

(No Model.)

3 Sheets—Sheet 1.

J. BREITENMOSER.
VELOCIPÈDE.

No. 452,336.

Patented May 12, 1891.

FIG. 1

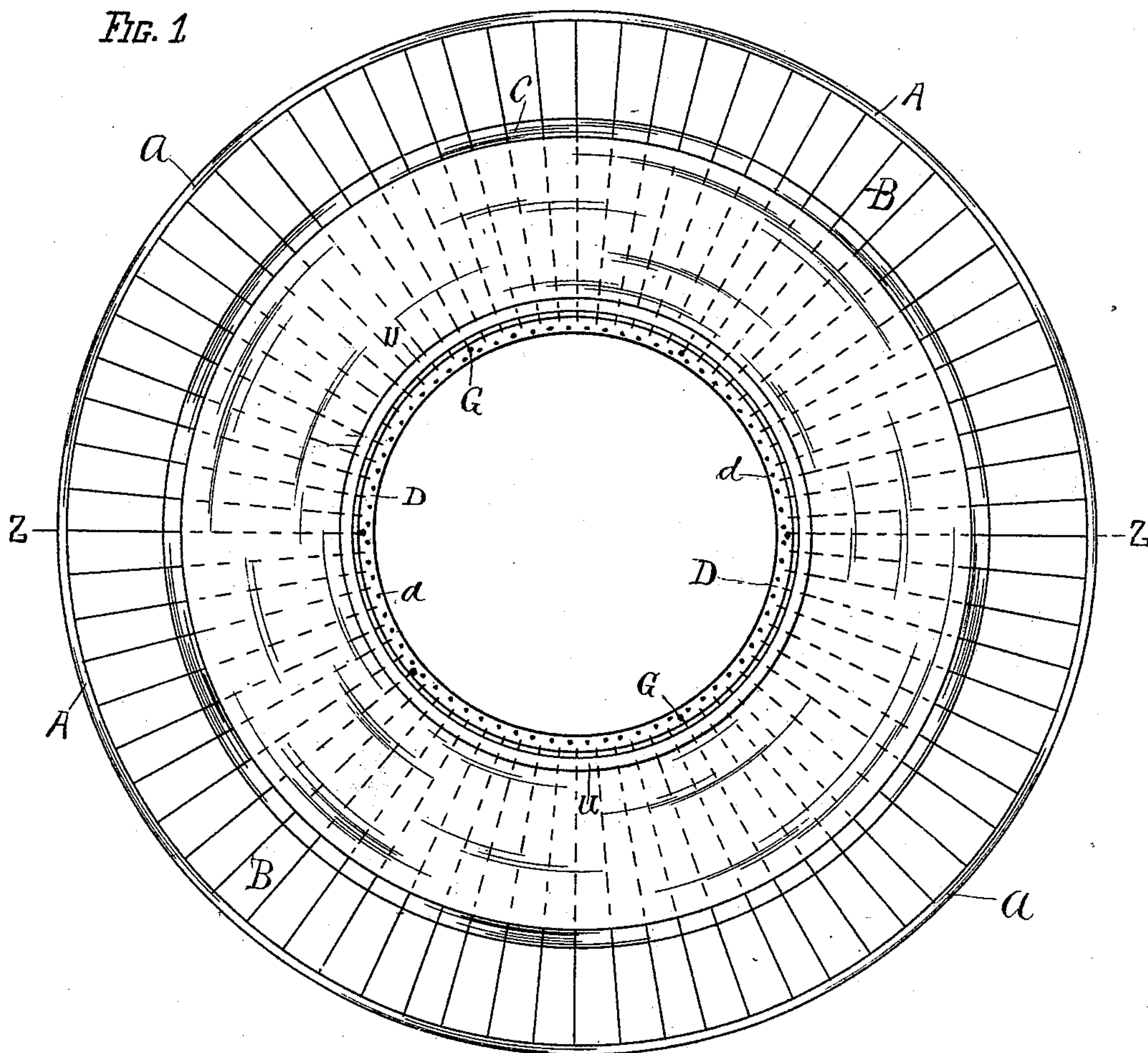
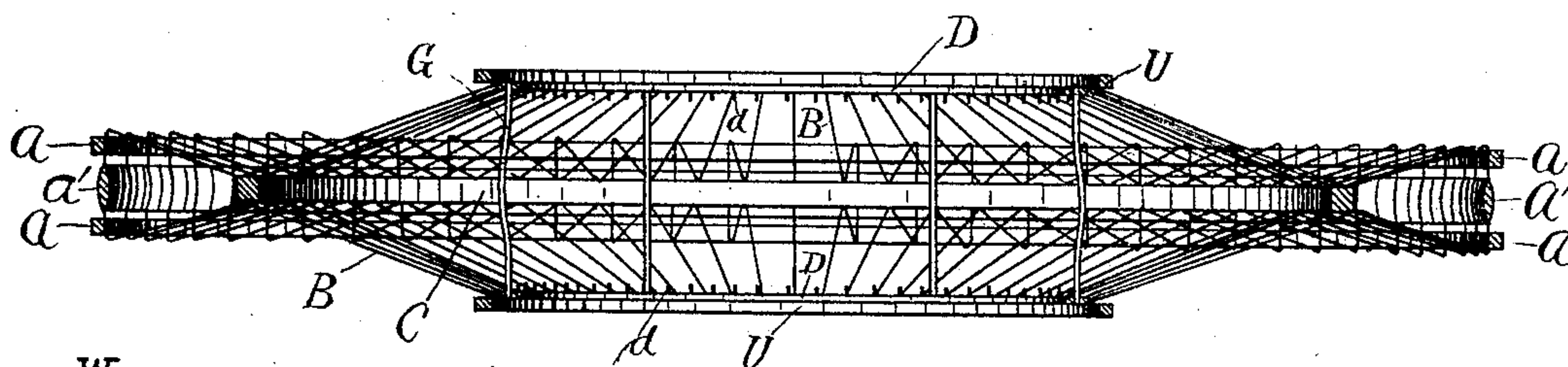


