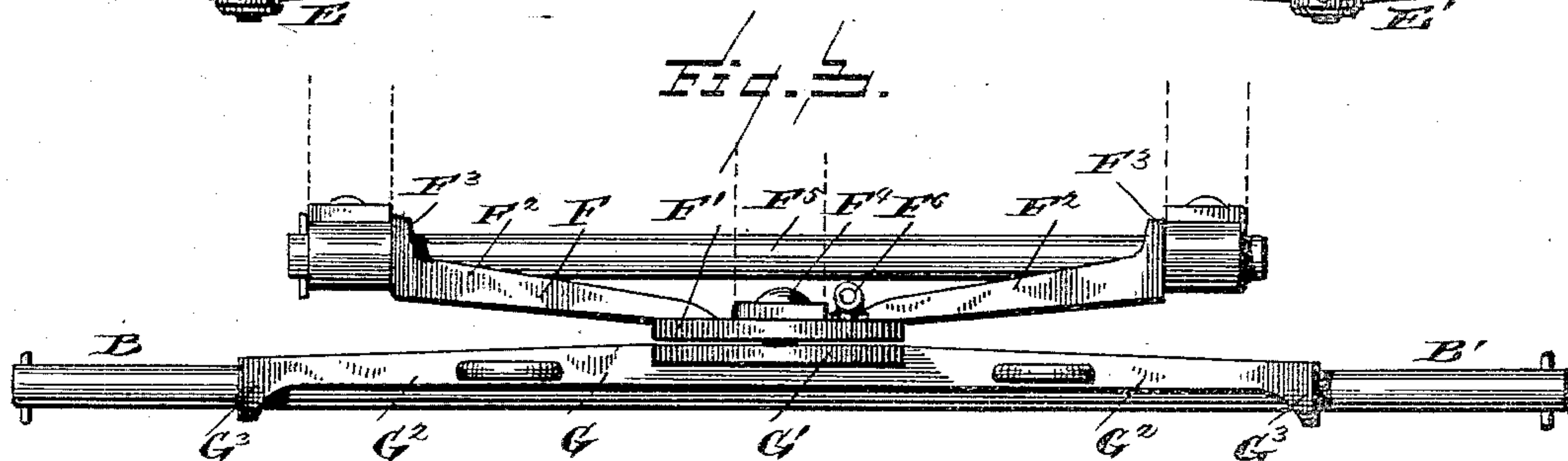
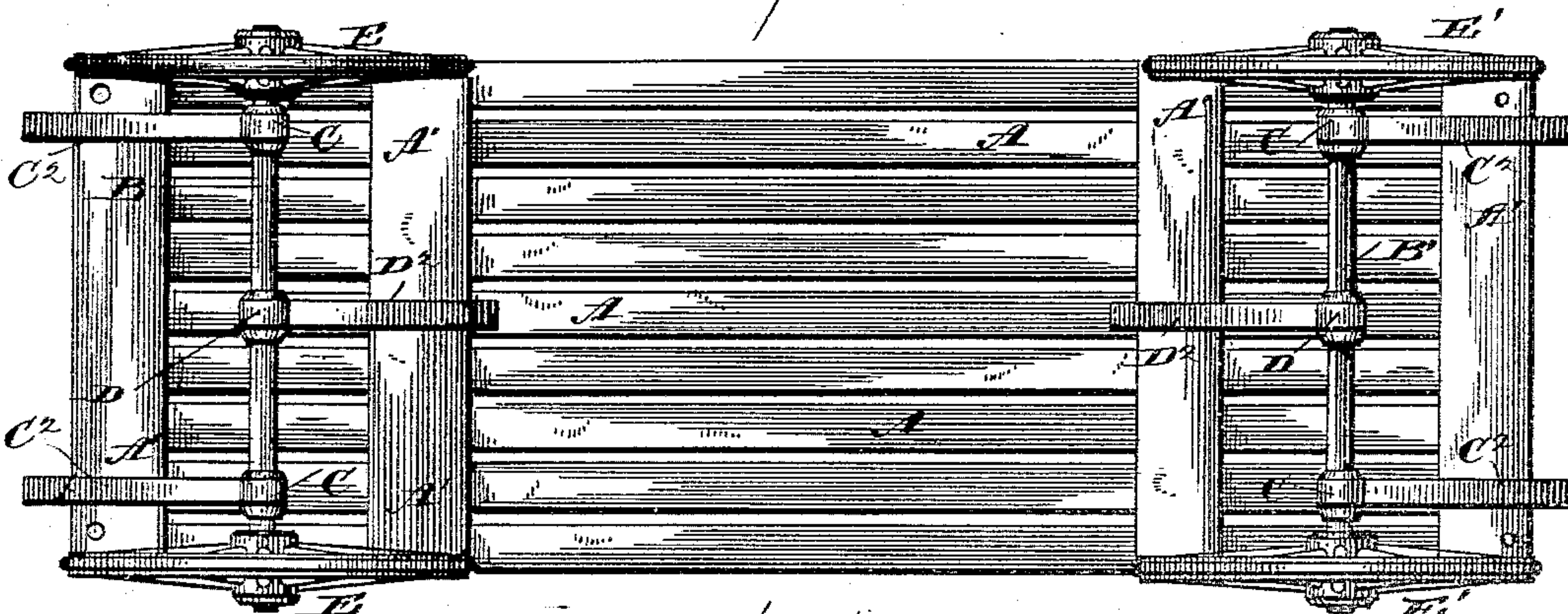
