

No. 693,375.

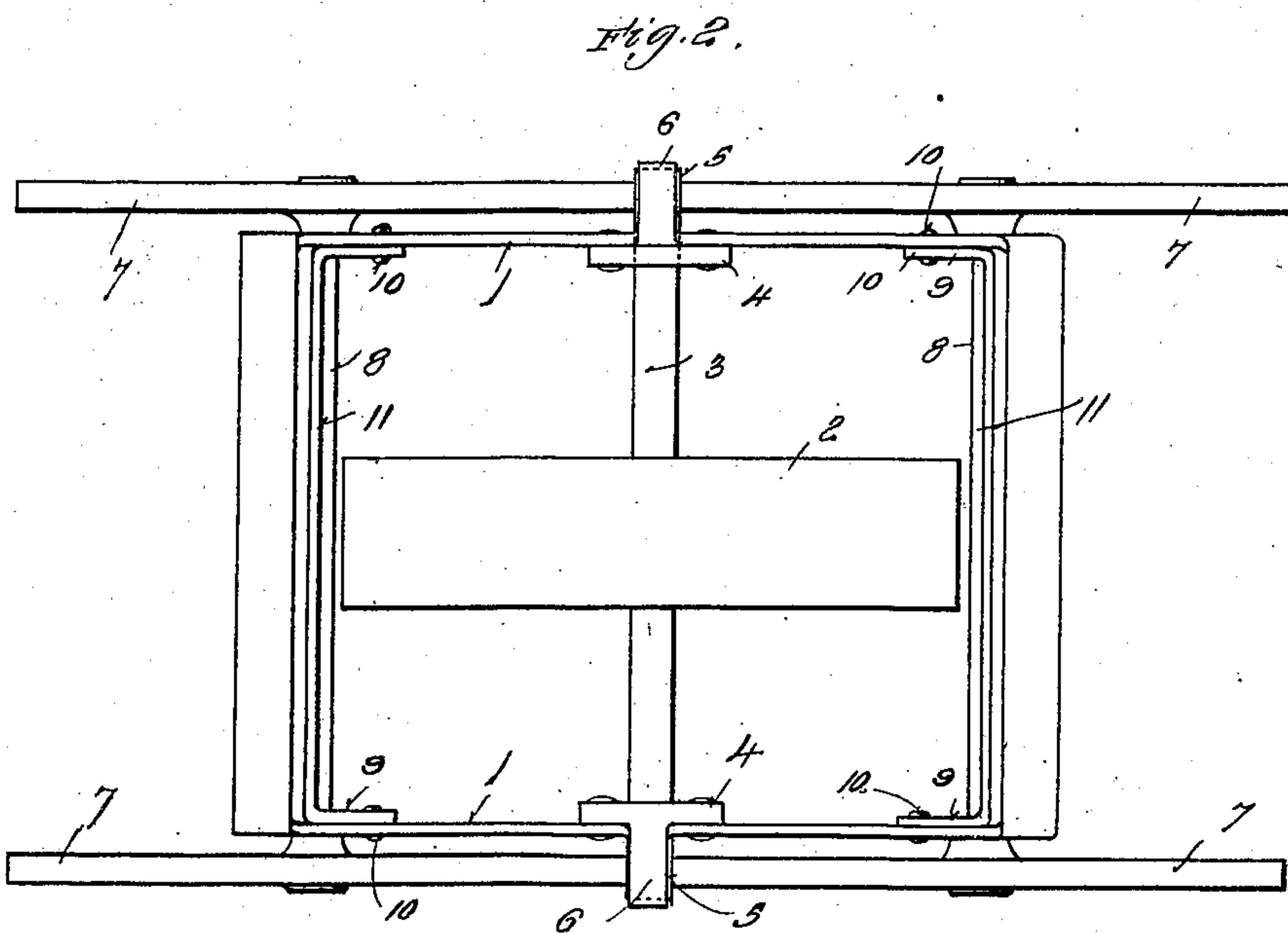