FIG. 2.



WITNESSES.

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INVENTOR.

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his attorney

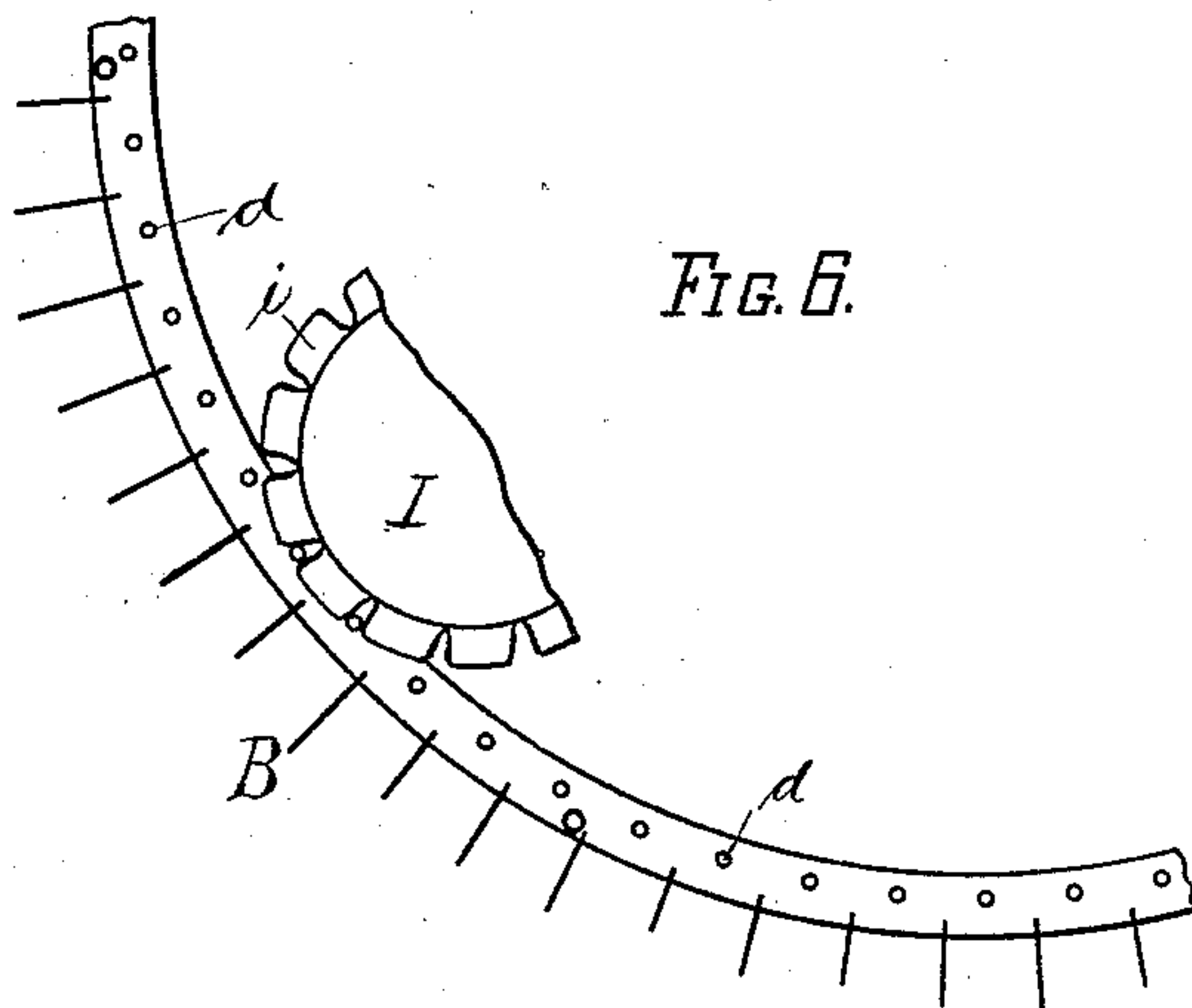
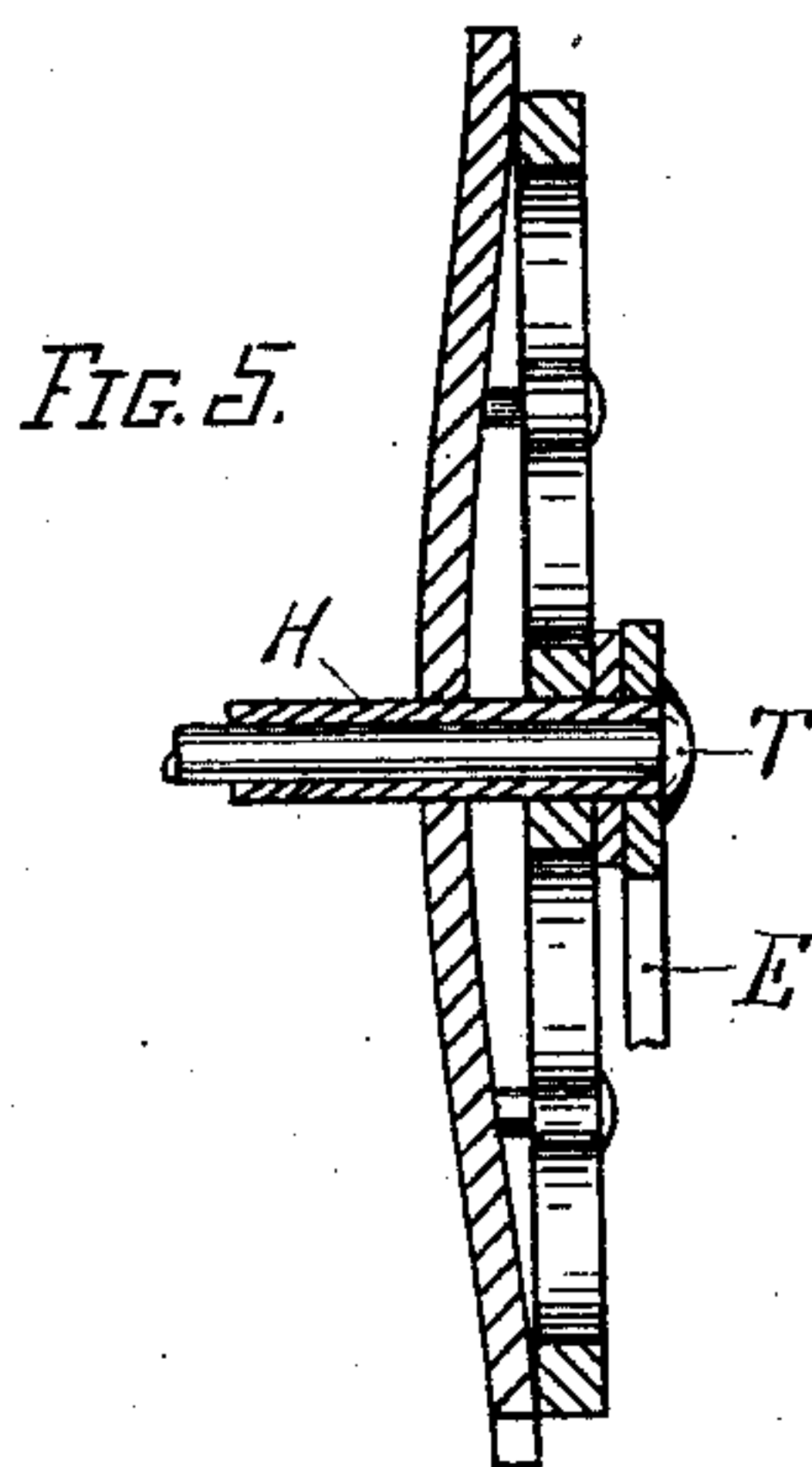
