No. 827,481. PATENTED JULY 31, 1906.

S. TRESOUTHICK.

VELOCIPEDE.

APPLICATION FILED APR. 13, 1903.

2 SHEETS—SHEET 1.

Fig. 1.

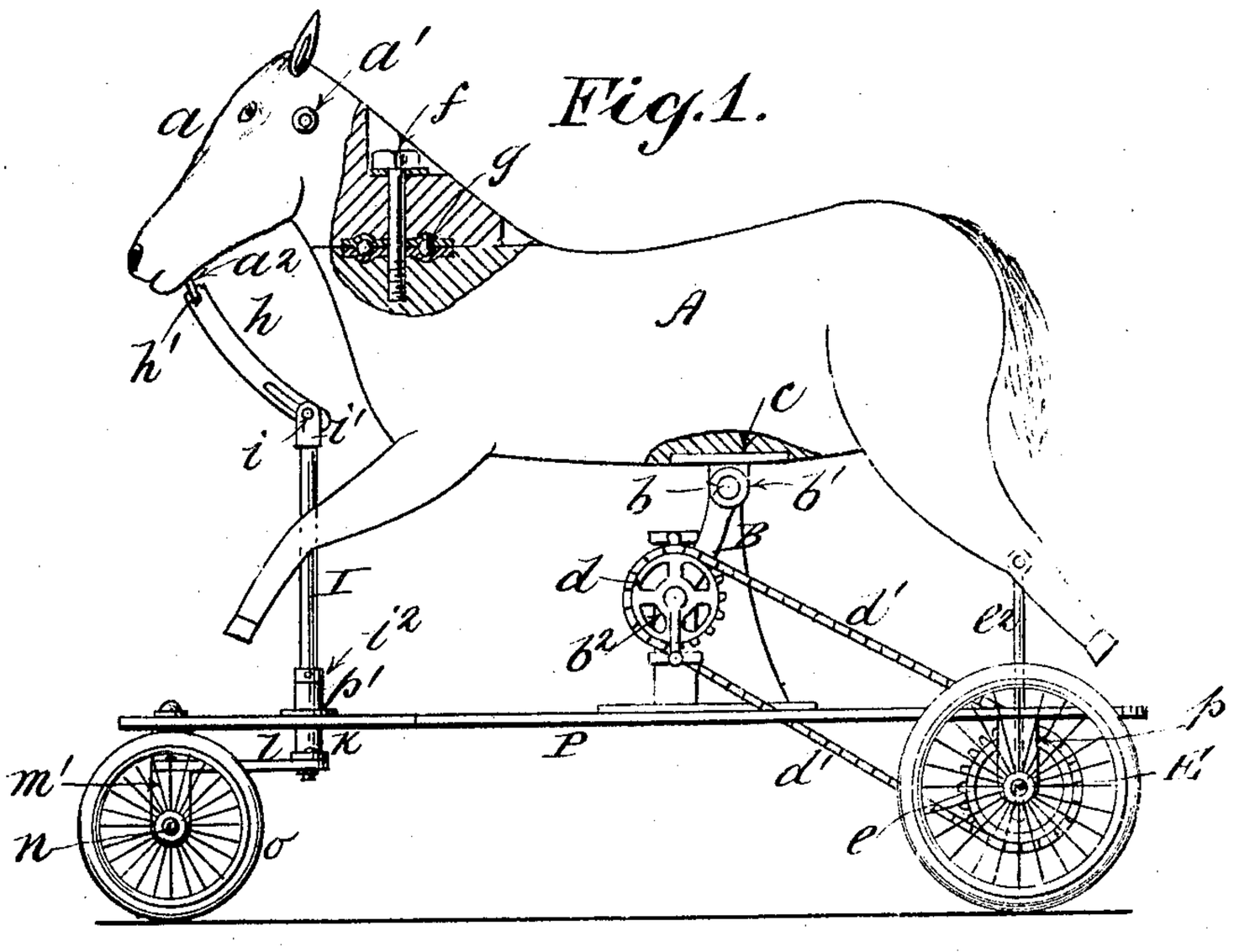
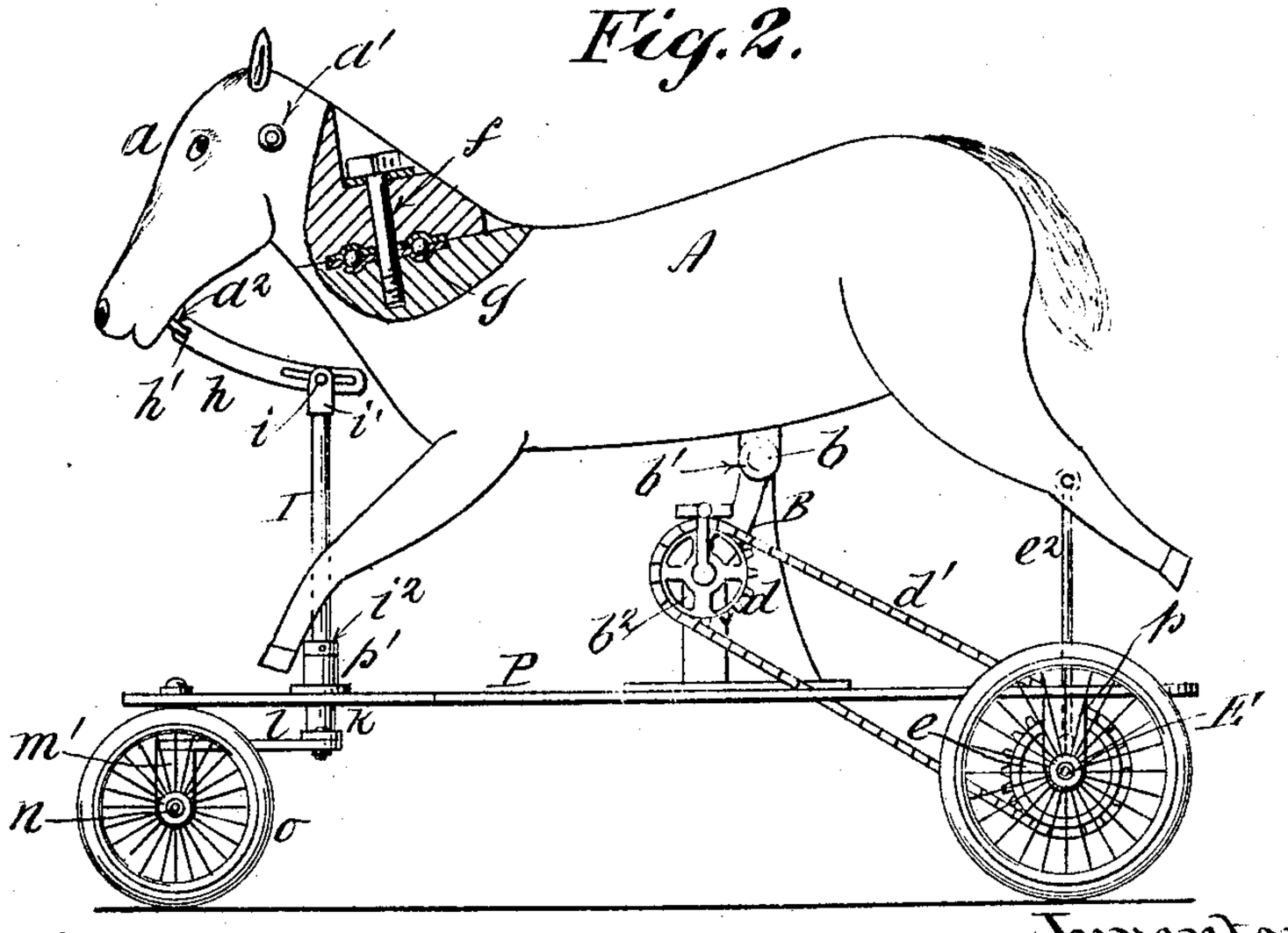


