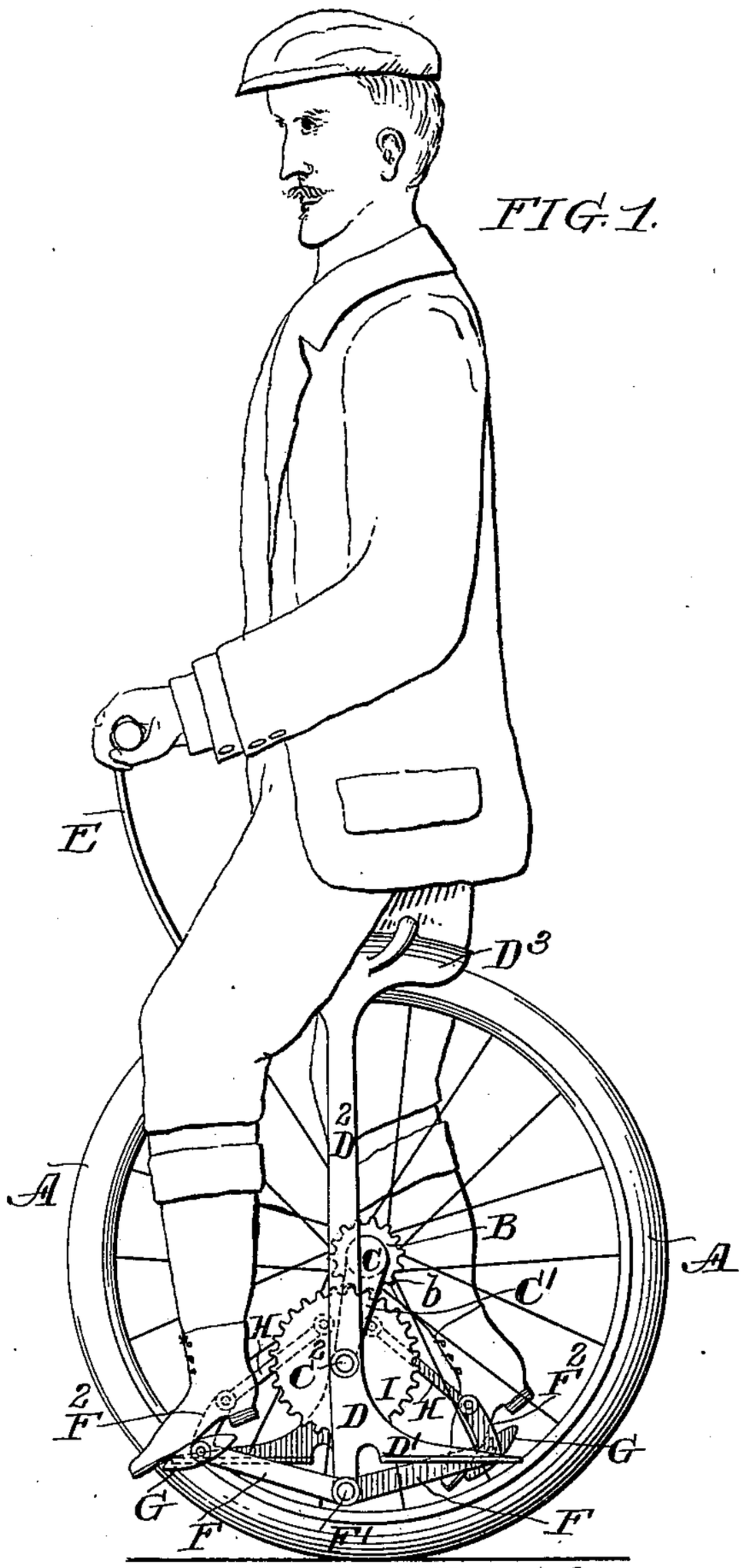

FIG. 1.

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THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

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FIG. 3.