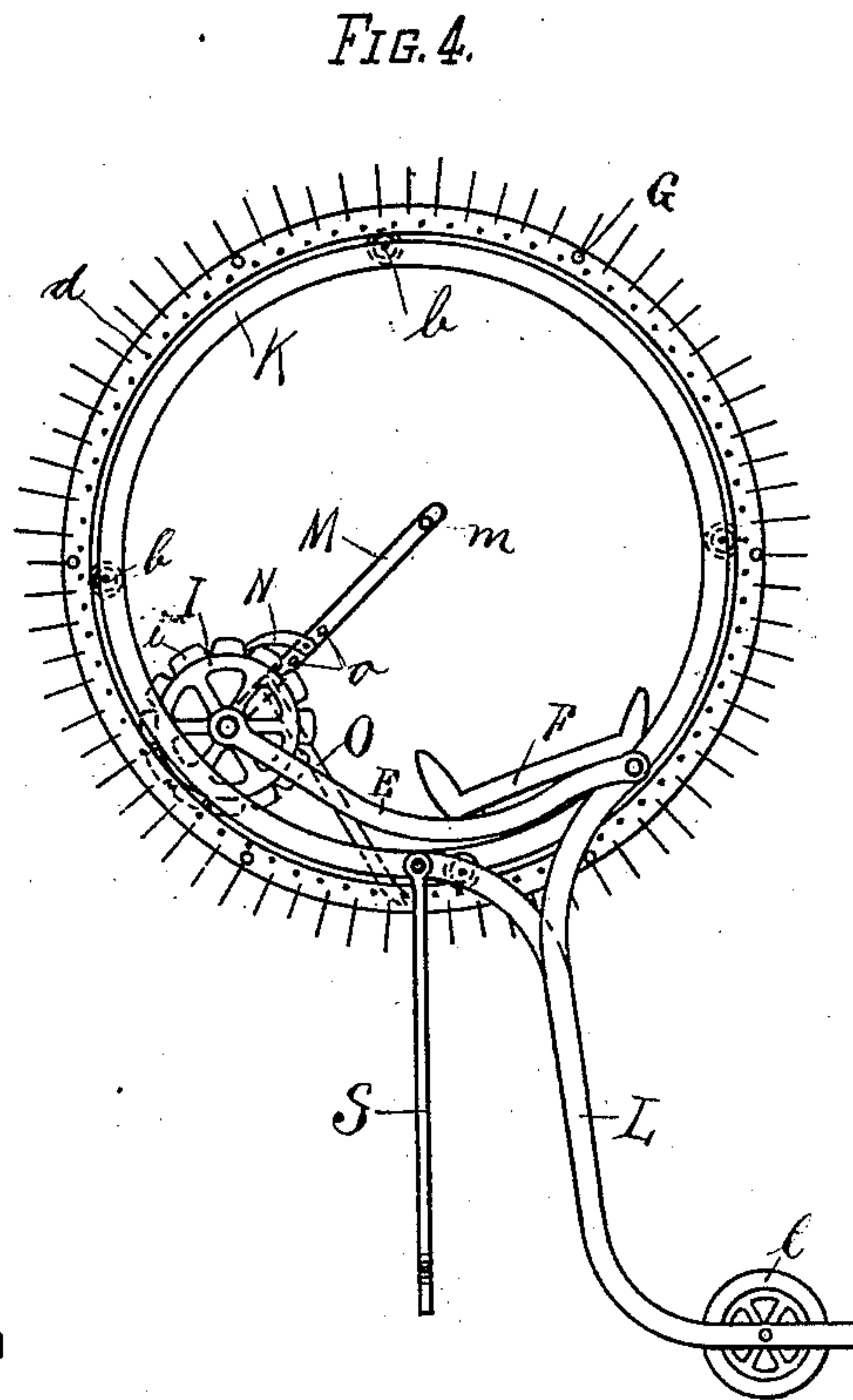
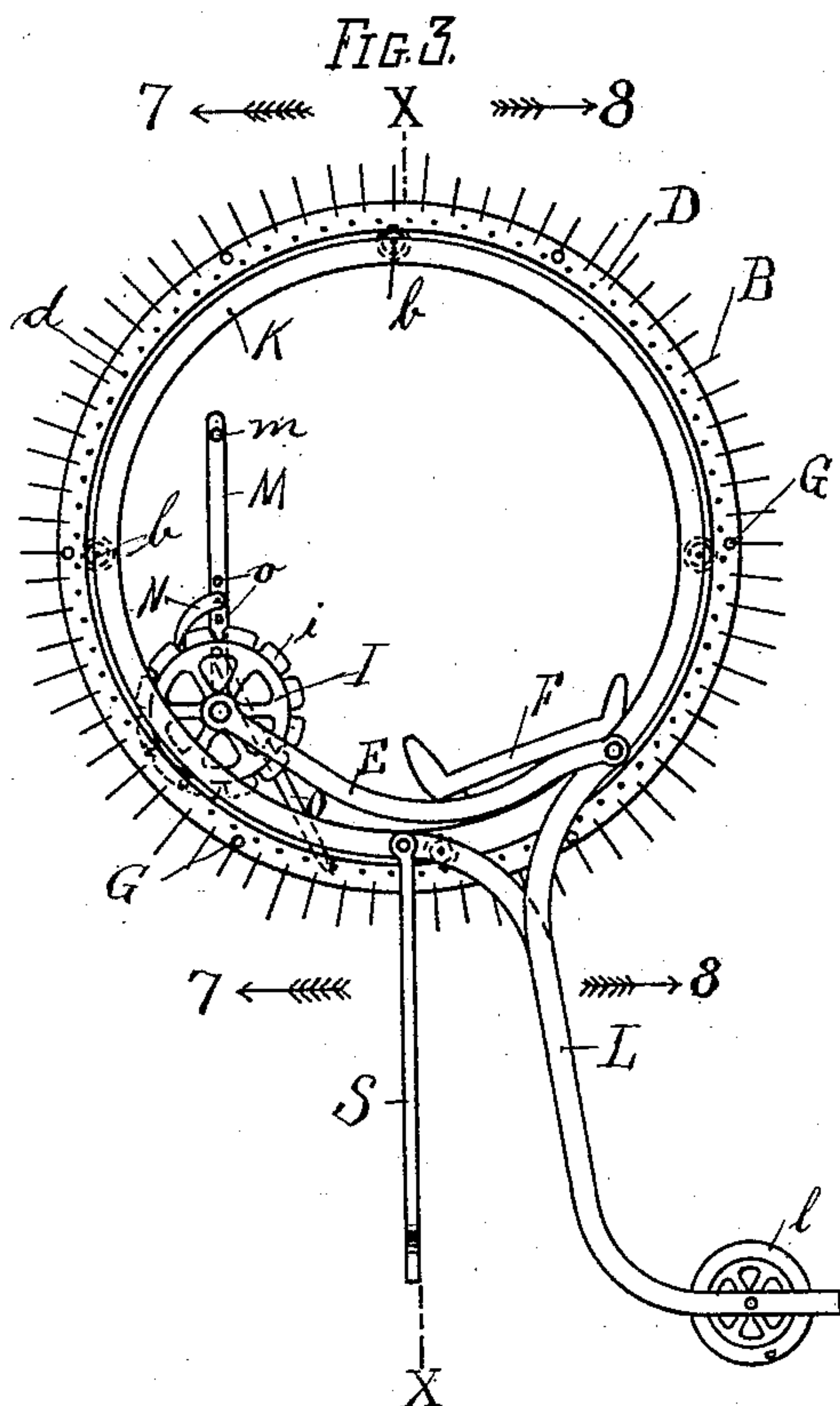
(No Model.)