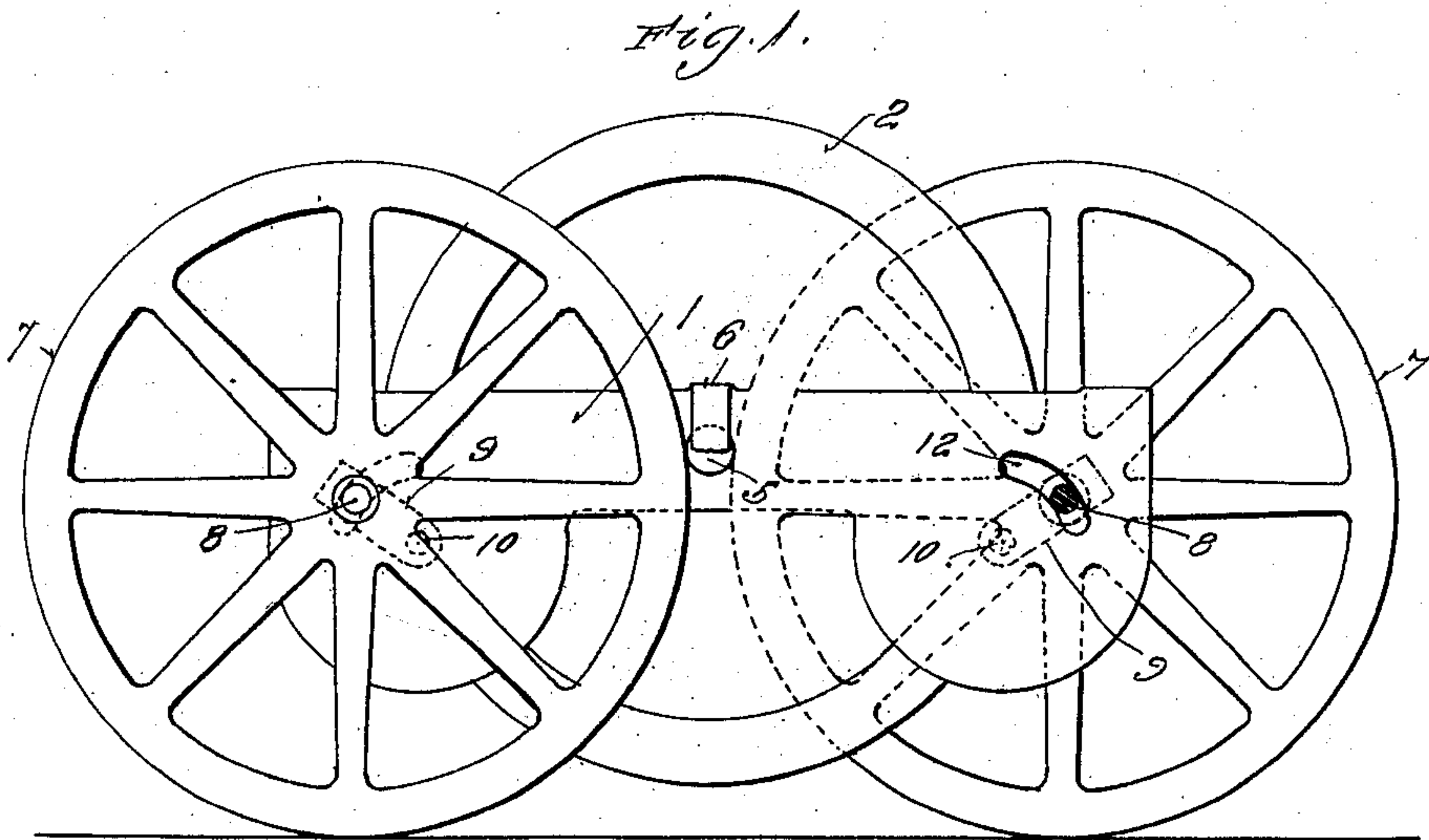
Patented Feb. 18, 1902.