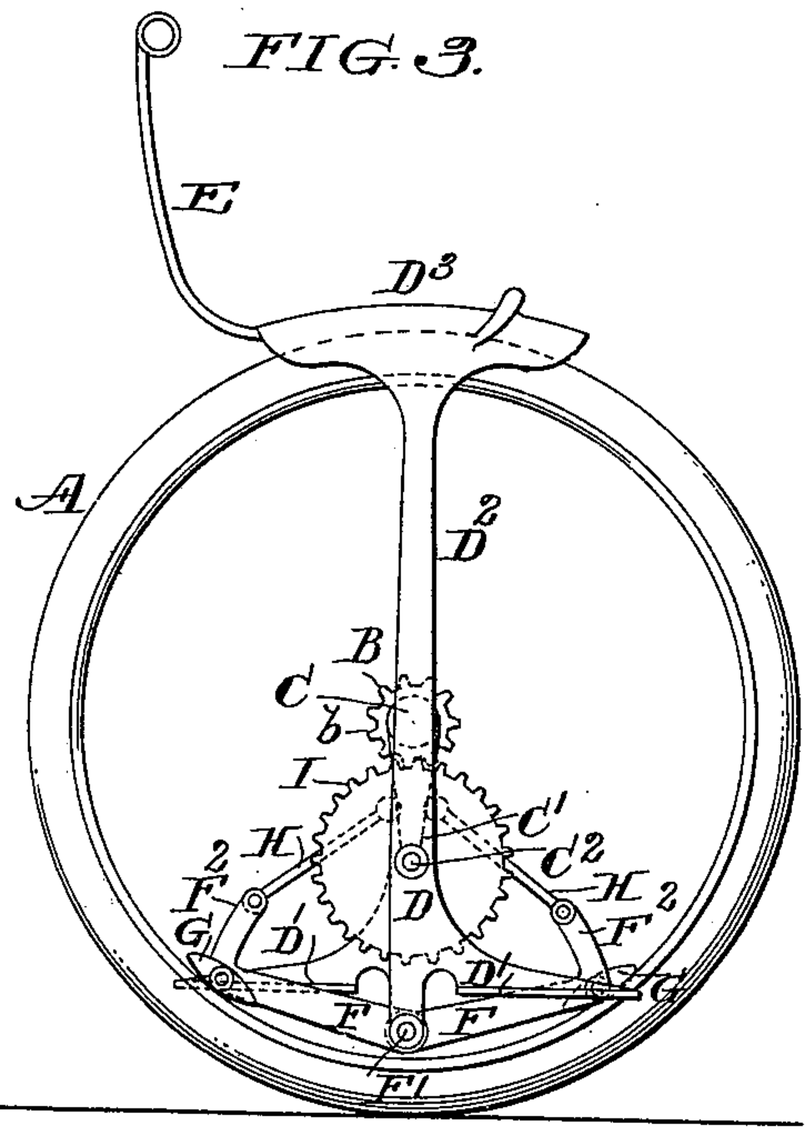


FIG. 4.

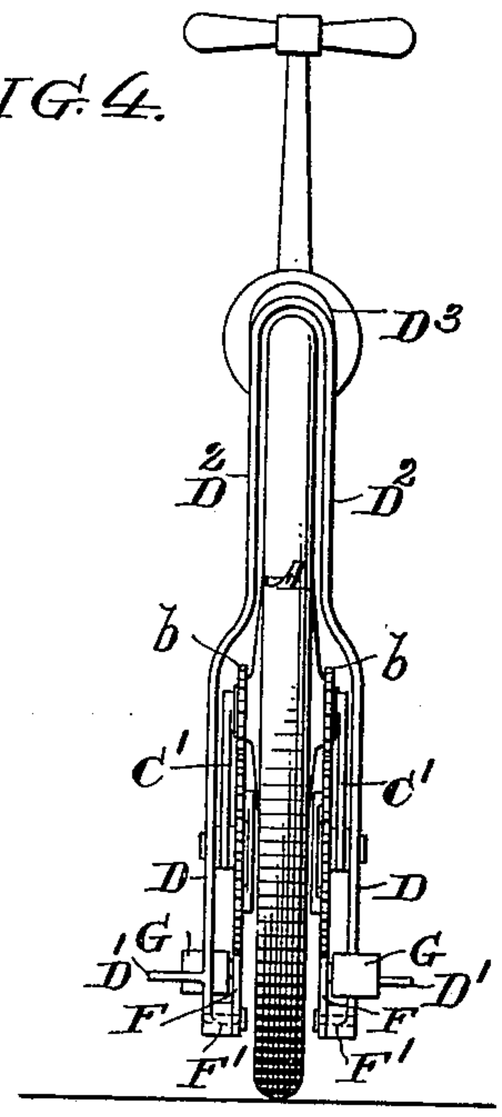


FIG. 5.

