

Aug. 28, 1951

E. A. HOWARD

2,565,848

WHEELED VEHICLE

Filed June 26, 1946

2 Sheets-Sheet 1

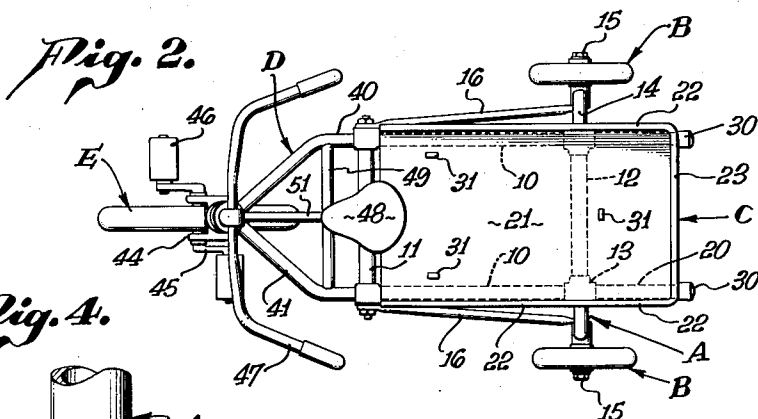
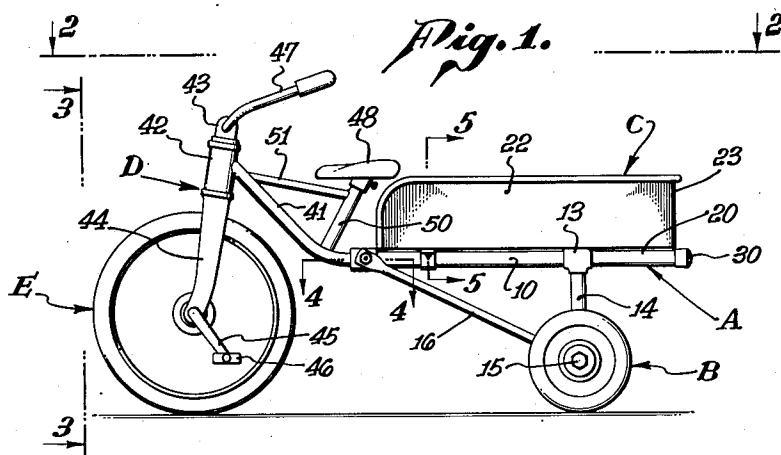


Fig. 4.

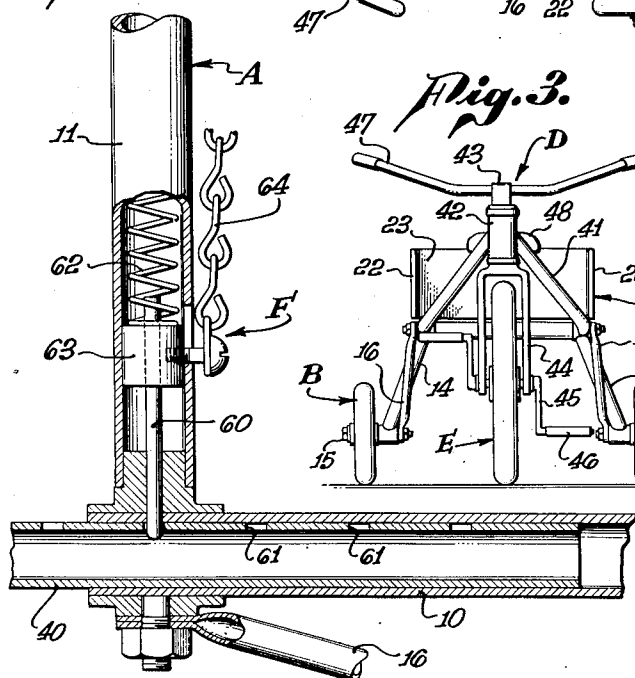


Fig. 3.

