(No Model.) 2 Sheets—Sheet 1.

B. McCABE.

TRICYCLE.

No. 468,680. Patented Feb. 9, 1892.

Fig. 1.

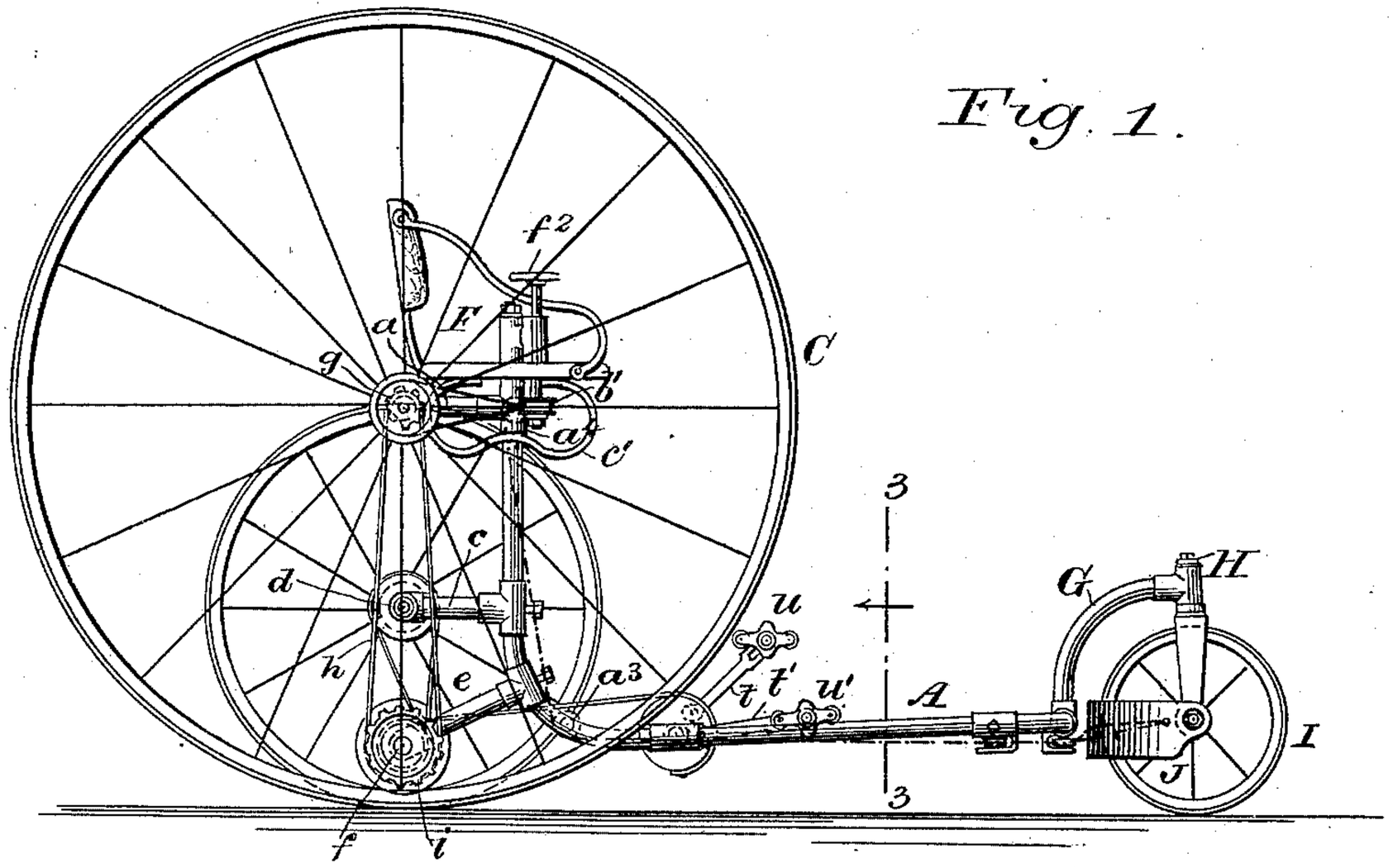


Fig. 2.