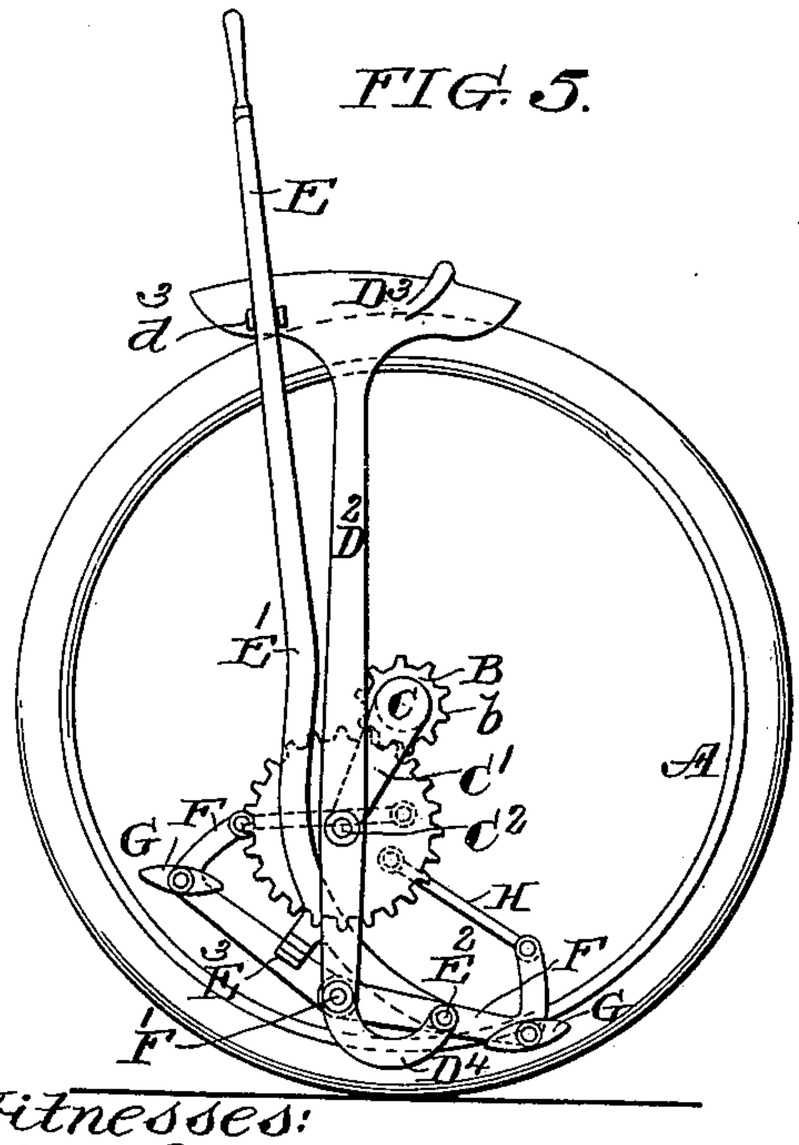
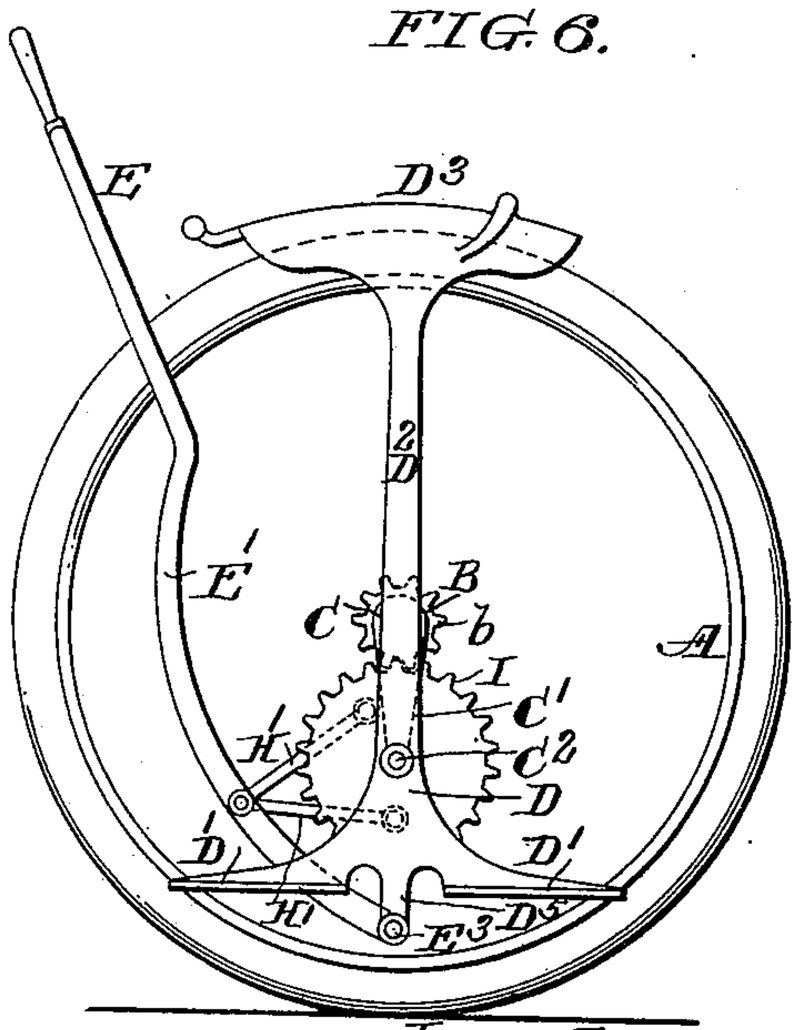


