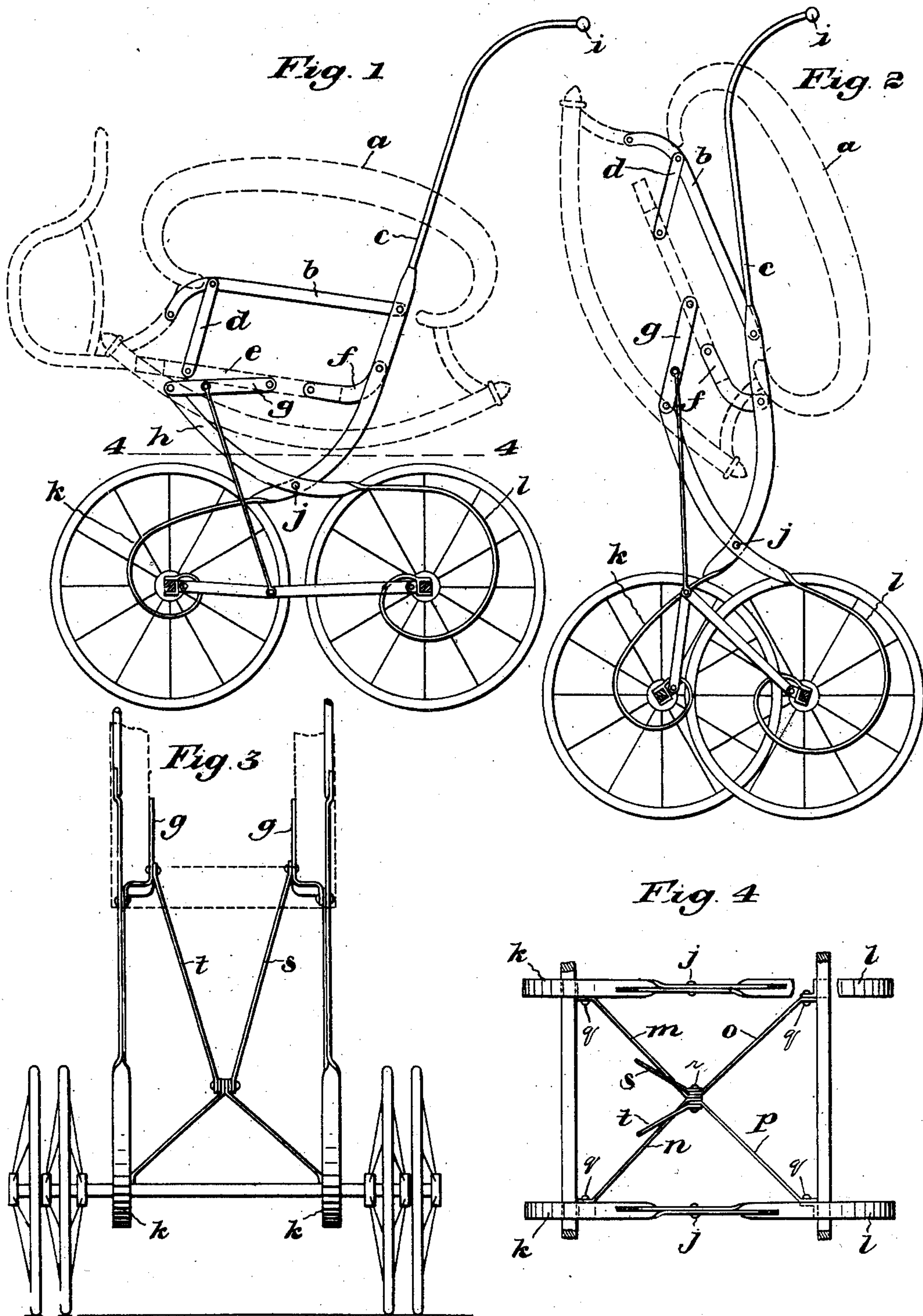


No. 826,662.

PATENTED JULY 24, 1906.

J. P. HOLMAN.  
FOLDING VEHICLE.

APPLICATION FILED SEPT. 12, 1905.



*Witnesses:*  
Horace A. Crossman.  
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# UNITED STATES PATENT OFFICE.

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## FOLDING VEHICLE.

No. 826,662.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed September 12, 1905. Serial No. 278,080.

*To all whom it may concern:*

Be it known that I, JOSEPH P. HOLMAN, a citizen of the United States, residing at Leominster, in the county of Worcester, State of Massachusetts, have invented an Improvement in Folding Vehicles, of which the following description, in connection with the accompanying drawings, is a specification, like letters on the drawings representing like parts.

My invention relates to folding or collapsible vehicles, being more particularly intended for increasing the rigidity and strength of the folding framework of collapsible go-carts.

My invention will be best understood by reference to the following description, when taken in connection with the accompanying illustration of one specific embodiment thereof, while its scope will be more particularly pointed out in the appended claims.

In the drawings, Figure 1 shows one form of my invention applied to a go-cart of otherwise ordinary construction, the cart being shown in its opened position and in central longitudinal section. Fig. 2 is a similar view with the cart folded or collapsed. Fig. 3 is a front elevation of the collapsed go-cart; and Fig. 4 is a plan in section, taken on the line 4-4 in Fig. 1.