3 Sheets—Sheet 2.

J. BREITENMOSE.
VELOCIPEDE.

No. 452,336.

Patented May 12, 1891.



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(No Model.)

3 Sheets—Sheet 3.

J. BREITENMOSER.
VELOCIPÈDE.

No. 452,336.

Patented May 12, 1891.

FIG. 7.

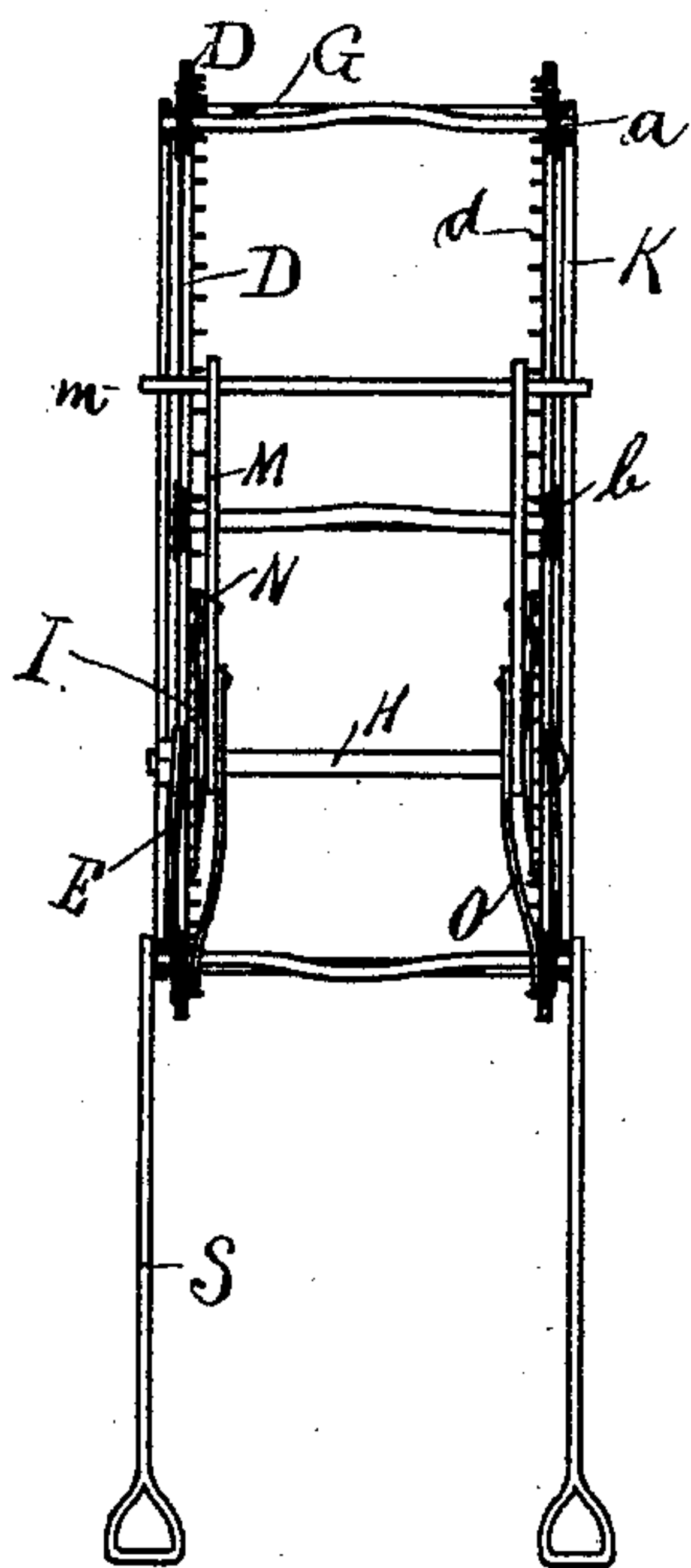


FIG. 8.