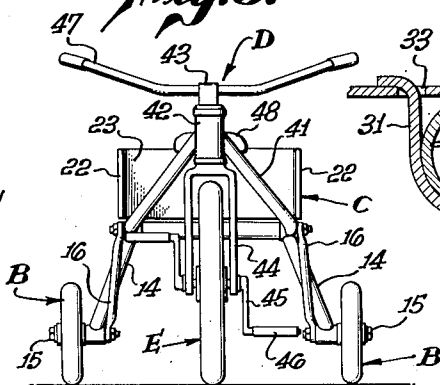
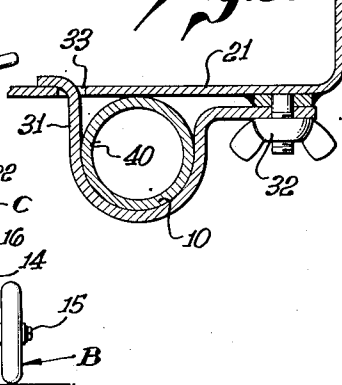


Fig. 5.



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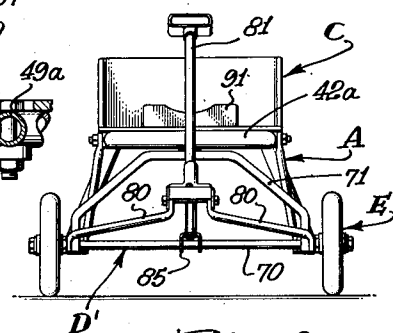
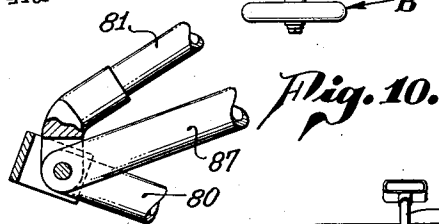
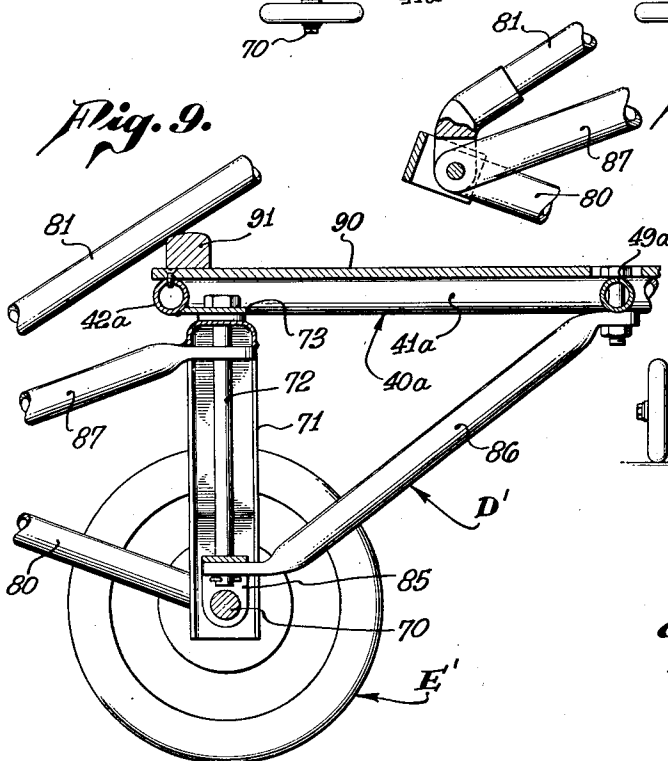
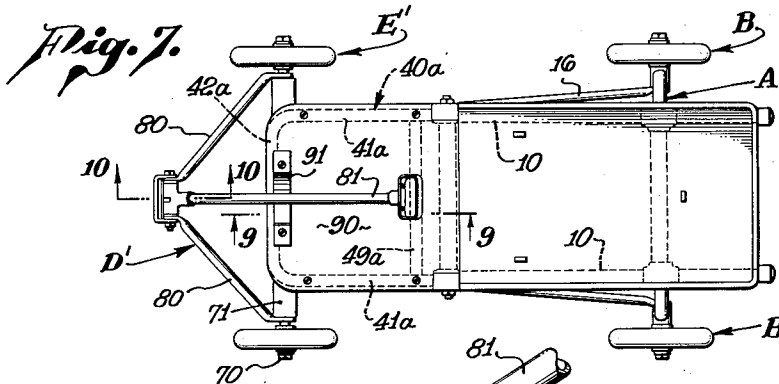
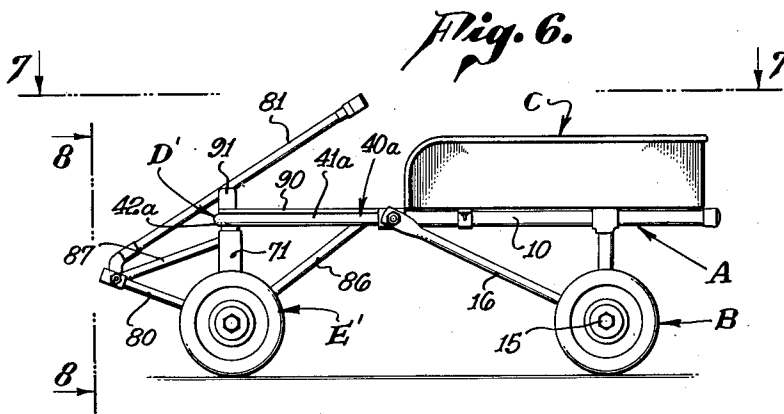
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WHEELED VEHICLE

