

(No Model.)

2 Sheets—Sheet 1.

C. E. DURYEA.
TRICYCLE.

No. 339,537.

Patented Apr. 6, 1886.

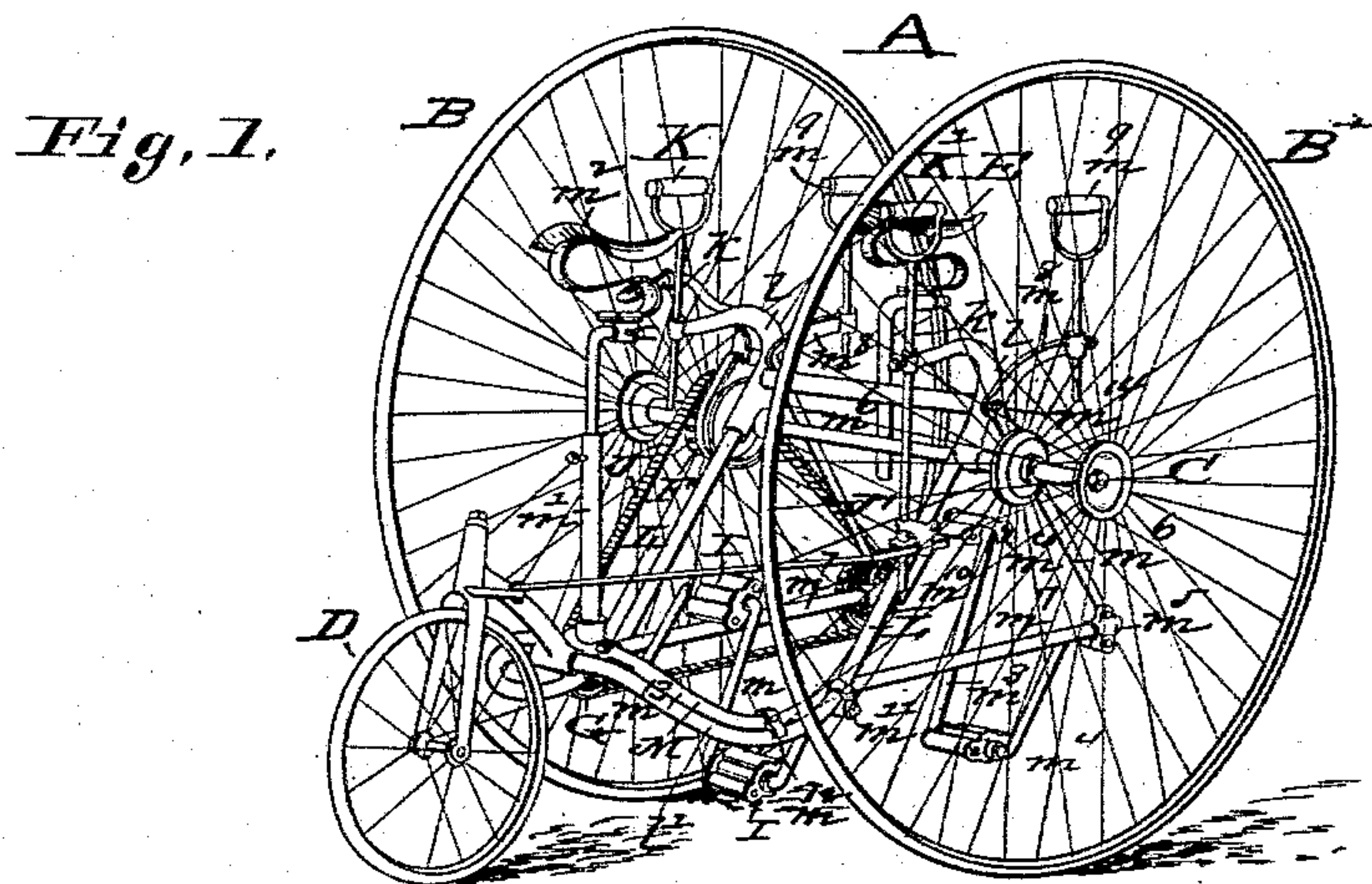


Fig. 2.