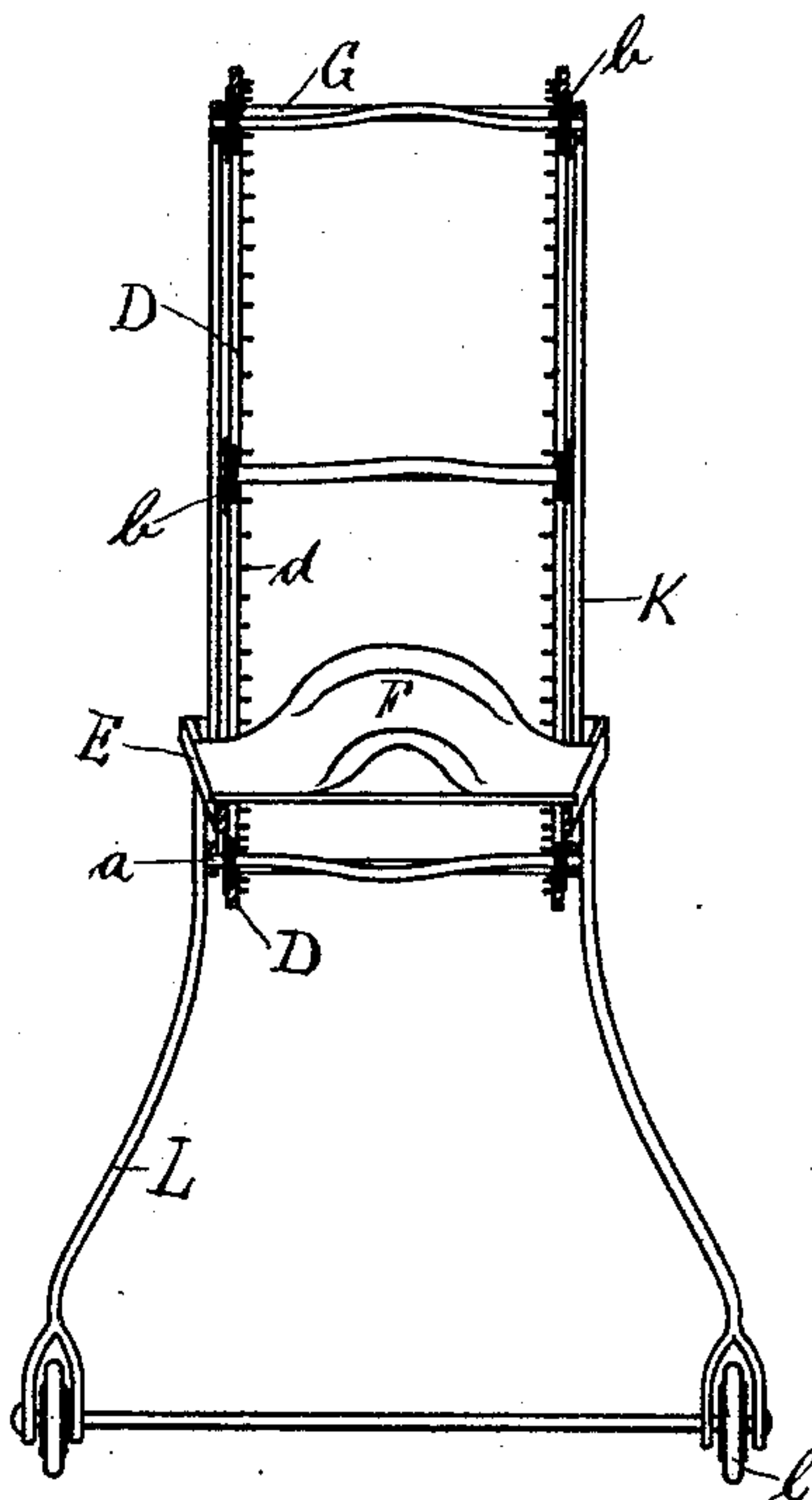
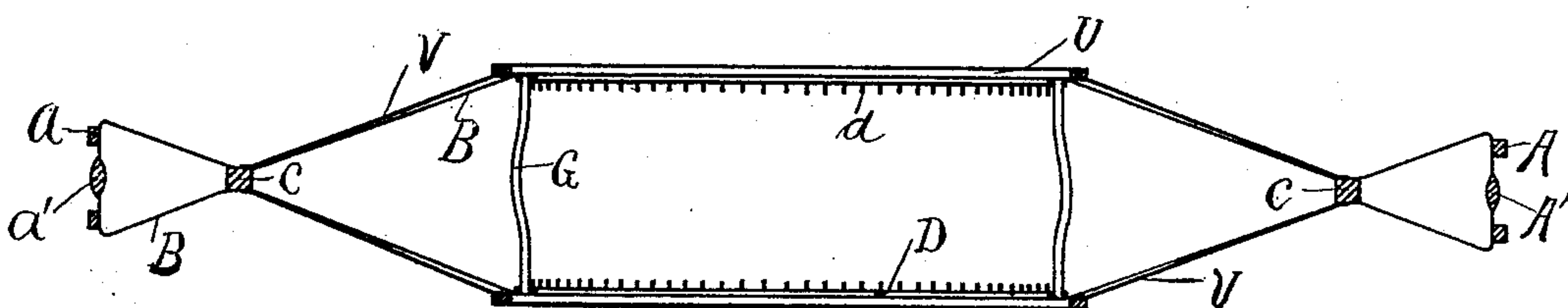