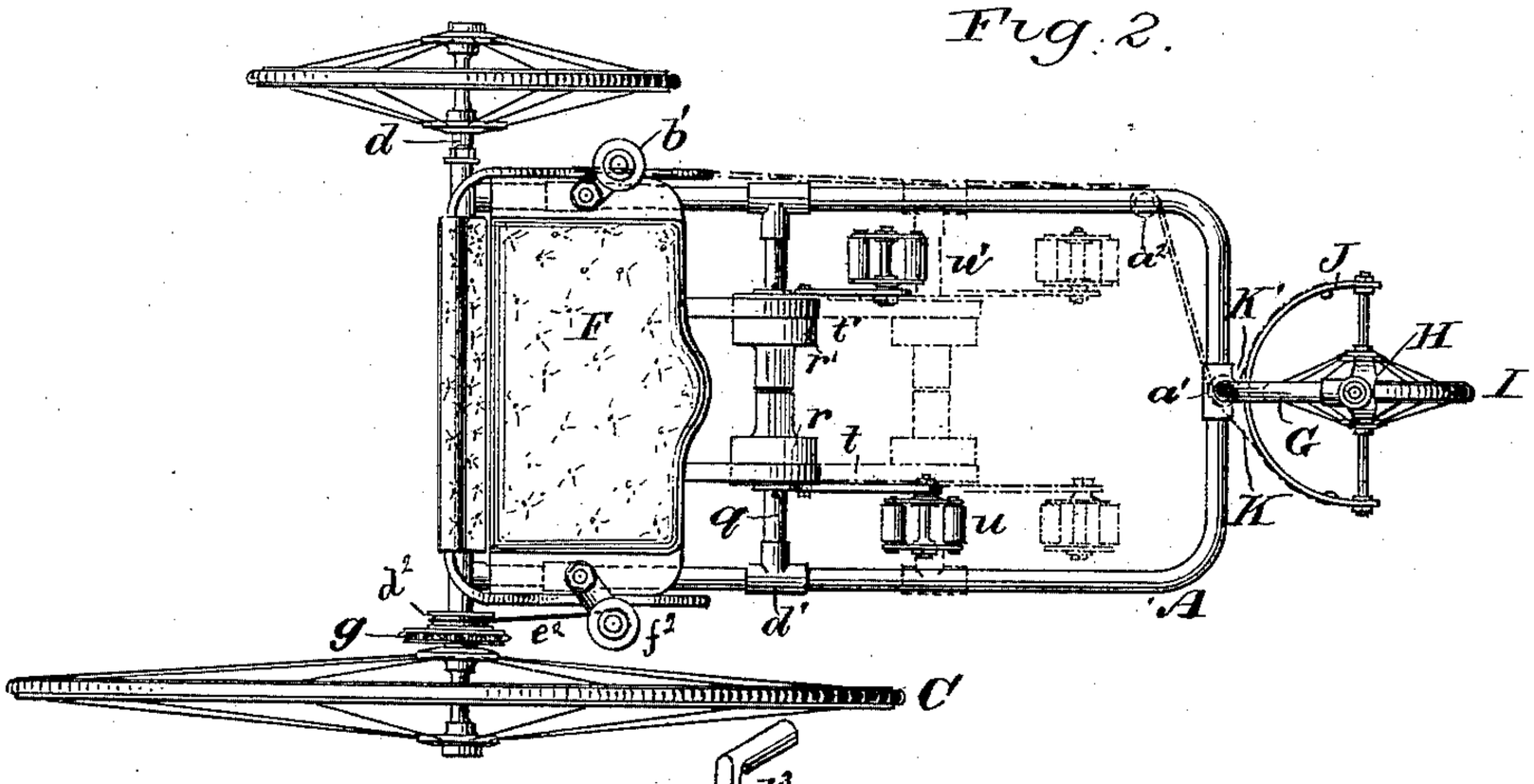
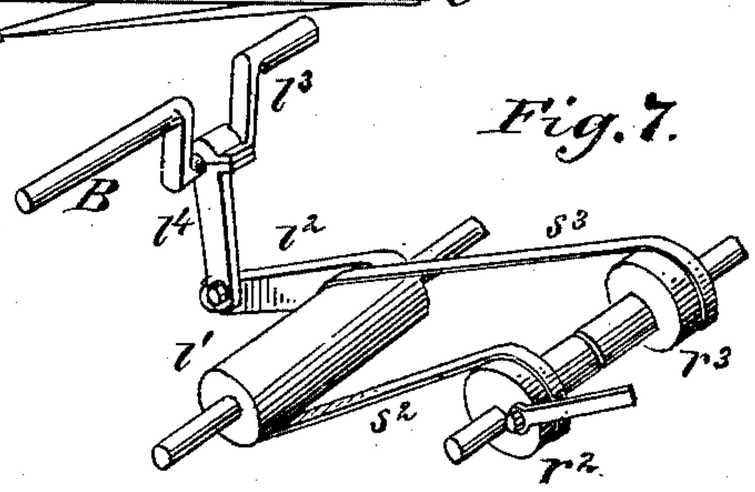