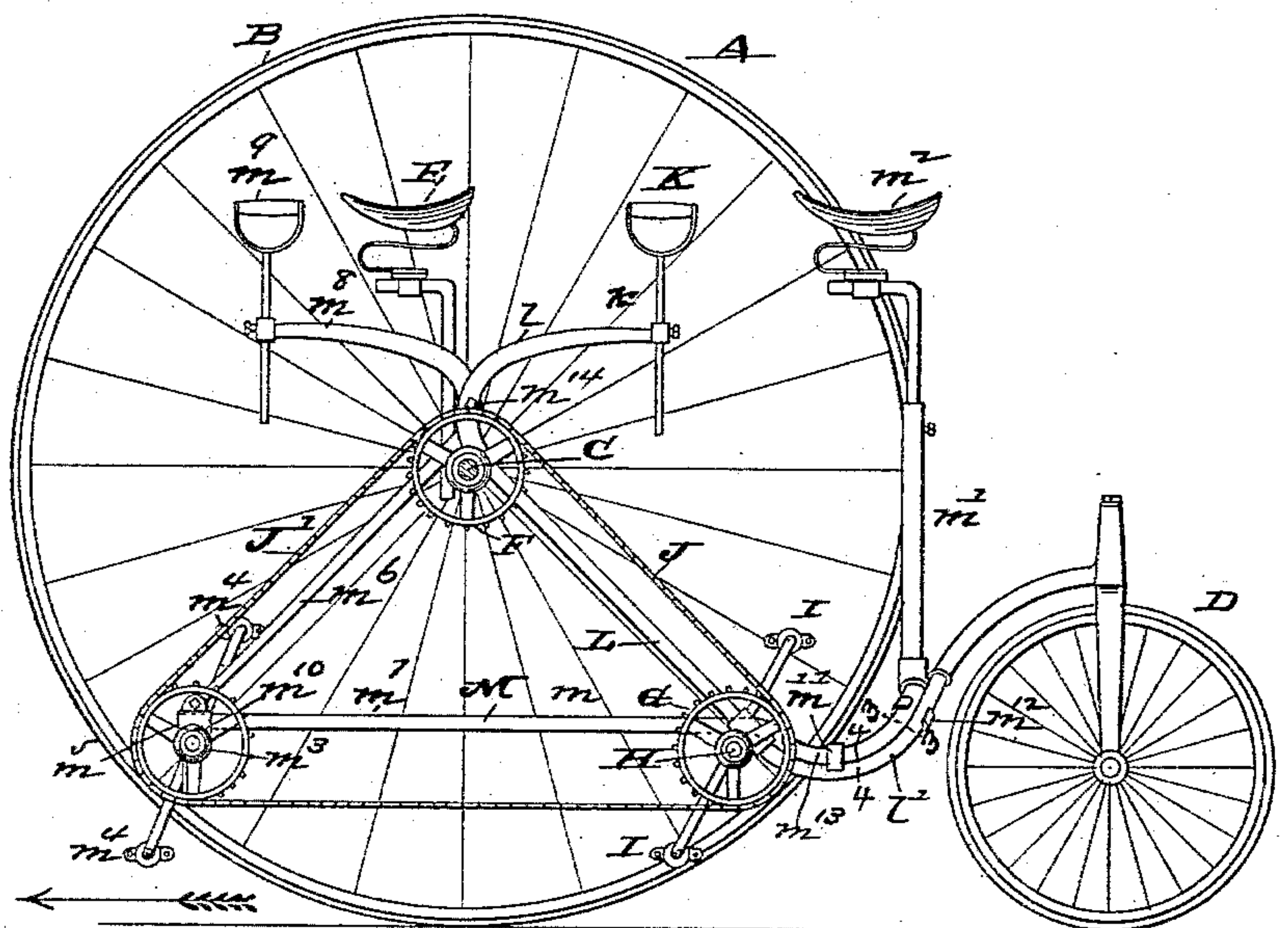


Fig. 3.