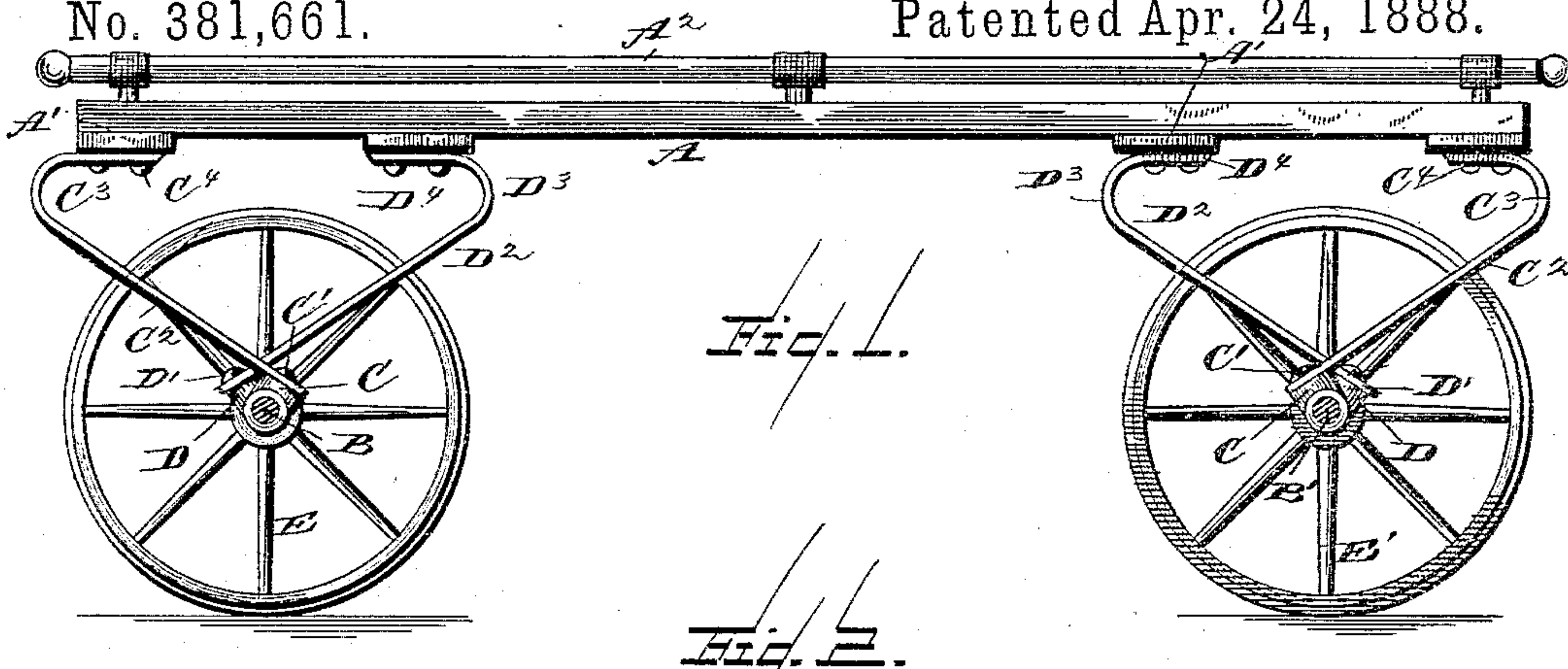