Fig. 7.



WITNESSES:

Paul Jahst

C. Sedgwick

INVENTOR:

B. McCabe

BY Munn & Co

ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

B. McCABE.

TRICYCLE.

No. 468,680. Patented Feb. 9, 1892.

Fig 3.

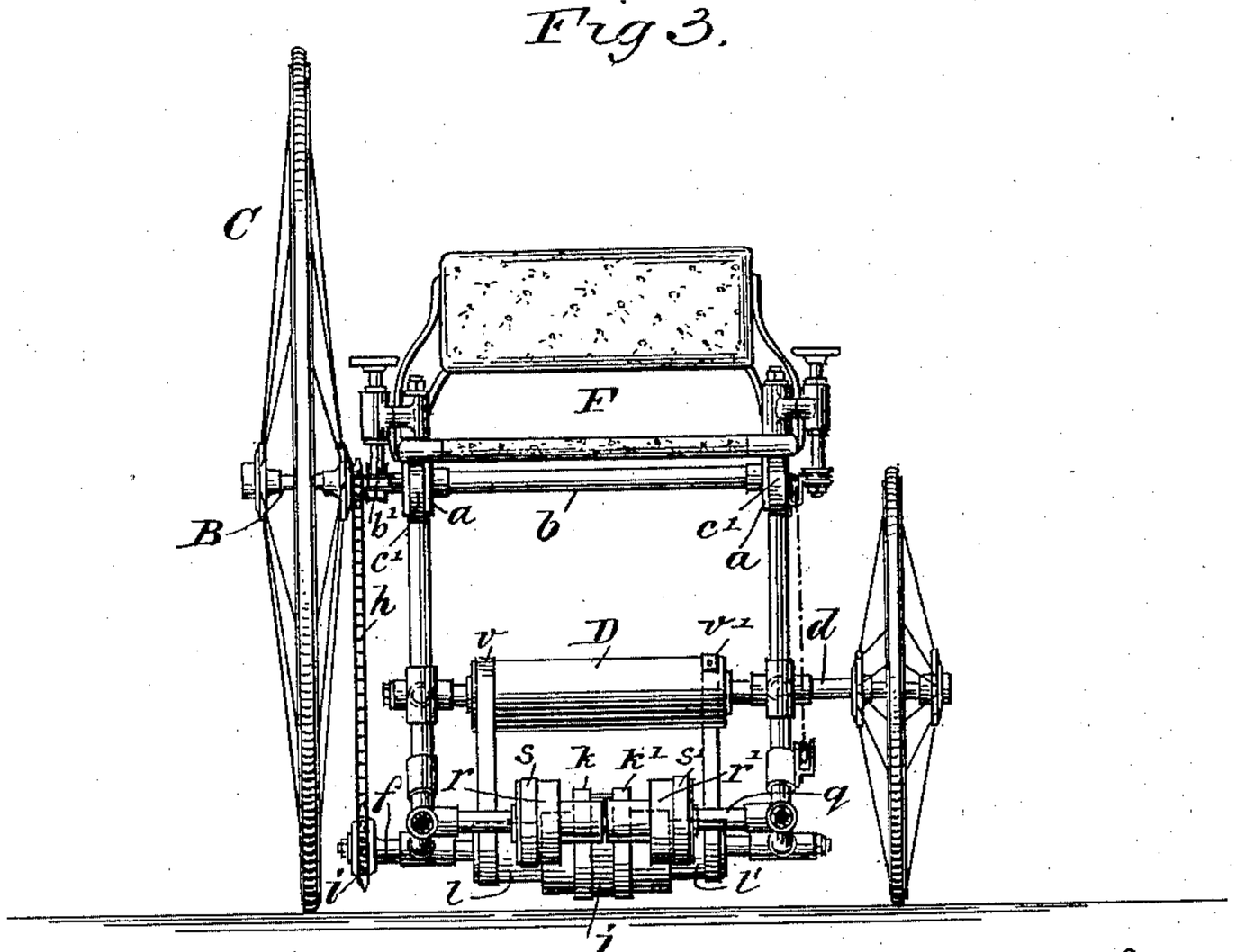


Fig 4.

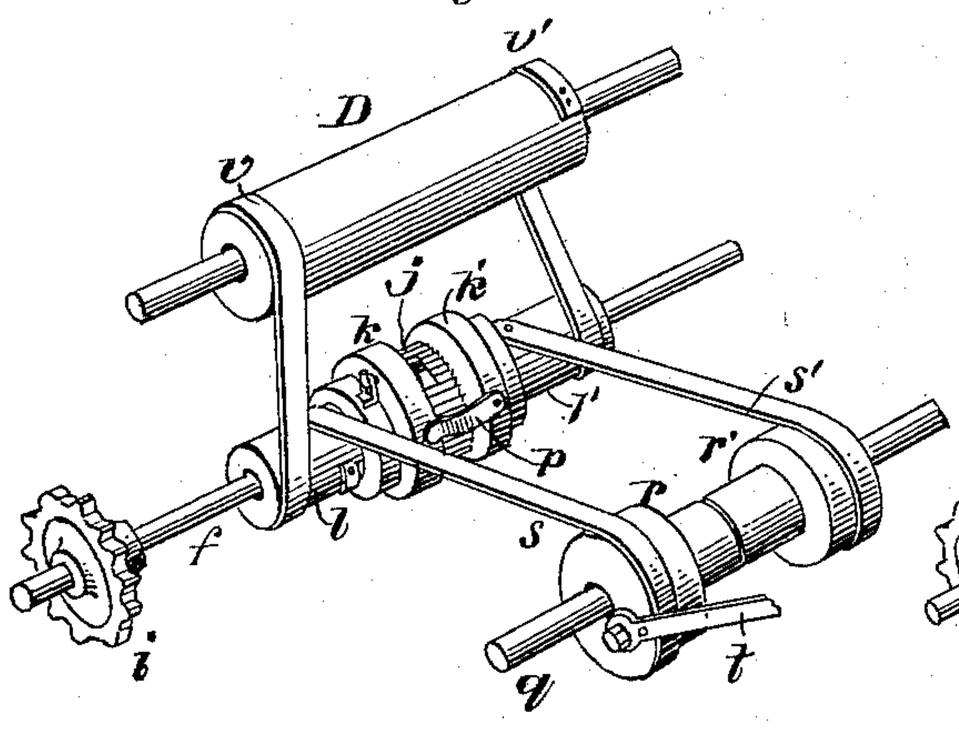


Fig 5.