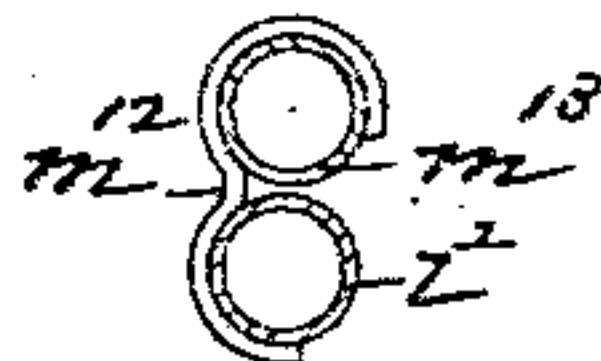
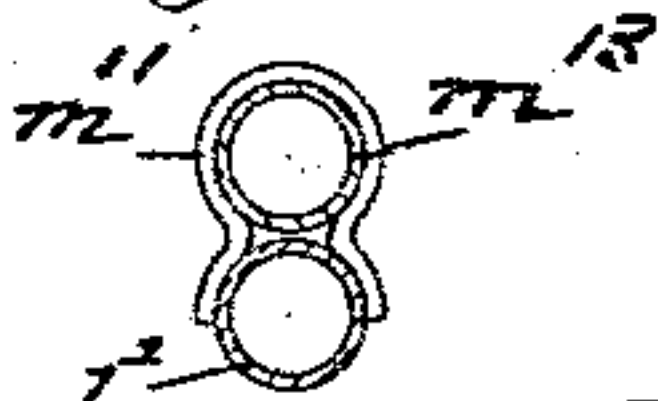


Fig. 4.



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Inventor:

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by C. D. Moody
att'y

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Fig. 5.

