

May 6, 1924.

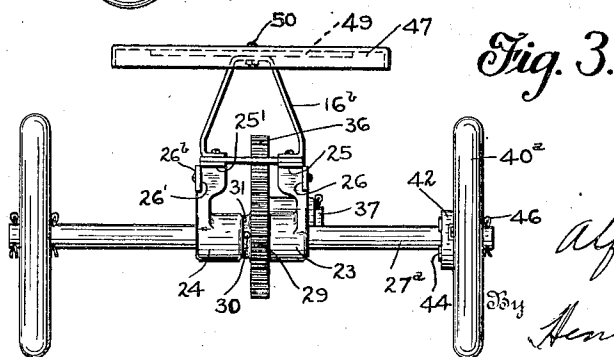
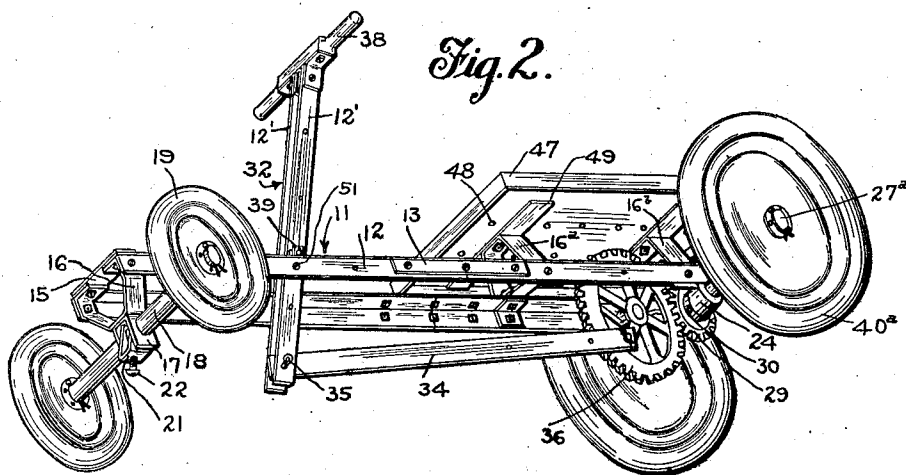
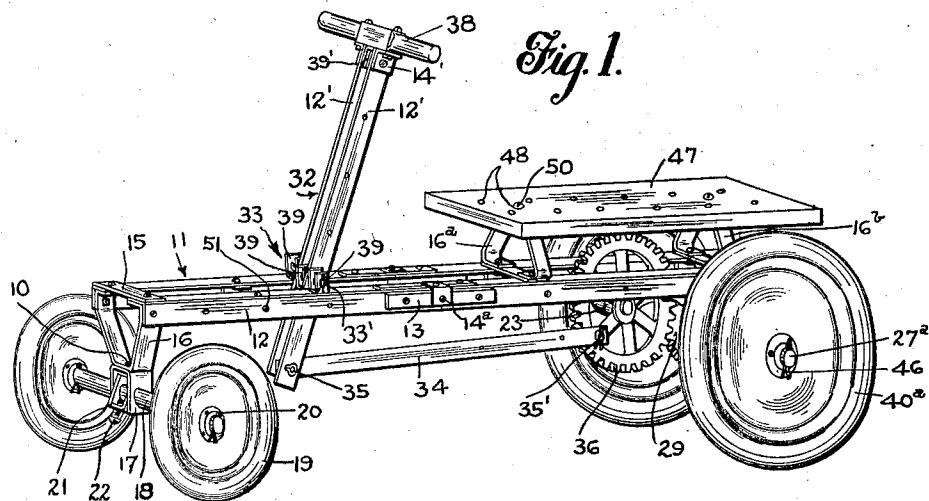
A. C. GILBERT

1,492,597

TOY VEHICLE

Filed Dec. 16, 1920

2 Sheets-Sheet 1



Inventor

Alfred C. Gilbert

Henry E. Rockwell

Attorney

May 6, 1924.