FIG. 9.



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UNITED STATES PATENT OFFICE.

JOSEPH BREITENMOSER, OF ST. LOUIS, MISSOURI, ASSIGNOR TO FREDERICK H. MILLER, OF SAME PLACE.

VELOCIPEDE.

SPECIFICATION forming part of Letters Patent No. 452,336, dated May 12, 1891.

Application filed September 18, 1890. Serial No. 365,438. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BREITENMOSER, a citizen of the United States, residing in the city of St. Louis and State of Missouri, have
5 invented certain new and useful Improvements in Means for Transportation, of which the following is a full, clear, and exact description.

My invention relates to that class of vehicles which are propelled by the person using the same, and has for its object to provide a vehicle that, while supporting the weight of the person, shall be designed and constructed so as to take all the advantage possible of
15 such weight as a means for propelling the same.

It consists in the following-described contrivance, which is virtually a one-wheeled hubless or annular velocipede, combined with
20 mechanism to propel it.

In the accompanying drawings, in which like letters of reference denote like parts in the several figures, Figure 1 is a side elevation of my wheel with the propelling mechanism removed. Fig. 2 is a cross-section taken on the line 2 2 in Fig. 1. Fig. 3 is a side elevation of the propelling mechanism, showing the hand-lever hereinafter described in the forward position of its movement. Fig. 4 is
25 the same as in Fig. 3, showing the hand-lever in its backward position. Fig. 5 is a detail diametrical sectional view of one of the motor-wheels, hereinafter described. Fig. 6 is a detail view of the inside of a portion of one of
30 the track-rings, hereinafter described, showing the studs or bolt-heads secured thereto in connection with which the motor-wheels operate. Fig. 7 is a vertical section taken on the line $x x$ in Fig. 3, the view being taken in the direction of the arrows 7 7 therein. Fig.
35 8 is a section taken as in Fig. 7, but viewing it in the direction of the arrows 8 8 in Fig. 3, and Fig. 9 is a plan view of the section taken on the line 2 2 in Fig. 1.

45 The wheel proper consists in one or two outside tires A, to which the outer ends of the spokes B are attached. There are preferably two tires A set a short distance apart, as shown in Figs. 2 and 9, and the wire form-

ing the spokes B not cut at and their ends 50 fastened to the tires A, but bent, so as to form the irregularly-shaped loop, as shown in Fig. 9, the closed end of this loop being fastened to the tires A. In this way there is formed the circumferential groove around the wheel, 55 into which can be secured the rubber tire A', and which will make the wheel convenient to be used on a single raised track, as a railroad-rail. The inside ends of the spokes B are fastened to the two track-rings D, which are 60 placed at a distance apart convenient to accommodate the saddle-frame E, being secured by the bracing-rods G, and are of a diameter convenient to accommodate the upper portion of the body of a person occupying the 65 seat or saddle F. On the inside surface of the flat track-rings D are the projecting studs or round bolt-heads d , which are placed at a distance apart suitable to operate in connection with the gear-like recesses or notches i 70 cut in the circumference of the motor-wheels I, acting as an annular gear-wheel. Concentric with the tires A and the track-rings D, situated between the two, is the intermediate bracing-ring C, to which the spokes B are 75 brought and fastened. To this ring C is also secured the outer edge of the annular-shaped pieces of canvas V. The inner edge of the canvas is secured to a wooden ring U, which is secured and corresponds with the track- 80 ring D.

The two motor-wheels I are rigidly secured together on the same shaft H, which is hollow, at a distance apart, so that they will gage properly with the two track-rings D. The 85 peripheries of these motor-wheels I are formed with a flange and flat tread surface, (shown in the sectional view in Fig. 5,) and it is in the edge of this flange that the notches i , to accommodate the studs d , are cut, so as to 90 properly mesh therewith when the motor-wheels are operated on the track-rings D.