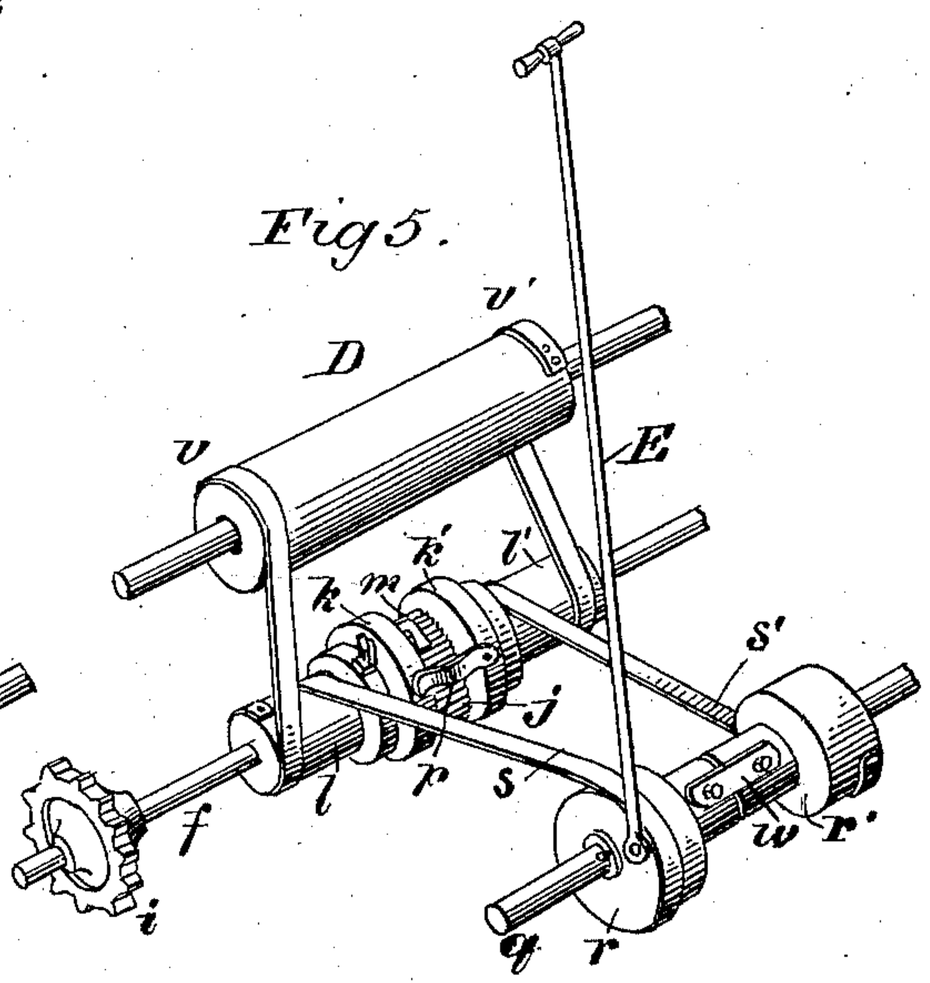
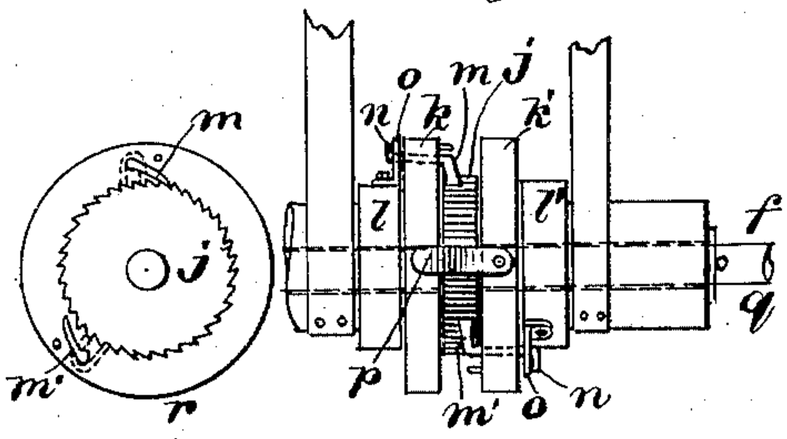


Fig 6.