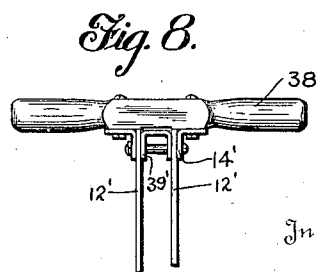
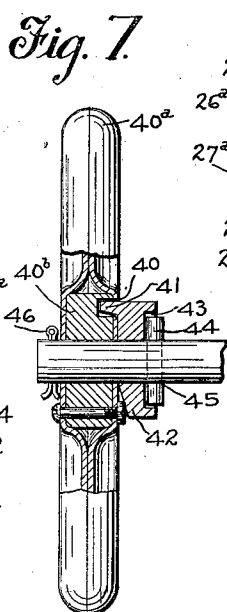
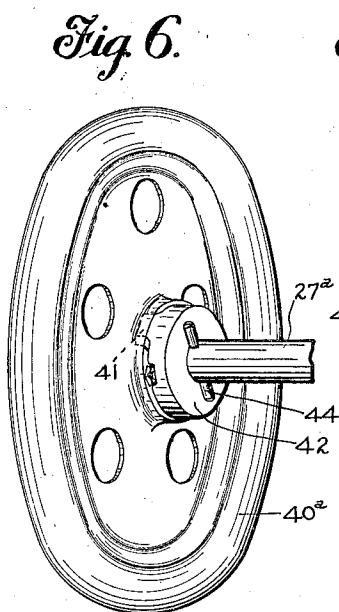
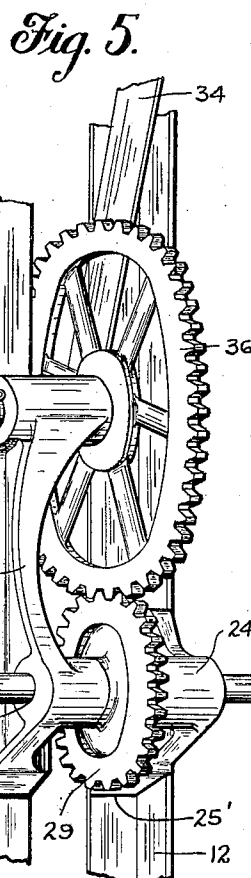
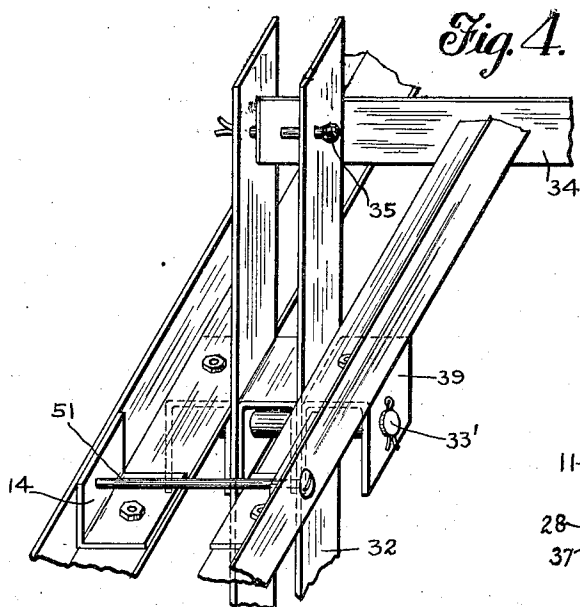
A. C. GILBERT

1,492,597

TOY VEHICLE

Filed Dec. 16, 1920

2 Sheets-Sheet 2



Inventor

Alfred C. Gilbert
Henry E. Gocknell
Attorney

UNITED STATES PATENT OFFICE.

ALFRED C. GILBERT, OF NEW HAVEN, CONNECTICUT, ASSIGNOR TO THE A. C. GILBERT COMPANY, OF NEW HAVEN, CONNECTICUT.

TOY VEHICLE.

Application filed December 16, 1920. Serial No. 431,201.

To all whom it may concern:

Be it known that I, ALFRED C. GILBERT, a citizen of the United States, residing in New Haven, county of New Haven, and State of Connecticut, have invented certain new and useful Improvements in Toy Vehicles, of which the following is a full, clear, and exact description.

This invention relates to toys and more particularly to that class of toys termed construction toys, the parts of which are designed to be assembled to produce various toy devices. The present invention pertains more particularly to the assemblage of these construction parts to produce a relatively long knockdown toy vehicle, provided with front and rear axles, and relates to manually operable means mounted upon the vehicle to propel the same.

Toys of a similar nature have been constructed with wooden parts in the past which has been objectionable, due to the fact that the wood shrinks and the parts for this reason do not properly fit, and their assemblage becomes a matter of difficulty.

One object of this invention is to provide metallic parts from which vehicles and toys of various descriptions may be formed.

Another object of this invention is to provide a relatively long frame construction, which is designed to have axle members connected to the front and rear portions thereof in various relations.

Another object of this invention is to provide a toy of metallic parts, which shall be durable and strong enough to withstand the strain which is incident to the use of such a toy.

Still another object of the invention is the provision of certain toy parts, which, when assembled, will form a strong, durable wheeled toy, and which parts will not shrink or so change their form or size that their assembly will be rendered difficult.

Still another object of this invention is to provide improved means for securing some of the wheels of the toy upon the axle and for securing the frame members to the axles of the toy; and to so improve the parts generally that they may be quickly assembled and taken down, and yet be firmly secured together when assembled.

To these and other ends the invention consists in the novel features and combina-

tions of parts to be hereinafter described and claimed.