Referring to the drawings, the folded go-cart there shown, except for features to be referred to, is of ordinary construction. The side *a* of the body (shown in dotted lines) is attached to the metallic side support *b*. The latter is directly jointed to the main frame member *c* and is also connected to the bottom *e* of the body by means of the depending link *d*. The bottom in addition to the link connection *d* to the side is also jointed to the main frame member *c* by the metallic plate *f* and is connected by the link *g* to the remaining main frame member *h*. The main frame member *c* is extended upwardly and curved rearwardly to carry the handle *i* and is jointed at *j* to the remaining frame member *h*. Below the joint the two members are continued in the form of springs *k* and *l*, respectively, which encircle the front and rear axles and are fastened thereto in any suitable manner. The parts referred to are of course duplicated at each side of the vehicle. The frame is collapsed by movement of the

two frame members with their attached parts about the joint at *j*, the closing movement resembling that of a pair of scissors, and the position when collapsed being shown in Fig. 2. The parts described are of usual construction and require no further description.

To give increased rigidity to the structure of the frame when opened and to maintain the axles in parallelism and wheels in alignment, a condition which would otherwise be dependent for maintenance upon their connection through the flexible springs *k* and *l*, I have also provided additional connections between the axles, constituting, in effect, a reach adapted to collapse with the frame, but in the open position of the frame effectually to hold the axles in their desired and intended relative positions. This reach may be variously constructed, the construction which I prefer in practice, however, being shown in plan in Fig. 4. The reach there disclosed consists of four reach members *m*, *n*, *o*, and *p*, jointed each to a clip or fastening *q* near the outer end of its respective axle. The several reach members lead diagonally from the outer ends of the axles to a converging point, where they are jointed by means of the pivot-pin *r*, about which the entire reach can therefore fold. Jointed also to the pivot-pin are the lower ends of the two upright braces *s* and *t*, the upper ends of which are jointed to the link *g* and its mate, (not shown,) the latter joining the frame member *h* and the body-bottom. When the cart is folded, the jointed reach members fold about the pivot-pin *r* into the position shown in Fig. 2, being assisted in their folding movement by the upward pull of the brace-rods *s* and *t*, which are drawn upward by the contraction or folding of the frame. When the cart is extended or opened, as shown in Fig. 1, the brace-rods bush the reach members down into a substantially horizontal position and there maintain them, effectually preventing any tendency on the part of the reach to buckle or yield upwardly about the pivot *r*.

The geometrical formation which is provided in the reach-frame disclosed by means of the two intersecting and united diagonal reach members effectively resists distortion, for any movement of one axle laterally with respect to the other is opposed by the tension



of one or the other diagonal reach members. In this respect the described reach is superior to one of rectangular formation, for the latter is susceptible to distortion without placing either of the parallel reach members under compression or tension.

While I have disclosed and described with particularity one form of my invention for illustrative purposes, it is to be understood that my invention is not limited to the details and form and arrangement of parts shown, but that extensive modifications may be made therein without departing from the spirit of my invention.

I claim—

1. A folding vehicle having front and rear wheels, front and rear axles extending between the front and rear wheels respectively and one or more diagonal reach members connecting said axles, said members being jointed about an axis substantially parallel with the said axles.

2. A folding vehicle having front and rear wheels and front and rear axles connecting the front and rear wheels respectively, and one or more jointed diagonal reach members connecting said axles and permitting the said axles to be swung bodily toward each other on the folding of the reach.

3. A folding vehicle having front and rear axles and front and rear wheels thereon, and the reach members *m*, *n*, *o* and *p* connected with the front and rear axles respectively, and pivoted together, whereby said axles may be swung bodily toward each other.

4. A folding vehicle having front and rear axles and a reach between the same comprising reach members secured to said axles near the outer ends thereof and converging toward a common pivotal point, and one or more upright brace members uniting the frame of said vehicle and said reach at the pivotal point thereof.

5. A folding vehicle having front and rear wheels, front and rear axles extending between the front and rear wheels respectively, a folding diagonal reach between the same and an upright brace member connected to said folding reach for holding the latter extended in the open position of the carriage.

6. A folding vehicle having front and rear

wheels, front and rear axles extending between the front and rear wheels, a pair of reach members between said axles jointed at a common point, and one or more brace members connected to said reach members at the common joint thereof.

7. A folding go-cart comprising front and rear wheels, front and rear axles extending between the front and rear wheels respectively, a body, main frame members pivoted together for the opening and folding of said cart, said members being attached on one side of their pivotal connection to parts of the said body, and on the other side thereof to the front and rear axles respectively, and a folding reach between said front and rear axles.

8. A folding vehicle having front and rear axles and front and rear wheels thereon and having the pivoted frame members *h* and *c*, reach members *m*, *n*, *o* and *p* connected with said axles, and the braces *s* and *t* connected with said reach members.

9. A folding vehicle having the pivoted frame members, *h* and *c*, the springs, *k* and *l* connected therewith, the reach members, *m*, *n*, *o* and *p* connected to the spring members, and the brace members, *s* and *t* connected with the reach members.

10. A folding go-cart having a collapsible body portion, pairs of jointed frame members, front and rear axles to which a frame member of each pair respectively is secured, diagonal reach members jointed at a common pivotal point to permit the front and rear axles to approach each other when the reach is folded, and a connection between said frame members and said folding reach to maintain the reach extended in the open position of the vehicle but acting to draw the same to a folding position on the folding of the vehicle.

In testimony whereof I have signed my name to this specification in the presence of the subscribing witnesses.

JOSEPH P. HOLMAN.

Witnesses:

WM. H. CROPPER,  
JOHN W. NICHOLS,  
GEO. P. HARTMAN.