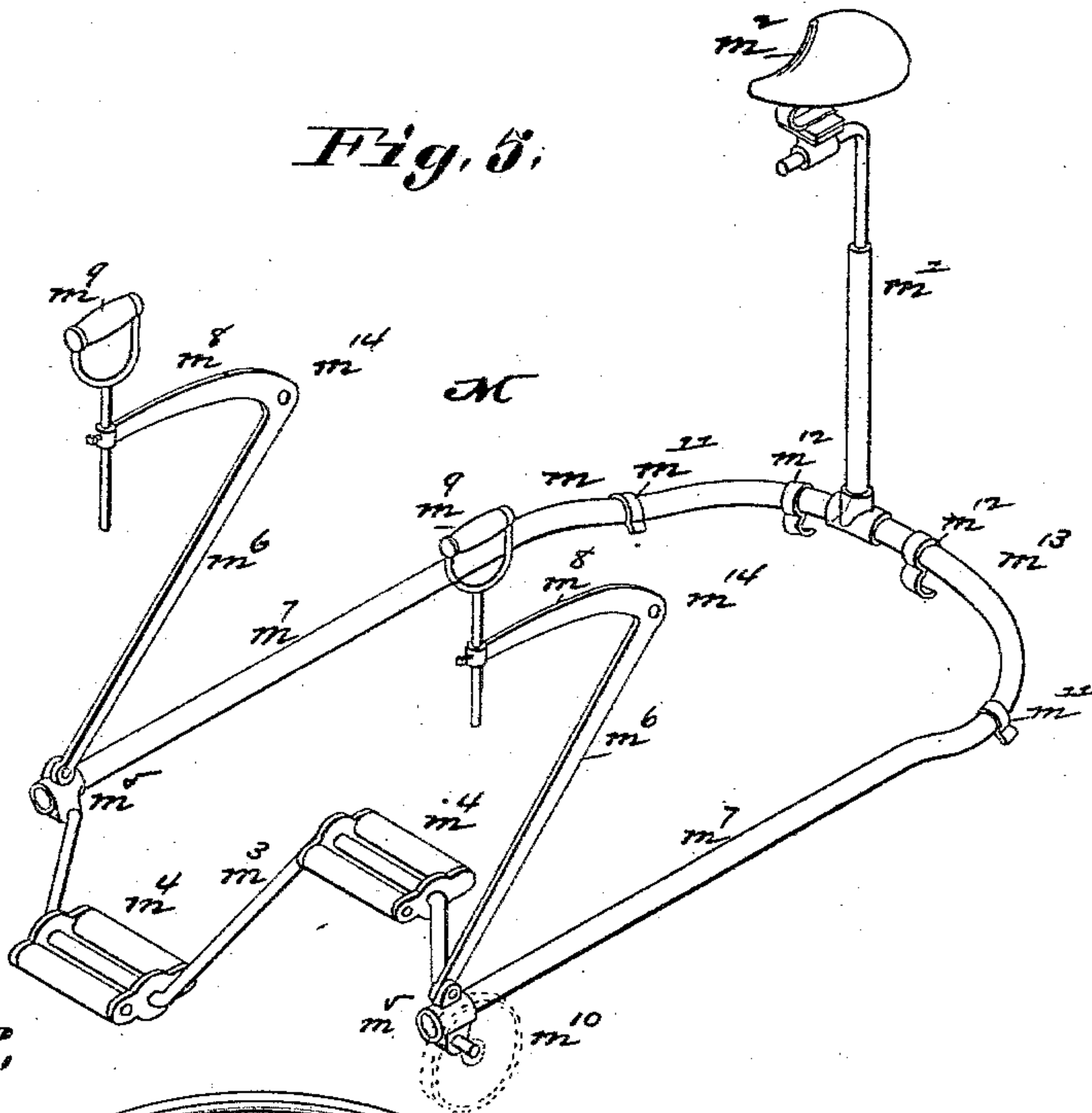
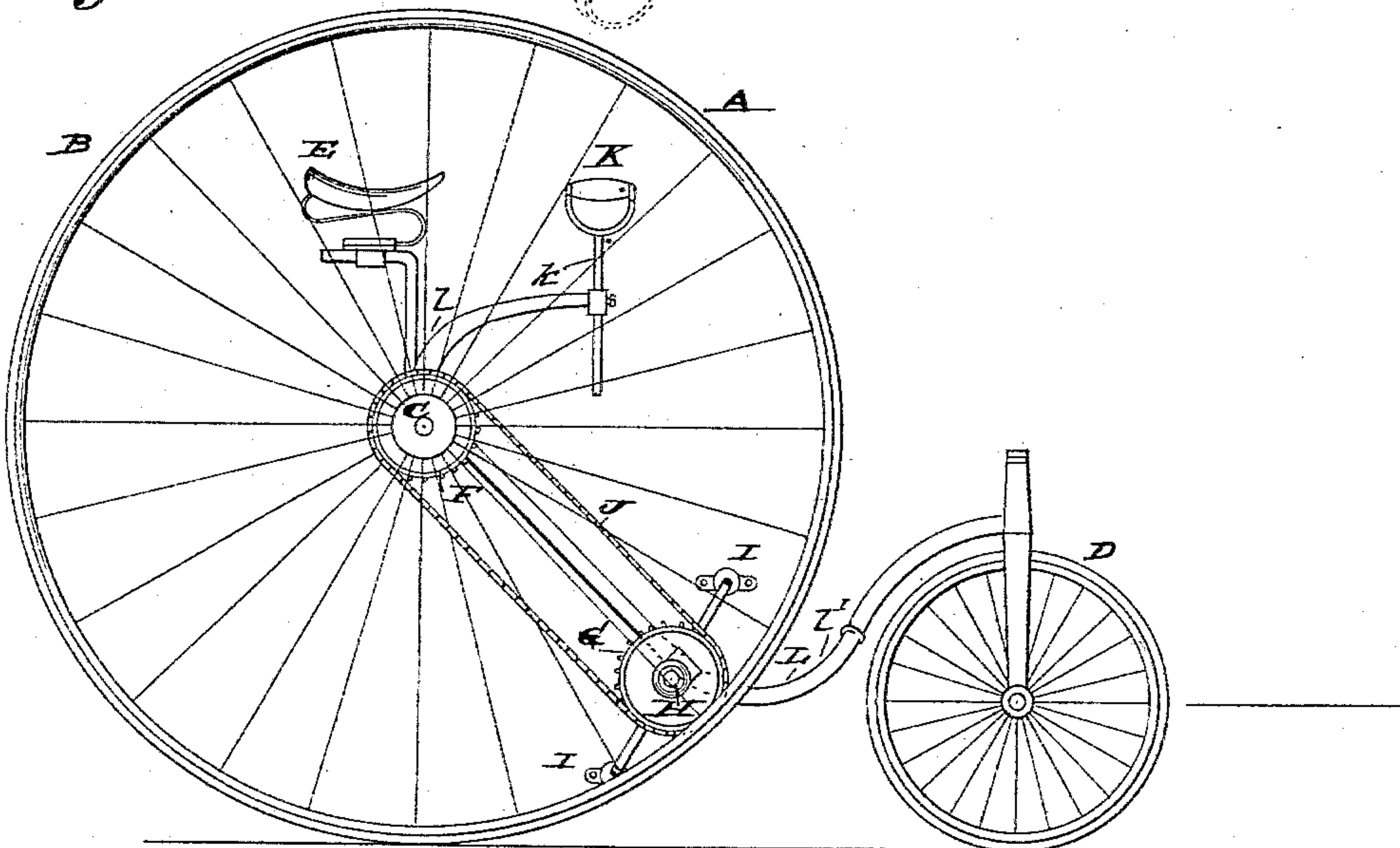