D. P. CLARK.
LOCOMOTIVE TOY.

(Application filed Apr. 11, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 3.

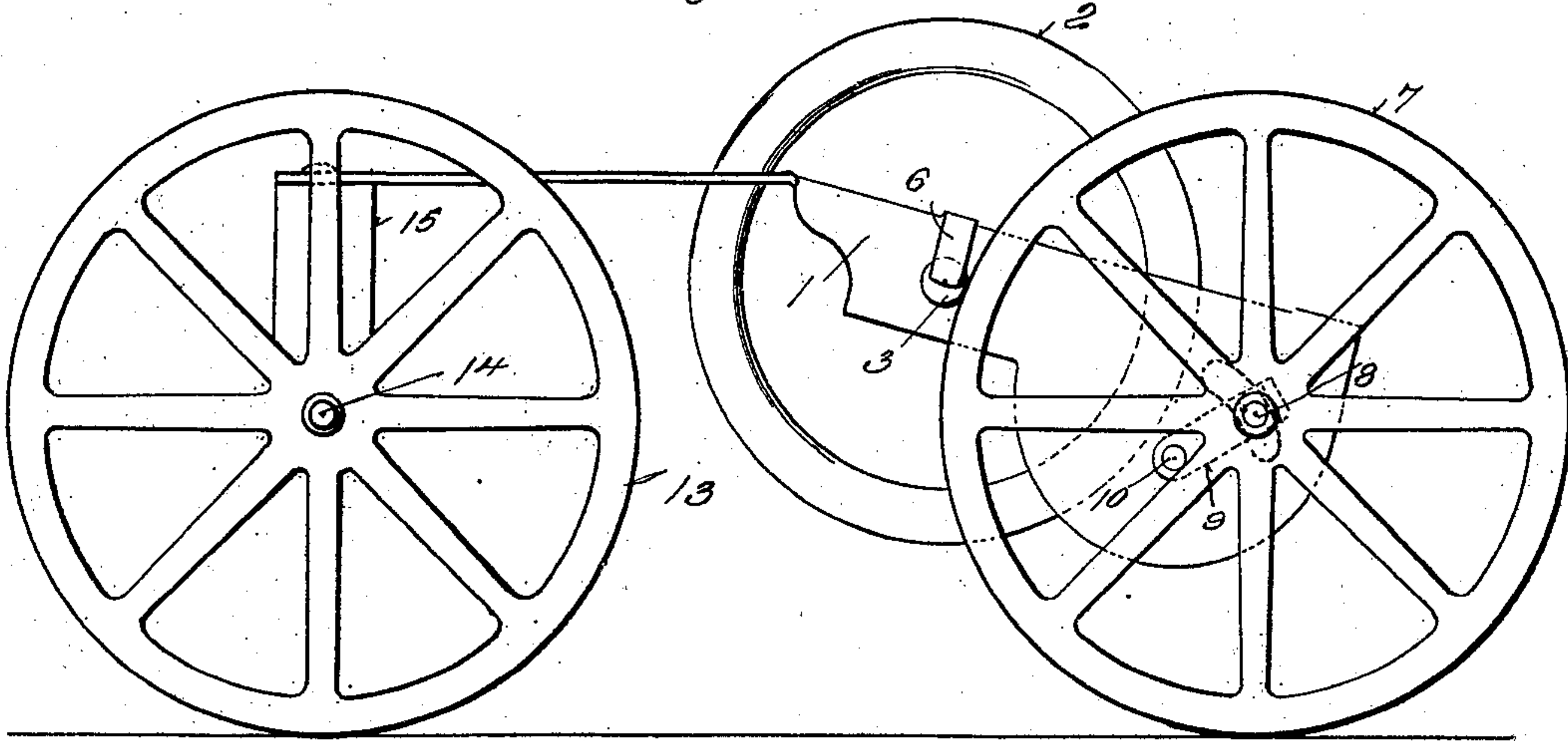
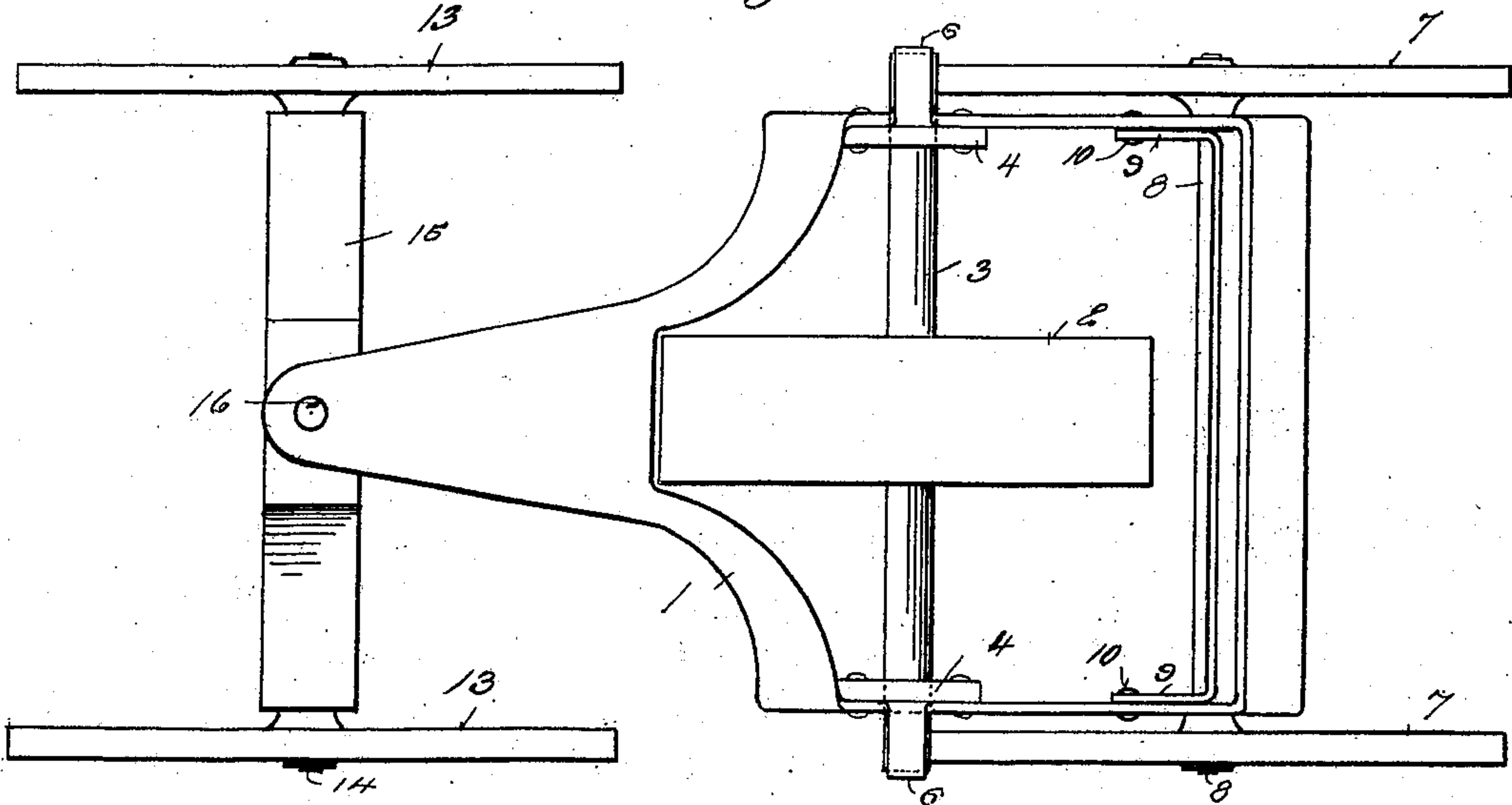