In the accompanying drawings:

Fig. 1 is a perspective view of a toy vehicle embodying my improvements.

Fig. 2 is a perspective view of the lower side of the same.

Fig. 3 is a rear view, some of the parts being omitted for the sake of clearance.

Fig. 4 is an enlarged detail view of the manner in which certain of the parts are secured together.

Fig. 5 is an enlarged detail view of the manner of connecting the gears and the rear axle to the frame.

Fig. 6 is a perspective view of the wheel locking means.

Fig. 7 is a view of the wheel locking means partly in section; and

Fig. 8 is a detail view of the upper portion of the handle.

The toy vehicle to which I have shown my improvements applied consists of an elongated frame or body portion, which is made up of two relatively long frame members 11. These frame members are of angle cross-section and are in turn formed of the metal strips 12, two of which are spliced together in abutting relation in the formation of one of the frame members 11. The strips 12 are perforated, as shown, so that two abutting members may be placed end to end and a metal strap 13 applied and bolted thereto, so that the two strips will form one long rigid member. The angle members are then formed by joining two of the long rigid members thus formed by means of the perforated brackets 14, which may be secured to these strips by means of the perforations therein to connect them in as many places as will be found desirable to form a rigid member. These two frame members 11 may then be joined in spaced relation by a plurality of strap members 15, which are placed at desirable and convenient points along the length of the same, to form the body member of the vehicle. To the front end of the body is connected a V-shaped bracket 16, which is so shaped at the ends thereof that it may be bolted to both strips 12 of the frame members 11, so that these brackets assist in holding these strips in assembled relation. To the lower portion of this bracket is con-

nected a clip 17 by means of a bolt 10, which clip is perforated to receive the front axle 18 carrying the two wheels 19. A pin 20 may be inserted through perforations in the axle on each side of each of the wheels 19 to prevent the movement of the wheels longitudinally of the axle. To prevent longitudinal movement of the axle within the clip 17 a second clip 21 is adapted to embrace the axle and to fit between the legs of the clip 17 and it is provided with a set screw 22, which when tightened, will secure the axle in position. It is seen that the parts thus far described may be assembled, as set forth to provide a rigid body member which has an axle pivotally connected thereto and securely held in position. This pivotal connection is provided about the bolt which joins the bracket 16 to the clip 17. Upon the rear portions of the frame members 11 are provided two brackets 23 and 24, which serve the double function of securing the rear axle to the frame and also mounting the gears in the proper position. As shown in Figs. 3 and 5, the bracket 23 is provided with flat bases 25 and 25^a, which are adapted to serve as a support for one of the frame members 11. The bracket 23 is also provided with a lateral recessed portion 26, which is adapted to seat one of the strips 12 and thereby connect the frame members 11 rigidly thereto. The lower edge of the strip 12 will then rest upon the shoulder provided upon this bracket at the lower side of the recess 26. A perforation 26^a is provided upon an intermediate portion of the bracket between the two bases 25 and 25^a, so that the frame members may be bolted to the bracket at this point. The bracket 24 is also provided with a corresponding flat portion 25', a corresponding recessed portion 26' and a perforation 26^b, which serve the same functions with relation to the other frame member 11.

The bracket member 23 is also provided with a journal bearing 27 for the rear axle 27^a and a journal bearing 28 for a purpose to be described hereinafter. The bracket 24 is provided with a corresponding journal bearing 27', which is also adapted to rotatably support the rear axle of the vehicle. Between these two brackets a driving pinion 29 is rigidly secured to the wheel by means of a pin 30, as shown in Figs. 2 and 3. This pin is usually in practice secured to the axle by pressing or staking the same, and the gear is provided with a recess or a notched portion 31, which receives the pin. The two brackets then hold the gear in proper position upon the axle, so that the pin will be retained in the notch or recess 31 and the axle will then rotate with the gear.

To drive the vehicle, a rocking lever 32

is provided and is pivoted to the frame at 33. A connecting rod 34 is pivoted to the lower end of this lever at 35, the rear end of this rod being rotatably mounted upon a crank pin 35' formed upon a driving gear 36, which is secured to a stub shaft 37 mounted in the journal bearing 28 in the bracket 23. The journal bearings 27 and 28 are so spaced that the gear 36 and the driving pinion 29 will be sustained in meshed relation when the parts are assembled as described.

The lever 32 consists of two strip members 12' similar to the members 12, to the upper end of which are secured angle brackets 14', similar to the brackets 14, to which is secured a cross-bar 38 by which the vehicle is propelled. The connection 33 is provided by securing a small bracket 39 similar in shape to the clip 17 upon each of the frame members 11. Between the two strip members 12' a third bracket 39 is placed and a pivot rod 33' is passed through the three brackets and the two strip members 12'. This forms a convenient and effectual way to pivot the propelling lever to the frame of the vehicle.