Fig. 6.



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*W. J. Kief,
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*Inventor:
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UNITED STATES PATENT OFFICE.

CHARLES E. DURYEA, OF ST. LOUIS, MISSOURI, ASSIGNOR TO CHARLES H. STONE, OF SAME PLACE.

TRICYCLE.

SPECIFICATION forming part of Letters Patent No. 339,537, dated April 6, 1886.

Application filed July 6, 1885. Serial No. 170,819. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. DURYEA, of St. Louis, Missouri, have made a new and useful Improvement in Tricycles, of which the following is a full, clear, and exact description.

The improvement is an attachment which can be applied to an ordinary tricycle of the loop-frame type, converting it into a tandem tricycle capable of carrying and of being propelled by two persons.

The annexed drawings, making part of this specification, illustrate the improvement and the mode of applying it.

Figure 1 is a view in perspective of a tricycle with the attachment applied. Fig. 2 is a side elevation of the same. Fig. 3 is a section on the line 3 3 of Fig. 2. Fig. 4 is a section on the line 4 4 of Fig. 2. Fig. 5 is a view in perspective of the attachment, saving that the additional sprocket-wheel required is shown in broken lines, and the extra length of chain needed is not exhibited; and Fig. 6 is a side elevation of that form of tricycle to which the improvement is adapted.

The same letters of reference denote the same parts.

A, Figs. 6, 1, 2, represents the tricycle of the kind named as being suited to receive the attachment. B B' represent the large wheels; C, their axle; D, the small wheel in front; E, the saddle; F, the sprocket-wheel upon the axle C; G, the sprocket-wheel upon the driving-shaft H; I I, the pedals; J, the chain which transmits the motion of the driving-shaft and sprocket-wheel G to the sprocket-wheel F and axle C; K K', the handles upon the arms k, and L the loop-frame, all constructed and assembled in the customary manner.

M, Figs. 5, 1, 2, represents the attachment. Its main feature is a (generally considered) U-shaped frame, m , supporting at one end a saddle-post, m' , and saddle m^2 , and at or toward the other end a crank-shaft, m^3 , and pedals m^4 . The frame m is provided with or constructed to form suitable bearings, $m^5 m^5$, in which the crank-shaft is journaled. It is also supplied at its sides, respectively, with arms $m^6 m^6$, which extend from the sides $m^7 m^7$ upward to come, when the attachment is applied, against the sides $l l$, respectively, of the loop-frame L of the tricycle in the region of

the axle C; or, if preferred, against sleeves or clips, or structures analogous thereto, upon the axle C. The arms $m^6 m^6$ are preferably extended still farther, and substantially as represented at $m^8 m^8$, Figs. 1, 2, 5, to form supports for the handles $m^9 m^9$. The frame m is also supplied with a sprocket-wheel, m^{10} , which is journaled upon a bearing upon the frame, and with the clips $m^{11} m^{11}$ and the clips $m^{12} m^{12}$.