(No Model.)

O. A. WHEELER.  
WHEELED COASTER.

No. 381,661.

Patented Apr. 24, 1888.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

ORRIN A. WHEELER, OF SPRINGFIELD, MISSOURI.

## WHEELED COASTER.

SPECIFICATION forming part of Letters Patent No. 381,661, dated April 24, 1888.

Application filed August 3, 1887. Serial No. 246,048. (No model.)

*To all whom it may concern:*

Be it known that I, ORRIN A. WHEELER, a citizen of the United States, residing at Springfield, in the county of Greene, State of Missouri, have invented certain new and useful Improvements in Wheeled Coasters, of which the following is a specification, reference being had therein to the accompanying drawings.

This invention has relation to wheeled coasters, and among the objects in view are to provide a coaster of the class above mentioned which is light and substantial, that can be manufactured at a reasonable cost, that can be changed from a coaster to a child's wagon, and which is adapted to be steered by the weight of the body.

Further objects and advantages of the invention will hereinafter appear, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings, Figure 1 is a side elevation of a wheeled coaster constructed in accordance with my invention. Fig. 2 is a bottom plan of the same. Fig. 3 is a front elevation of castings to be applied to the front axle of the coaster, whereby it is transformed into an ordinary vehicle; and Fig. 4 is a detail showing the manner of securing the springs to the axles and their auxiliaries.

Like letters of reference indicate like parts in all the figures.

A represents the body or platform of the coaster, which in this instance comprises a series of slat spaced apart to reduce weight, and secured together by means of cleats A'. A suitable hand-rail, A<sup>2</sup>, may be secured to the side of the platform, if desired.

B B' represent the rear and front axles, respectively, or, it might be, vice versa, as the coaster can be used with either end to the front. Embracing the axles B B' at each side thereof and between the wheels and the platform of the coaster are shackle-castings C, which are disposed at an incline toward the center of the coaster, and to the top of said castings C are pivoted, as at C', springs C<sup>2</sup>, diagonally disposed in an opposite direction to the inclination of the shackles or castings toward the ends of the platform. These springs are bent, as at C<sup>3</sup>, and have their upper ends bolted to the platform, as at C<sup>4</sup>. The springs C<sup>2</sup> are concavo-convex from below the bend C<sup>3</sup> to or near

the point where they are pivoted to the shackle-castings. The shackle-castings C are loosely fitted to the axle.

A casting, D, similar to the castings C, is tightly secured to the center of each of the axles and inclined toward the center of the coaster, and pivoted thereto, as at D', are springs D<sup>2</sup>, bent as at D<sup>3</sup>, and secured to the bottom of the platform, as at D<sup>4</sup>, which springs serve to retain the axle in position and permit of a pivotal movement thereof in all directions.

The character of the wheel employed depends upon the character of the surface upon which the coaster is to be used. In this instance I have provided rubber-tired wheels E E', they being preferable for all non glacial surfaces.

As thus far described, it is apparent that by the peculiar connection of the platform with the axles a person mounted upon the platform may, by leaning his body to the right or left, compress the springs C<sup>2</sup> on that side of the platform, which will tend to draw the two wheels on that side toward the center of the coaster by means of the axles thereof being centrally connected to the platform and loosely connected at the ends to the springs C<sup>2</sup>. It is apparent that the farther over the weight of the body is thrown from the center of the coaster the more of an angle the axles are caused to assume, and the sharper, therefore, will be the turn. By this means the coaster is easily and successfully guided in the desired direction. It is evident that the coaster is adapted for a heavy person as well as a light person, it being understood that the heavier the person the less leaning or throwing of the weight is required. In constructing these springs by which the platform and axles are connected, I prefer to form the lower ends or portions—say from the bent portion C<sup>3</sup> D<sup>3</sup> to or near their ends—in concavo-convex form, this in order that all springing of the same shall occur between the bends C<sup>3</sup> D<sup>3</sup> and their upper ends. (See detail in Fig. 4.) By this arrangement the weight exerted, instead of being consumed by the springs yielding, is exerted directly against the axles and serve to swing the same upon their pivotal support, the shackle D.