WITNESSES:

Paul Johnston

C. Sedgwick

INVENTOR:

B. McCabe

BY Munn & Co.

ATTORNEYS

UNITED STATES PATENT OFFICE.

BARTHOLOMEW McCABE, OF BUFFALO, NEW YORK.

TRICYCLE.

SPECIFICATION forming part of Letters Patent No. 468,680, dated February 9, 1892.

Application filed June 1, 1891. Serial No. 394,652. (No model.)

To all whom it may concern:

Be it known that I, BARTHOLOMEW McCABE, of Buffalo, in the county of Erie and State of New York, have invented a new and Improved Tricycle, of which the following is a specification, reference being had to the annexed drawings, forming a part thereof, in which—

Figure 1 is a side elevation of my improved tricycle. Fig. 2 is a plan view. Fig. 3 is a front elevation. Fig. 4 is a perspective view of the driving mechanism for the double pedals. Fig. 5 is a perspective view showing the device arranged for operation by a single-hand lever. Fig. 6 shows in front and side elevation the pawl-and-ratchet mechanism; and Fig. 7 is a perspective view showing a modification, in which a crank and connecting rod are substituted for pawl-and-ratchet mechanism.

Similar letters of reference indicate corresponding parts in all the views.

The object of my invention is to construct a tricycle in which the propelling power will be applied to a large wheel arranged at one side of the machine, the opposite side being preferably supported by a smaller wheel; also, to furnish propelling mechanism which may be operated either by hand or by foot, as the case may require; also, to provide simple and efficient steering mechanism.

My invention consists in the combination of an L-shaped frame, an axle supported in the frame and carrying a large driving-wheel, an auxiliary axle supported in the frame and provided with a small supporting-wheel, pawl-and-ratchet mechanism arranged to be operated by foot or by hand and connected by sprocket-wheels and an endless chain with the hub of the driving-wheel, a caster-wheel furnished with a half-drum for receiving the steering-cords, and a shaft for operating the cords, all as will be hereinafter more fully described.

The frame A, which is preferably made of metal tubing, is provided with rearwardly-projecting arms *a*, connected by a pipe *b*, in which is secured the axle B, the rearwardly-projecting arms *c*, in which is supported the axle *d*, and the rearwardly-projecting arms *e*, which support the shaft *f* of the pawl-and-ratchet mechanism. The drive-wheel C is loose on the axle B, and its hub is provided with a sprocket-wheel *g*, which is driven by a chain *h*, extending around a sprocket-wheel *i*, secured to the shaft *f*.

Upon the shaft *f*, at or near the center thereof, is fixed a ratchet-wheel *j*, upon opposite sides of which are loosely placed upon said shaft the wheels *k k'*, and outside of the said wheels *k k'* are placed the drums *l l'*. The wheels *k k'* carry pawls *m m'*, adapted to engage the ratchet-wheel *j*, the said pawls being mounted on spindles which extend through the wheels *k k'*, and are provided on their outer ends with levers *n*, which are operated by forked arms *o*, projecting from the enlarged inner ends of the drums *l l'*, so that when the said drums are moved in one direction the levers *n* will be turned so as to bring the pawl into engagement with the ratchet-wheel *j* before the wheel *k* or *k'* is moved forward, the said wheel *k* or *k'* being retarded by a brake-spring *p*, attached to the periphery of the wheel *j* and bearing on the wheel *k*.

Upon a rod *q*, extending across the lower part of the frame A, are placed drums *r r'*, to which are attached the ends of flexible straps *s s'*, the opposite ends of the said straps being attached to the drums *l l'*. The drums *r r'* are furnished with levers *t t'*, carrying at their extremities the pedals *u u'*.