The forward end of the saddle-frame E is supported on the projecting ends of the shaft H on the outside of the motor-wheels I, and 95 pivotally secured thereon by the head and nut on the ends of the bolt T, let through the hollow center of the shaft H. The back end of

the saddle-frame is supported by being secured to the loose rings K.

The loose rings K, there being one on each side of the wheel, are of a diameter somewhat smaller than that of the track-rings D and are situated just outside the rings D. They are secured together by the several connecting-rods *a*, on which are mounted the friction-wheels *b*, one on either end of the rods, which run on the tracks and maintain the frame as a whole in a definite position laterally relative to the track-rings, but still allowing the movable rings to revolve within the track-rings independently thereof.

To the loose-rings K are secured the downwardly and backwardly projecting trailing-arms L, into the ends of which are secured the small road-wheels *l*, which act in using the machine as steadying and steering wheels.

The handle-levers M are pivotally secured to the shaft II just inside the motor-wheels I, and are connected at the top by the handle-bar *m*.

To the handle-levers at a point a convenient distance from the fulcrum-point at the shaft II is pivotally secured the forward ratchet-pawl N, which engages with the notches *i* in the periphery of the motor-wheels and operates them by the forward or pushing movement of the handle-levers M.

Attached to the handle-levers M at a point a convenient distance from the fulcrum-point are the backwardly-extending pawl-bars O, the ends of which are in a position to engage and operate with the studs *d* on the track-rings in the backward or pulling movement of the handle-levers M. There are preferably several holes *o*, formed in the handle-levers M as points of attachment for the ends of the pawl-bars O, so that the leverage effected thereby is adjustable.

The saddle or seat F is secured to the saddle-supporting frame E in such a position that when a person occupies the seat sitting in a normal position the center of gravity of his weight is directly below the center of the wheel.

To the loose rings K are attached the stirrups or foot-rests S at a point such that when the person using the wheel throws his weight onto the stirrups the center of gravity of his weight is thrown more forward than when sitting in the saddle.

In using the wheel the person occupying the seat F takes hold of the handle *m*, and in pulling thereon not only tends to rotate the large wheel through the pawl O and the leverage bearing gotten through the saddle-frame E and the trailing-arms L on the small wheels *l*, which rest on the ground, but also throws a portion of his weight onto the handle, which throws the center of gravity of his weight as a whole forward of the center of the wheel, thereby making the wheel as a whole move forward. The same result is effected by push-

ing on the handles *m*, at which time the most of his weight is thrown onto the stirrups, and, too, through the pawl N, tending to rotate the motor-wheel I, and, in consequence of its being geared with the large wheel, the large wheel itself.

In steering the weight of the person is thrown to the side of the machine in the direction to which he desires to turn. This will throw more weight onto the small wheel on that side of the machine, thereby causing it to bear harder on the ground and act as a drag to turn the large wheel in the desired direction.

The canvas V will act as a protection for the person using the wheel from the sun or rain, and prevent the person from being spattered with mud.

I claim—

1. A velocipede-wheel having two independent and parallel tires, an intermediate circumferential groove, and a rubber tire arranged in the groove between and below the parallel outer tires, substantially as and for the purposes specified.

2. In a velocipede-wheel, the combination of two independent parallel tires, two inner track-rails concentric with the tires, and wire spokes, to the outer looped ends of which the parallel tires are secured, substantially as and for the purposes specified.

3. In vehicles, a hubless annular wheel provided with a track or tracks concentric with the tire or tread of the wheel, in combination with a frame-work provided with roller-bearings suitable to run on said track or tracks, an annular gear-wheel formed in or secured to said tracks, a motor-wheel secured to said frame-work, a hand-lever provided with pawls engaging with and operating the said motor-wheel and the said annular gear-wheel, and steadying-arms secured to said supporting frame-work, substantially as described.

4. In a velocipede, the combination, with an annular wheel having an internal track concentric with its tire, of a motor-wheel arranged therein, a saddle pivoted at its forward end to the shaft of the motor-wheel, and a loose ring arranged in the annulus and which supports the back end of the saddle, substantially as and for the purposes specified.

5. In a velocipede, the combination, with an annular wheel having an internal track concentric with its tire, of a loose ring arranged in the annulus and provided with wheels, downwardly and backwardly trailing arms secured to the loose ring and provided at their free ends with road-wheels, a motor-wheel arranged in the annulus, and a saddle pivoted at its front end on the shaft of the motor-wheel and having its back end supported by the loose ring, substantially as and for the purposes specified.

6. In a velocipede-wheel, the combination of two independent parallel tires, two parallel

track-rings concentric therewith, an intermediate bracing-ring, and loop-wire spokes, substantially as and for the purposes specified.

5 7. In a velocipede-wheel, the combination, with the tire, of the parallel concentric rings U U and the intermediate ring C, adapted to receive the canvas V, substantially as and for the purposes specified.

In testimony whereof I have affixed my signature, in presence of two witnesses, this 12th 10 day of September, 1890.

JOSEPH BREITENMOSER.

Witnesses:

PAUL BAKEWELL,
JOS. W. CROOKES.