As this coaster is designed especially for the



use of children, I have provided an attachment whereby the same may be changed from a coaster to an ordinary wagon. In this instance I provide two castings, F and G. The casting F comprises a central plate, F', centrally bored and provided with diametrically-opposite and outwardly-disposed arms F<sup>2</sup>, having collars F<sup>3</sup> at their outer ends. The casting G is somewhat similar to the casting F, but inverted, the central plate, G', resting against and being pivoted to the central plate, F', by means of a bolt, F<sup>4</sup>, forming a king-plate and having oppositely-arranged arms G<sup>2</sup>, provided with collars G<sup>3</sup>, through which the axle B' is passed. In this instance also a rod or bar, F<sup>5</sup>, is passed through the collars F<sup>3</sup>, and to the ends of said bar are secured the shackle-castings and springs. The central spring is in this instance preferably secured to the plate F' by means of the bolt F<sup>4</sup>, all as clearly shown in Figs. 3 and 4 of the drawings. If desired, the coaster may be constructed with these castings and may be used as a coaster by inserting a small pin or other fastening device through the two plates F' G', so as to prevent the pivotal movement thereof, when by throwing the weight to one or the other side of the platform the springs will operate as before described, turning the casting F, and it in turn turning the casting G and inclining the axles to the right or left.

Various changes may be made in the details of my invention without departing from the spirit thereof, and in the details I do not limit myself, but hold that I may vary the construction in any manner and to any extent within the scope of mechanical skill.

Having described my invention and its operation, what I claim is—

1. A wheel-coaster comprising a platform, front and rear axles provided with rollers or wheels centrally pivoted to said platform, and opposite bent springs arranged to cross each other, loosely connected to each end of said axles and to the platform, substantially as specified.

2. A wheel-coaster comprising a platform, front and rear axles provided with wheels and centrally pivoted to said platform by an inwardly-disposed spring, and opposite bent springs arranged to cross each other, loosely connected to each of the ends of said axle and

projecting toward and secured to the ends of the platform, substantially as specified.

3. A wheel-coaster comprising a platform, front and rear axles provided with wheels, an inwardly bent and disposed spring tightly connected to the center of the axle, forming a pivotal bearing therefor, angularly-disposed U-shaped shackles connected to the ends of the axles, and opposite bent springs pivoted to the shackles and arranged to cross each other and forwardly projected toward the end of the platform and connected thereto, substantially as specified.

4. A wheeled coaster comprising axles and a platform, the former pivotally connected to said platform, and opposite semi-concavo-convex springs pivotally connected with the axles and arranged to cross each other and rigidly connected with the platform, substantially as and for the purpose set forth.

5. In combination with the platform and axles of a wheel-coaster, a casting, as G, mounted on the front axle thereof, a casting, as F, pivoted to the casting G and provided with bearings for a transverse bar, springs connecting said bar with the platform, and a pin for locking the castings together, substantially as specified.

6. The combination of the platform A and axles B, pivoted thereto by means of the springs D<sup>2</sup> and having their ends loosely connected with said platform by means of the springs C<sup>2</sup>, substantially as specified.

7. The concavo-convex bent springs D<sup>2</sup> C<sup>2</sup>, connected, as at D' C', to the axles B B', and bent as at C<sup>3</sup> D<sup>3</sup>, and connected to the platform, as at C<sup>4</sup> D<sup>4</sup>, substantially as specified.

8. The combination, with the front axle of a wheel-coaster, of a casting, G, having the plate G', arms G<sup>2</sup>, and bearings G<sup>3</sup> for said axle, and of the casting F, pivoted, as at F<sup>4</sup>, to said casting G, and formed with the arms F<sup>2</sup>, plate F', collars F<sup>3</sup>, a bar, F<sup>5</sup>, and the springs C<sup>2</sup> D<sup>2</sup>, and the pin F<sup>6</sup>, for locking said casting together, substantially as specified.

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

ORRIN A. WHEELER.

Witnesses:

A. G. WHEELER,  
EDITH A. WHEELER.