FIG. 6.



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3 Sheets—Sheet 3.

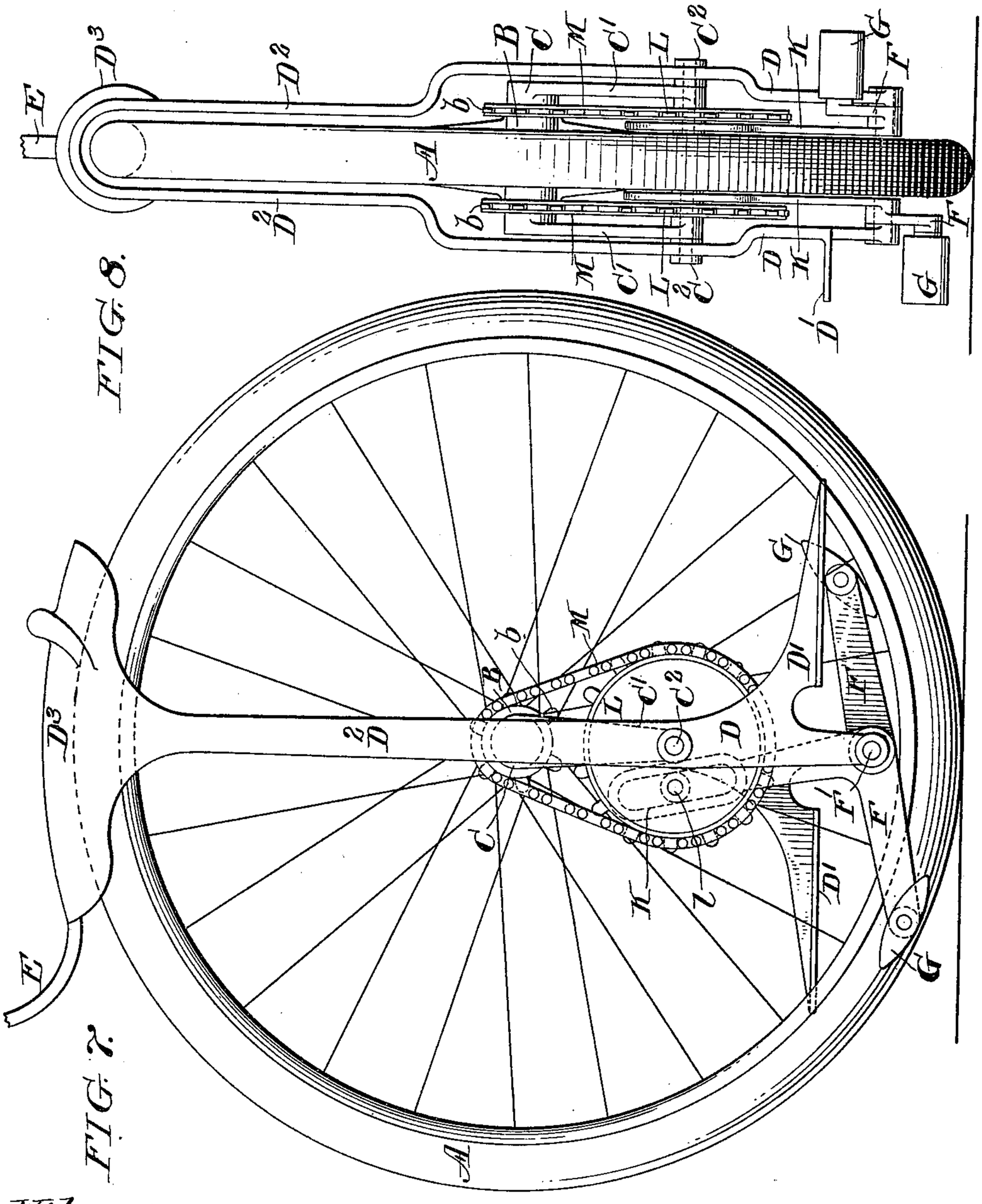

FIG. 8.

FIG. 2.

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UNITED STATES PATENT OFFICE.

LOUIS SCHUTTE, OF PHILADELPHIA, PENNSYLVANIA.

MONOCYCLE.

SPECIFICATION forming part of Letters Patent No. 627,596, dated June 27, 1899.

Application filed January 20, 1898. Serial No. 667,308. (No model.)

To all whom it may concern:

Be it known that I, LOUIS SCHUTTE, a citizen of the United States of America, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented a certain new and useful Improvement in Monocycles, of which the following is a true and exact description, reference being had to the drawings which form a part thereof.

My invention relates to the construction of a monocycle, having for its object to provide a new machine of this class and one of simple construction.

Broadly speaking, my invention consists in supporting, through depending arms journaled upon the hub of a single wheel, a frame or frames pivotally depending from the said arms and not otherwise secured thereto, said frames being adapted to support the foot of a rider standing in upright position while the wheel revolves and in providing in addition to this frame means by which the rider can apply power to rotate the wheel, said means consisting, preferably, of pedals connected with cranks attached to the lower part of the supporting-frame below its connection with the arms and connected also in such manner as to communicate their reciprocating motion into a rotating motion of the wheel.

The nature of my improvements will be best understood as described in connection with the drawings, in which my invention is illustrated in various modifications.

Figure 1 is a side elevation of my machine in its preferred form of construction; Fig. 2, a front elevation of the same machine on an enlarged scale; Fig. 3, a side elevation similar to Fig. 1, except that the parts are shown in a different position and the rider shown in Fig. 1 is omitted. Fig. 4 is a front view of the wheel as shown in Fig. 3. Fig. 5 is a side elevation showing a modified construction, in which provision is made for applying hand as well as foot power to the rotation of the wheel. Fig. 6 is a side elevation of another modification, in which the wheel is rotated entirely by hand-power. Figs. 7 and 8 are respectively side and front elevations of still another modification, illustrating a different way of applying foot-power to the rotation of the wheel.

A indicates the wheel, which is provided with a hub B, upon which in all the constructions shown a gear-wheel is secured, adapted for either a sprocket-chain or for a direct engagement with another gear-wheel, as indicated at *b*. In my construction a shaft C is carried through the hub, which is made hollow and is provided with depending arms C′ C′ at each end, the foot-supporting frames D D being pivotally connected with the ends of said arms, as indicated at C^2.