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2 Sheets-Sheet 2



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WHEELED VEHICLE

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2 Claims. (Cl. 280—87.05)

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This invention has to do with a wheeled vehicle and it is more specifically concerned with a vehicle construction that can be used to advantage in toys. It is a general object of my invention to provide a sectional vehicle construction where-
in there is a main standard section and a second or forward section that can vary in design or formation to convert the vehicle from one type of form to another.

Wheeled vehicles are popular as toys, for instance, small wagons are extensively used as toys, and devices known as tricycles are very popular as toys. Such toys are fixed or permanent units and the toy is either permanently a wagon or permanently a tricycle.

It is a general object of my present invention to provide a sectional construction whereby one main or basic section can be provided and a plurality of second or supplemental sections can be provided to be used with the main section to the end that the toy can be readily converted from a wagon to a tricycle, or vice versa.

It is a further object of my present invention to provide a vehicle construction of the general character referred to which is simple and inexpensive and which is easy to operate.

The various objects and features of my invention will be fully understood from the following detailed description of typical preferred forms and applications of the invention, throughout which description reference is made to the accompanying drawings, in which:

Fig. 1 is a side elevation of an embodiment of my invention showing the main section in combination with a forward section which combined establish the structure as a tricycle. Fig. 2 is a plan view of the structure shown in Fig. 1, being a view taken as indicated by line 2—2 on Fig. 1. Fig. 3 is a front elevation of the structure, being a view taken as indicated by line 3—3 on Fig. 1. Fig. 4 is an enlarged detailed sectional view taken as indicated by line 4—4 on Fig. 1. Fig. 5 is an enlarged detailed sectional view being a view taken as indicated by line 5—5 on Fig. 1. Fig. 6 is a view similar to Fig. 1 showing an embodiment of the invention in the form of a wagon. Fig. 7 is a plan view of the structure shown in Fig. 6, being a view taken as indicated by line 7—7 on Fig. 6. Fig. 8 is a front elevation of the structure shown in Fig. 6, being a view taken as indicated by line 8—8 on Fig. 6. Fig. 9 is an enlarged detailed sectional view taken as indicated by line 9—9 on Fig. 7, and Fig. 10 is a detailed sectional view taken as indicated by line 10—10 on Fig. 7.

My present invention provides, generally, a wheeled vehicle, that is, a vehicle having front and rear wheels, and the structure that I provide is characterized by a frame having separable front and rear sections. In the form of the invention illustrated in Figs. 1 to 5, inclusive, the frame has a rear or main section A carrying rear wheels B and a body C and it has a front section D carrying a front wheel E. The frame sections have cooperating or interengaging parts and a releasable fastening means F serves to latch or releasably connect these parts. In the form of the invention under consideration the main section A of the frame carries a pair of wheels B or, in other words, there are two rear wheels B, whereas the front section D carries a single central wheel E and this wheel is considerably larger in diameter than the wheels B.