Fig. 4.



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DAVID P. CLARK, OF DAYTON, OHIO.

LOCOMOTIVE TOY.

SPECIFICATION forming part of Letters Patent No. 693,375, dated February 18, 1902.

Application filed April 11, 1901. Serial No. 55,282. (No model.)

To all whom it may concern:

Be it known that I, DAVID P. CLARK, a citizen of the United States, residing at Dayton, in the county of Montgomery and State of Ohio, have invented certain new and useful Improvements in Locomotive Toys, of which the following is a specification, reference being had therein to the accompanying drawings.

10 This invention relates to locomotive toys and is in the nature of an improvement upon the construction set forth in an application filed by me September 27, 1900, Serial No. 31,218.

15 The present invention has for its object, among other things, to provide a construction wherein the ground-wheels or running-wheels shall be located outside of the frame, so as to give a greater width of wheel-base to the toy, and thus obtain increased stability.

20 A further object of my present invention is to increase the efficiency of the contact between the inertia-wheel axle and the running-wheels, and thereby correspondingly increase the period of automatic operation of the toy.

25 To these and other ends my present invention consists in certain novel features, which I will now proceed to describe and will then particularly point out in the claims.

30 In the accompanying drawings, Figure 1 is a side elevation, partly in section, of the operative parts of a locomotive toy embodying my invention in one form. Fig. 2 is a plan view of the same. Fig. 3 is a side elevation illustrating a modified form of construction, and Fig. 4 is a plan view of the structure shown in Fig. 3.

35 Referring first to the form of construction shown in Figs. 1 and 2, 1 indicates a supporting-frame of any suitable form—such, for instance, as the rectangular form shown—which frame is adapted to receive a toy-vehicle body or any other suitable device of a similar character. 2 indicates the inertia-wheel, 40 which is mounted on an axle 3, said axle being in turn mounted in bearings 4 on the frame 1, and said bearings being preferably ball-bearings. The ends of the inertia-wheel axle project beyond the frame at each side thereof, as indicated at 5, and the frame may be provided with an outwardly-extending and downwardly-bent arm 6 adjacent to

each end of the inertia-wheel axle and serving to prevent excessive longitudinal movement of said axle, at the same time acting as a guard to cover and protect the ends of said axle. In the particular construction shown in Figs. 1 and 2 I employ two pairs of ground or running wheels 7, each pair mounted on a common axle 8, said axles being located at opposite ends of the frame and on opposite sides of the inertia-wheel. Each axle 8 is mounted in arms 9, pivoted at 10 to the frame 1, and in the preferred construction shown said arms are located on the inner-side of the frame and are connected by a cross-piece 11, so that the arms 10 and cross-piece 11 form a swinging yoke in which the axle 8 has its bearings. Each axle 8 extends through curved slots or openings 12 in the side pieces of the frame 1, and the running-wheels 7 are secured to the axles outside of said frame 1, as shown. The pivots 10 and arms 9 are so located and the running-wheels 7 are of such dimensions that when the toy is placed upon a supporting-surface and downward pressure is exerted upon the frame the two pairs of running-wheels 7 will be forced toward each other and toward the axle of the inertia-wheel, which latter will come into contact with and impinge against the peripheries of the wheels with a wedging or biting action, thereby effecting a much more efficient frictional contact between said parts. The pairs of wheels will, moreover, operate with equal force on opposite sides of the inertia-wheel axle, so that the pressure on said axle will be to a great extent equalized. By locating the arms 9 on the inside of the frame 1 I am enabled to connect each pair of arms, so as to insure their moving in unison, and by forming the slots through the frame I am enabled to extend the axles outside of the frame and locate the running-wheels on these outside portions, thereby increasing the width of the wheel-base and the stability of the toy.

It will be understood, of course, that the toy is operated in the usual and well-known manner by exerting pressure downward upon the frame and moving the toy over a suitable surface until the desired momentum has been imparted to the inertia-wheel, whereupon when the toy is released said wheel will in turn impart its motion to the running-wheels,

and thereby cause the toy to move over any suitable surface on which it may be placed for a considerable period of time and for a considerable distance.

5 While I have shown the pivots of the arms 9 as located between the running-wheel axles and the inertia-wheel axle, and while I prefer this arrangement on account of its superior compactness, yet I do not wish to be understood as limiting myself to such a location of
10 these pivots.