On the tube inclosing the axle *d* is placed a drum D, to which are attached straps *v v'*, which are also attached to the drums *l l'*, the strap *v* being attached to the drums D and *l*, so as to run over their forward side, and the strap *v'* being attached to the drum *l'*, so as to run over its forward side and fixed to the drum D, so as to run over its rear side. By means of this construction the pedals are made to move alternately in opposite directions. When one pedal is depressed, the engagement of the arm *o* with the lever of the pawl causes the pawl to engage the ratchet-wheel *j*, and the further movement of the drum *l* or *l'* causes the shaft *f* to turn, and this motion is communicated to the axle of the drive-wheel C in the manner already described.

In the modification shown in Fig. 5 I have connected the strap *s'* with the upper surface of the drum *l* and the under surface of

the drum r', thereby causing the drums $l\ l'$ to move back and forth in alternation as the shaft q is oscillated by the lever E, the drums $r\ r'$ being connected together by the strap w to secure this action. In this case a hand-lever E is attached to the drum r and extends upward opposite the seat F, and the levers $t\ t'$ and pedals are omitted. In this form the machine is propelled by pushing the lever E backward and forward by hand.

To the front of the frame A is secured a curved arm G, in which is journaled the end of the fork H of the caster-wheel I. The axle of the caster-wheel is prolonged beyond the fork H and attached to the ends of a semicircular plate J. Cords K K', attached to opposite ends of the semicircular plate J, extend around guiding-pulleys $a'\ a^2\ a^3\ a^4$ and are attached to a shaft b', journaled in the upper part of the frame A at the end of the seat F, the said cords being wound in opposite directions around the said shaft. By turning the shaft b' in one direction or the other the caster-wheel I is turned on its pivot, so as to guide the tricycle, as may be required. The seat F is supported on springs c', secured to the upper ends of the side bars of the frame A. The rod q, upon which the drums $r\ r'$ are journaled, is supported by adjustable pieces d', placed on the side bars of the frame A, so that the drums and pedals may be adjusted to suit different persons, as indicated in dotted lines in Fig. 2.

On the axle B is secured a brake-sheave d^2, surrounded by a strap e^2, which is wound around the windlass f^2. This arrangement serves as a brake for controlling the movements of the machine.

In the modification shown in Fig. 7 the drums $r^2\ r^3$ oscillate independently of each other, and by means of the straps $s^2\ s^3$ an oscillating motion is imparted to the drum l', which carries the arm l^2. The said arm l^2 is connected with the crank l^3 on the axle B by the connecting-rod l^4. When the drums $r^2\ r^3$ are oscillated, the crank is revolved.

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

1. In a tricycle, the combination of a large driving-wheel located at one side of the machine and driven by pawl-and-ratchet mechanism, a small supporting-wheel arranged at the opposite side of the machine, and a caster-wheel connected with the front of the machine, substantially as specified.

2. In a tricycle, a noiseless pawl-and-ratchet mechanism formed of the ratchet-wheel j, fixed to the shaft f, wheels $k\ k'$, mounted loosely on the shaft f and carrying pawls m, drums $l\ l'$, mounted loosely on the shaft and provided with forked arms o for engaging the pawls, and a brake-spring attached to the wheel k' and pressing on the periphery of the wheel k, substantially as specified.

3. The combination, with the pawl-and-ratchet mechanism, of the shaft f and drums $l\ l'$ for operating the same, the drums $r\ r'$, provided with the levers $t\ t'$, the straps $s\ s'$, the drum D, and straps $v\ v'$, substantially as specified.

4. The combination, with the caster-wheel I, of the semicircular plate J, cords K K', and shaft b', substantially as specified.

5. The combination, with the axle B, of the sheave d^2, brake-strap e^2, and windlass f^2 for tightening the strap, substantially as specified.

BARTHOLOMEW McCABE.

Witnesses:
ANDREW H. MERCER,
R. L. CUMMING.