The main section A of the frame has a pair of main or horizontal beams 10 that extend lengthwise of the vehicle and has a front transverse beam 11 that connects the forward end portions of the beams 10 and a rear transverse beam 12 that connects the rear end portions of beams 10. The parts just described are permanently or rigidly assembled into a permanent rigid structure, for instance, in practice, they may be joined through suitable fittings 13 so that they are, in effect, a rigid or integral structure.

A feature of the main frame is posts 14 that extend downwardly and outwardly from the rear end portion of the main frame section A to carry pins or trunnions 15 on which the wheels B are mounted. Further, diagonal braces 16 are provided to extend from the lower end portions of the posts 14 upward, forward and inward, so that their forward ends connect to the beams 10 where the beams connect to the front transverse beam 11, as clearly shown in Figs. 1 and 2 of the drawings. In practice the posts 14 may be secured to the beams at any desired point along the beams 10, it being preferred to connect them near the rear ends of the beams 10 so that the beams have rear extension or projecting portions 20 extending somewhat behind the wheels B, as shows in Figs. 1 and 2 of the drawings.

The body may, in practice, be of any suitable design and construction, it being preferred in practice that it be a simple structure having a bottom 21 and flanges or sides 22 and a rear end 23, it being desirable to eliminate the flange at the forward end of the bottom so that that portion of the body is open. The body is supported on the horizontally disposed frame structure formed by the elements 10, 11 and 12, and pref-

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erably occupies or covers the said frame parts, as shown in the drawings. In such case the body extends somewhat to the rear of the wheels B. In practice I may allow the tip ends of the frame extensions 20 to extend rearward of the body C and these projecting ends may be provided with caps 30 of rubber, or the like, which are effective as forming bumpers.

The body that I have provided may be secured to the frame section A in any suitable manner. However, I prefer to provide a releasable connection so that the body can be removed when desired. In the case illustrated I have shown releasable brackets 31 secured to the bottom side of the body bottom 21 through releasable fasteners 32, which brackets are hooked into openings 33 in the bottom 21 as clearly shown in Fig. 5.

In carrying out my invention I may form the frame members of various materials and I may vary the proportioning widely. I prefer, however, to form the frame members of tubing and my constructions is such that the forward ends of the tubular frame members 10 are open.

The front section D of the frame in the form under consideration involves a pair of spaced parallel horizontal members 40 that extend lengthwise of the vehicle and which slidably engage the members 10 of the main section A. The members or parts 40 preferably have telescoping engagement with the members 10, it being preferred to have the members 40 slide into the forward ends of the members 10. The members 40 extend a substantial distance into the parts of the main frame section A so that there is a firm and substantial bearing engagement between the frame sections. In the particular case illustrated the forward end portions 41 of the longitudinal members 40 extend forward and upward and converge to a common central point where they connect to a substantially vertical sleeve 42 at the forward end portion of the frame section D. The sleeve 42 carries the stem 43 of a yoke 44 in which the single central front wheel E is mounted. The axle of the wheel by which it is mounted in the yoke 44 is provided at its ends with cranks 45 which carry pedals 46. The upper end of the stem 43 carries handlebars 47 and a seat 48 is carried by the frame section D rearward of the handlebars. In the preferred construction the frame D includes a transverse beam 49 that extends between the forward end portions of frame members 40 and the beam 49 carries a post 50 that supports the seat 48. The post may be braced by a suitable brace member 51.

The fastening means F that secures the sections A and D together is in the nature of a latch means involving latch pins 60 carried by the main frame section A to project into openings 61 provided in the members 40 of frame section D. The latch pins are urged out or into active position by a single compression spring 62 located in the transverse beam 11. The pins 60 are carried by heads 63 which slide in the beam 11 and against which the spring operates. A single operating member 64 is provided and connects to the two heads 63 so that the latch pins can be simultaneously retracted or withdrawn from the operating position shown in Fig. 4. By providing a plurality of openings or holes 61 lengthwise of the members 40 I am able to latch or set the frame members A and D in various positions and thus adjust the length of the vehicle. It will be apparent that through the construction I have just described I provide a simple, effective, practical, tricycle type of vehicle having a convenient

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seat for the rider and having a single front wheel that can be conveniently driven through the pedals and steered through the handlebars. As an added feature or as an element not present in ordinary tricycle construction the frame section A carries the body C which can be used as a carrier for various objects.