As will be apparent, one of the rear wheels of the vehicle must be locked rigidly to the axle so that the vehicle will be propelled when the axle is rotated through the medium of the lever 32, the gear 36 and the pinion 29. A convenient way to rigidly secure the wheel 40^a upon the axle is shown upon the Figures 6 and 7 of the drawings. The wheel hub 40^b is provided in this case with a recess 40, which is adapted to receive a tongue or lug 41 upon a locking member 42, which is non-rotatably mounted upon the axle. The locking member or disk 42 is provided with a recess 43 upon the face opposite that upon which the lug is located, which recess is adapted to receive a pin 44, which may be inserted loosely through a perforation 45 in the axle. The wheel is assembled in the following manner: The pin is first slipped through the axle 27^a. The locking disk is then slipped upon the axle as far as possible until the pin is received in the recess 43. The wheel is then placed upon the axle and moved to the right, as shown in Fig. 7, until the lug 41 is received in the recess 40. The parts are then in assembled relation and may be conveniently retained in this position by an insertion of a cotter pin 46 through the axle at the outer side of the wheel. It is apparent that the structure above described will provide a convenient, simple and satisfactory manner of locking the wheel to the axle.

A seat may be provided upon the vehicle by the use of the member 47, which serves as the top of the box in which the parts of the construction toy are packed when

knocked down. This is preferably made of sheet metal, but the exact material used may be varied, of course, without departing from the invention. The seat member 47 is provided with a plurality of perforations 48, so that it may be assembled in various relations with the frame members 11. As shown in Figs. 1 to 3 of the drawings, the seat is secured to the body of the vehicle in the particular embodiment shown by supporting it from the body upon two V-shaped brackets 16^a and 16^b, which are similar to the brackets 16 used to mount the frame upon the front axle. These brackets are secured in inverted position upon the vehicle frame and cross strips 49, as shown in Figs. 2 and 3 are secured between these brackets and the seat member 47. These strips 49 will prevent any tendency of the seat to tip about the bolts 50 by which it is secured to the brackets 16^a and 16^b and will also prevent any tendency of the same to sag at the side edges, if made from comparatively thin sheet metal. The seat member 47 can then be of such material that it can very well serve as the top of the packing box and yet can be rigidly mounted upon the vehicle so that a rigid and durable seat is provided.

The frame members 11 may be connected by a plurality of rods such as 51, as shown in Fig. 4, to prevent any tendency of these members to spread when a load is placed upon them. These members will be secured firmly together by the use of one or more of these rod members and the short straps 15, which are used at the front and rear, and if desired at various points along the frame.

While I have shown and described a preferred embodiment of my invention, it is to be understood that the same is not to be limited thereto in all of its details, as various changes and modifications may be made which will lie within the spirit of the invention and within the scope of the appended claims.

What I claim is:

1. A toy vehicle including a body, a sheet metal seat member, means to secure said seat member to said body, said means being attached to said seat member along a central longitudinal line, and reinforcing strips to support the edge portions of said seat member.

2. In a toy vehicle, a body comprising angle frame members assembled from metal strips detachably secured together, an axle,

a bracket to secure said axle to said body, said bracket being so formed as to also hold said metal strips in proper relation to each other to form said angle members.

3. A handle member for toy vehicles comprising a pair of elongated metal strips, U-shaped bracket members detachably securing said members in spaced relation, one of said bracket members being positioned near the top of said members, an angle bracket secured to each of said strips near the top thereof and a handle bar secured to said angle brackets.

4. A toy vehicle comprising a body formed of spaced longitudinal frame members, a pair of brackets on said members and positioned opposite each other, a handle member formed of metal strips spaced by a bracket similar in shape to said first mentioned brackets, and a pin passing through all of said brackets and said spaced strips to pivotally connect said handle member to said vehicle.

5. A toy vehicle including a body, an axle, a pin extending through and secured to said axle, a pinion having its hub provided with a recess to receive said pin, and a bracket secured to said body, having a journal supporting said axle and holding the pinion thereon so that the pin is engaged in recess.

6. A toy vehicle including a body, an axle, a pin extending through the axle and secured therein, a bracket secured to said body and having a journal receiving said axle, said pin abutting said bracket to prevent longitudinal movement of said axle in said bracket in one direction, a pinion loosely mounted upon said axle and having a recess for the reception of said pin, a second bracket secured to said body, having a journal to receive said axle and located on the opposite side of said pin and pinion from said first bracket to hold said members in assembled relation and to hold the axle against longitudinal movement in the other direction.

7. A toy vehicle including a body formed of angle members, said angle members being in turn formed of elongated strips detachably secured together, an axle, a bracket for securing said axle to the body, and having means for holding said strips in assembled relation to form said angle member.

In witness whereof, I have hereunto set my hand on the 8th day of December, 1920.

ALFRED C. GILBERT.