D′ (shown in all the figures except Fig. 5) indicates a foot-rest extending out from the frame D and which, on opposite sides of the wheel, should extend in opposite directions. Sometimes, in order to enable the rider to change the position of his feet, the foot-rests D′ extend from each side of the frame D both forward and backward, as is indicated, for instance, in Fig. 6. The frames D D are preferably connected together (forming, in substance, a fork-frame) by means of a fork connection D^2, extending over the top of the wheel, and on the top of which is preferably formed a saddle D^3.

F F are reciprocating pedal-levers pivoted to the frame below the ends of arms C, as indicated at F′, and carrying pedals G G at their outer ends. These extend forward on one side of the wheel and backward on the other, as indicated, and have connected to or with them means for communicating their reciprocating motion to the hub of the wheel as a rotative movement. As shown in Figs. 1 and 2, for instance, connecting-rods H H couple extensions F^2 F^2 of the pedal-levers with gear-wheels I I, which in turn communicate motion to the gear-wheel *b* on the hub of the wheel. It will be noticed, and this is a point of considerable practical importance, that the connection and size of the pedal-levers F are such that the pedals do not in their motion extend beyond the periphery of the wheel A.

Other means for communicating motion from the reciprocating pedal-levers to the wheel may be employed. Thus, for instance, in Figs. 7 and 8 I have shown the pedal-levers as provided with angular extensions K K, having slots K′ at their upper ends, which embrace pins *l*, extending out from the sides of large sprocket-wheels L, the motion of these sprocket-wheels being communicated by chain M to the teeth of the wheel *b* on the hub. In

Figs. 1, 2, 3, and 4 and also in Figs. 7 and 8 I have indicated a handle-bar E as extending out from the top of the frame D^2. I contemplate using the handle as a means or supplemental means for communicating motion to the wheel and have shown in Fig. 5 a construction in which the handle-bar E is continued down, as indicated at E′, and pivoted at E^2 to a rearward extension D^4 of the frame D, the arrangement shown being such that the lever E E′ can be engaged in a catch d^3 in the saddle, in which case it will simply serve as a grip for the rider, or it may be disengaged from the said catch d^3 and by means of a catch E^3 engaged with one of the pedal-levers F, in which case it will be seen that it will serve to give a reciprocating motion to the said pedal-lever.

In Fig. 6 I have shown another construction, in which the reciprocating handle-bar E E′, pivoted to an extension D^5 of the frame, is coupled by connecting-rods H′ with a gear-wheel I, taking the place of the pedal-levers, and in Figs. 7 and 8 I have shown another modification, in which the supporting-crank arms C′ C′ are entirely dispensed with, the frame D being supported directly on the axle of the wheel and motion communicated to it through the reciprocating handle-bar by means of connecting-rods H^2, coupling directly to crank-arms J′ on the hub of the wheel.

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

1. A monocycle having pivoted arms as C′ C′ dependent from its center in combination with frames D D depending from each arm, reciprocating pedal-levers F F pivoted on the frames D below their points of connection with the arms C, and means for transmitting and converting the reciprocating motion of the pedal-levers to a rotary movement of the single wheel of the monocycle.

2. A monocycle having pivoted arms as C′ C′ dependent from its center in combination with frames D D depending from each arm, reciprocating pedal-levers F F pivoted on the frames D below their points of connection with the arms C so as to extend forward on one side of the wheel and rearward on the other side, and means for transmitting and converting the reciprocating motion of the pedal-levers to a rotary movement of the single wheel of the monocycle.

3. A monocycle having pivoted arms as C′ C′ dependent from its center in combination with frames D D depending from each arm, reciprocating pedal-levers F F pivoted on the frames D below their points of connection with the arms C, so as to extend forward on one side of the wheel and rearward on the other side, stationary foot-rests as D′ secured to the suspended frames, and means for transmitting and converting the reciprocating motion of the pedal-levers to a rotary movement of the single wheel of the monocycle.

4. A monocycle having pivoted arms as C′ C′ dependent from its center in combination with frames D D depending from each arm, reciprocating pedal-levers F F pivoted on the frames D below their points of connection with the arms C, a reciprocating handle pivotally secured to the frames D D, and means for transmitting the reciprocatory movement of the pedal-levers and handle to the wheel as a rotary movement.

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Witnesses:
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D. HAVATH.