In accordance with my invention I contemplate substitution of different forms, type, or shapes of front frame sections in order to convert the structure from one form or type to another. For example, if it is desired to convert the structure from a tricycle type of device, as hereinabove described, and as shown in Figs. 1 to 5, to a simple wagon, I merely release the latch means F and remove the front frame section D. The frame section D above described is replaced by a frame section D' which varies somewhat in construction and enough to establish the structure as a simple wagon. The frame section D' as shown in Figs. 6 to 10, inclusive, of the drawings, includes a pair of spaced parallel longitudinal disposed frame members 40^a which are slidably received in the members 10 of the main frame A and are held by the latch means F. The frame members 40^a have forward extensions 41^a which extend horizontally forward and are joined at their forward ends by a transverse frame part 42^a.

The frame section D' carries a pair of front wheels E' which may correspond in size, shape and spacing to the rear wheels B as I have shown throughout the drawings. In the case illustrated the wheels E' are carried on an axle 70 supported by a yoke 71 held by a king pin 72 depending from a bracket 73 attached to the front frame member 42^a. A pair of converging arms 80 extend upward and forward from the end portions of the axle 70 where it is supported by the yoke 71. The arms 80 are pivotally connected to a handle 81 that can be used to draw the wagon and to guide it. The general essential elements of the front frame D' as above described may be supplemented by suitable bracing or auxiliary parts. For instance, in the case illustrated, I show the members 40^a braced by a transverse brace member or beam 49^a and I show the king pin extending well below the bracket 73 to a point close to the axle 70 where it connects to a bracket 85 joined to the axle and a diagonal brace 86 connects the bracket 85 with the transverse beam 49^a. Another diagonal brace 87 is provided between the point where the handle connects to the arms 80 and the yoke 71 where it may be held by welding and by the king pin 72. It is to be understood that the structure that I have described may be provided with additional parts such as a platform 90 on the frame structure D' which platform forms an extension or continuation of the bottom 21 of the body C on the main frame A, and if desired, a rest 91 may be provided at the forward end of the platform 90 to support the handle 81 as shown in the drawings.

From the foregoing description it will be apparent that by providing the modified frame section D' I convert the vehicle into a simple wagon type of structure and it will be apparent that this conversion can be easily and quickly made by simple manipulation of the latch means F and by engaging and disengaging the frame parts which are designed to telescope or fit together.

Having described only typical preferred forms and applications of my invention, I do not wish to be limited or restricted to the specific details herein set forth, but wish to reserve to myself any

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variations or modifications that may appear to those skilled in the art and fall within the scope of the following claims:

Having described my invention, I claim:

1. A wheeled vehicle including, a sectional frame having a main rear section with spaced straight parallel horizontal tubular members extending lengthwise of the vehicle and having a transverse beam connecting the forward end portions of said members, a front section having spaced straight parallel horizontal members slidably engaged in the forward end portions of the first mentioned members, releasable fastening means carried by the beam and engaging said members of the front section of the frame, and front and rear wheels carried by the front and rear frame sections respectively.

2. A wheeled vehicle including, a sectional frame having a main rear section with members having spaced parallel straight horizontal forward end portions extending lengthwise of the vehicle, wheel supports depending from the rear end portions of said members and diagonal braces from said supports to the forward end portions of said members, a front section having members with spaced parallel straight horizontal main portions releasably connected to the forward end portions of the

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first mentioned members and with front and rear beams joining said main portions, a pair of rear wheels carried by said wheel supports, an axle, a pair of front wheels on the axle, and a pivoted yoke carried by the foremost of said beams and carrying the axle, the front frame section having a brace from the axle to the rearmost of said beams.

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