In Figs. 2 and 3 of the drawings I have shown a modified structure in which only one pair of running-wheels is mounted upon
15 an axle movable toward and from the inertia-wheel axle. In this construction the front running-wheels, which are indicated at 13, are mounted upon an axle 14, carried by a yoke 15, connected with the frame by a vertical pivot 16. In this construction the front
20 wheels act as guiding-wheels only and may be set at an angle, so as to cause the toy to move in a circular path.

It is obvious from what precedes that modifications may be made without departing from the principle of my invention, and I therefore do not wish to be understood as limiting myself to the precise details of construction hereinbefore described, and shown in the accompanying drawings.
30

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

1. A locomotive toy comprising a supporting-frame, an inertia-wheel having an axle mounted in bearings in said frame, ground or running wheels supporting said frame, and pivoted arms connecting one pair of said running-wheels with said frame, whereby, when
40 downward pressure is exerted on the frame, the peripheries of said running-wheels will be forced into contact with the inertia-wheel axle, substantially as described.

2. A locomotive toy comprising a supporting-frame, and an inertia-wheel provided with an axle mounted in bearings in said frame, in combination with ground or running wheels supporting said frame, and pivoted arms connecting one pair of said running-wheels with
50 said frame, said pivoted arms being rigidly connected to move in unison, whereby, when downward pressure is exerted on said frame, said running-wheels will be forced against the inertia-wheel axle, substantially as described.
55

3. A locomotive toy comprising a supporting-frame, and an inertia-wheel provided with an axle mounted in bearings in said frame and extending laterally beyond said frame, in combination with ground or running wheels supporting said frame, and pivoted arms connecting one pair of said running-wheels with
60 said frame, said frame being provided with curved slots, and said running-wheels being provided with an axle having its bearings in

said pivoted arms and extending through the slots in the frame, the wheels being mounted on the ends of said axle outside of said frame and being arranged to contact with the inertia-wheel axle when said frame is depressed, 70 substantially as described.

4. A locomotive toy comprising a frame, an inertia-wheel provided with an axle mounted in bearings in said frame, ground or running wheels mounted in pairs on axles located on
75 opposite sides of said inertia-wheel axle, and pivoted arms connecting said ground or running wheels with said frame, whereby, when said frame is depressed, the pairs of running-wheels will bear with equal force on opposite
80 sides of the inertia-wheel axle, substantially as described.

5. A locomotive toy comprising a frame, and an inertia-wheel having an axle mounted in bearings in said frame and extending laterally beyond the same on each side, in combination with two running-wheel axles located on opposite sides of the inertia-wheel axle, pivoted arms connecting each running-wheel axle with the frame, said frame being
90 provided with curved slots through which the running-wheel axles extend, and running-wheels mounted on the projecting ends of said axles outside of the frame, and adapted to bear on opposite sides of the inertia-wheel
95 axle when the frame is depressed, substantially as described.

6. A locomotive toy comprising a frame, an inertia-wheel having an axle mounted in bearings in said frame and extending beyond the
100 same at each side, two running-wheel axles located on opposite sides of said inertia-wheel, each running-wheel axle having its bearings in a pair of rigidly-connected arms pivoted to the inside of the frame between said running-wheel axle and the inertia-wheel axle, said running-wheel axles extending through
105 curved slots in the frame, and running-wheels mounted on the projecting ends of said axles and adapted to bear on opposite sides of the inertia-wheel axle when the frame is depressed, substantially as described. 110

7. In a locomotive toy of the character described, the combination, with a frame, and running-wheels supporting the same, of an
115 inertia-wheel having an axle mounted in bearings in said frame and projecting beyond the same, said frame being provided with outwardly and downwardly extending projections over the ends of the inertia-wheel axle, which serve as guards and as stops to limit the longitudinal movement of said axle, substantially as described. 120

In testimony whereof I affix my signature in presence of two witnesses.

DAVID P. CLARK.

Witnesses:

O. B. TROUT,
IRVINE MILLER.