The attachment above described can be attached to the tricycle as represented in Figs. 1, 2. The end m^{13} of the frame m rests upon and is secured to the lower end, l' , of the loop-frame, and the sides $m^7 m^7$ extend from the end l' backward beneath the axle C and beyond it, and so as to bring the crank-shaft m^3 and pedals $m^4 m^4$ into a suitable position to be operated by a person in the saddle E, which is now faced in the opposite direction from that when the tricycle is used without the attachment. The attachment is fastened in position by first slipping the clips $m^{12} m^{12}$ and then the clips $m^{11} m^{11}$ around the bar or frame end l' , which operation brings the attachment into its proper relation to the tricycle, and then fastening, by means of a suitable bolt, m^{14} , the arms $m^6 m^6$ to the sides $l l$, respectively, of the loop-frame L. The change is completed and the now two-seated tricycle made ready for use by carrying the chain J', which may be an extension of the chain J, around the three sprocket-wheels F, G, and m^{10} , as shown in Figs. 1, 2.

I am aware that two-seated tricycles have heretofore been used; and I do not claim such, broadly, my aim being to provide an attachment which can be readily attached to and detached from a tricycle having a loop-frame, and thus provide one or two seats, as desired.

In carrying out the improvement I do not desire to be confined to the particular means here shown for securing the attachment in its position upon the tricycle. Any suitable clamps or ties may be substituted for the clips $m^{11} m^{12}$ and the bolts $m^{14} m^{14}$. Nor is it essential that the frame m at its end m^{13} be shaped to conform to the loop-frame L. Tricycles having a loop-frame are variously shaped, and it will be found desirable to somewhat modify the shape of the attachment here and there, to best adapt it to the special shape of the tricycle to which it is being applied; nor is it al-

ways essential that the saddle m^2 be supported from the attachment; nor that the arms $m^6 m^6$ be extended at $m^8 m^8$ to support the handles $m^9 m^9$, as the parts $m^2 m^9 m^9$ might be otherwise upheld. It is much better, however, to associate these last-named parts immediately with the attachment, as described, as thereby all that is necessary, saving the chain, to convert the tricycle into a two-seat one can be supplied in a single part. The tricycle, when provided with the attachment, faces in the opposite direction, the saddle E, as stated, being turned around upon its support, and the steering-wheel, instead of being in front, is in the rear of the large wheels, as shown in Figs. 1, 2.

I claim—

1. The attachment M, consisting of the frame m , provided with the post and saddle $m' m^2$, the crank-shaft and pedals $m^3 m^4 m^4$, the arms $m^6 m^6$, extended and provided with the handles $m^9 m^9$, the clips $m^{11} m^{12}$, and the sprocket-wheel m^{10} , substantially as described.

2. The combination of the frame m , shaped

as described, with the crank-shaft and pedals $m^3 m^4 m^4$, the arms $m^6 m^6$, and the sides $m^7 m^7$, with the loop-frame L, having sides $l l$, substantially as described.

3. The combination of the frame m , having the arms $m^6 m^6$, with the loop-frame L, having sides $l l$, substantially as and for the purpose described.

4. The combination of the frame m , the arms $m^6 m^6$, the post and saddle $m' m^2$, and the crank-shaft and pedals $m^3 m^4 m^4$, the sprocket-wheels m^{10} , G, and F, and chains J J', substantially as described.

5. The combination of the attachment M, as described, with the post and saddle $m' m^2$, the pedals I and m^4 , the loop-frame L, and the sprocket-wheels and the chains, all as described.

Witness my hand.

CHARLES E. DURYEA.

Witnesses:

C. D. MOODY,

H. I. COE.