Fig. 2.



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Inventor:
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2 SHEETS—SHEET 2.

Fig. 3.

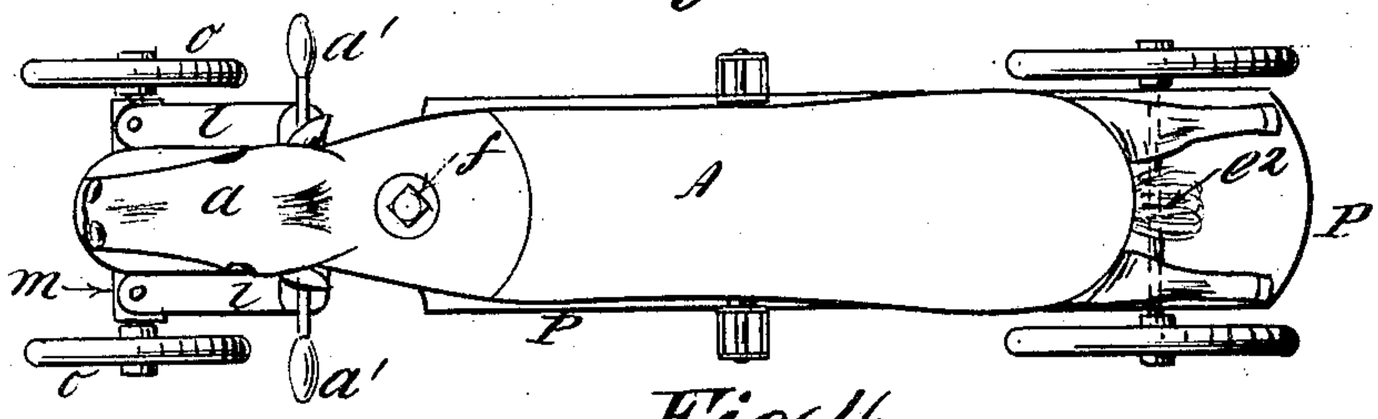


Fig. 4.

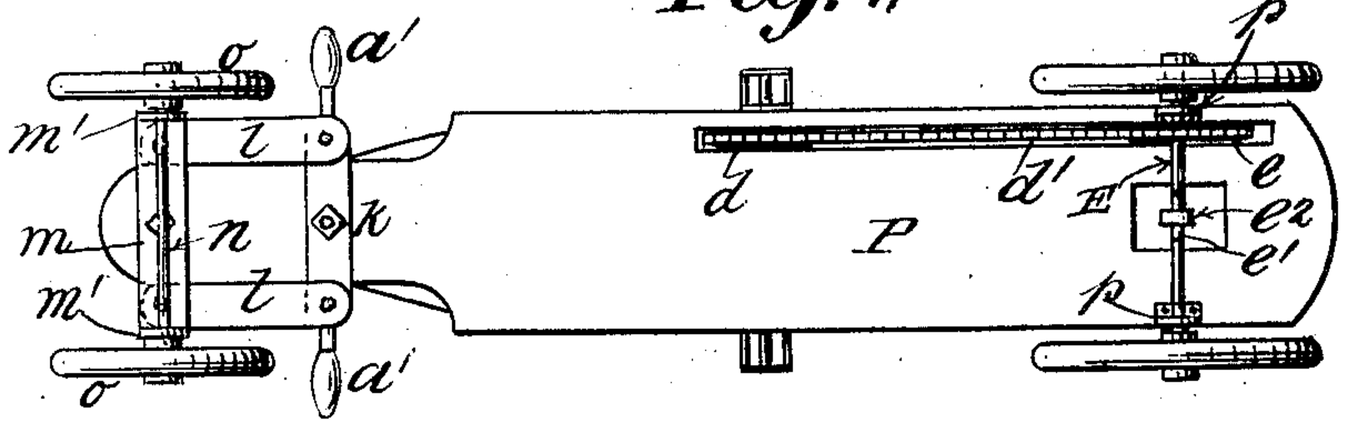


Fig. 5.

Fig. 7.

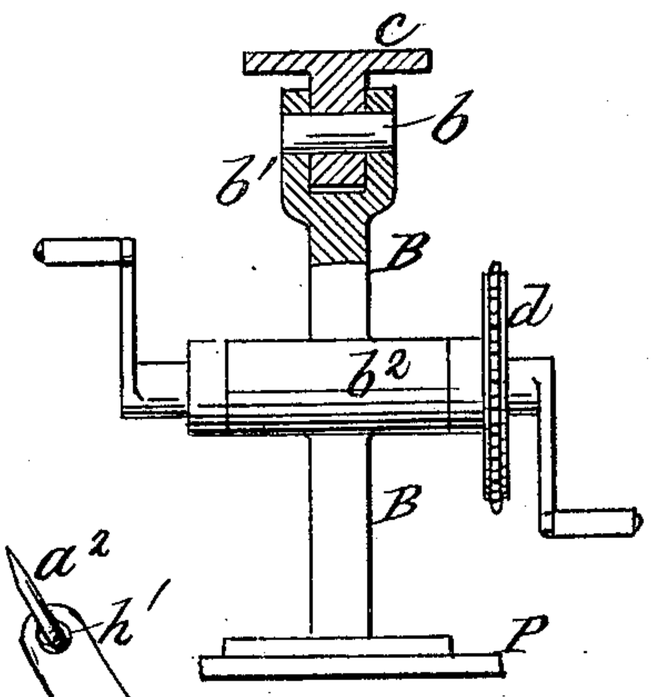
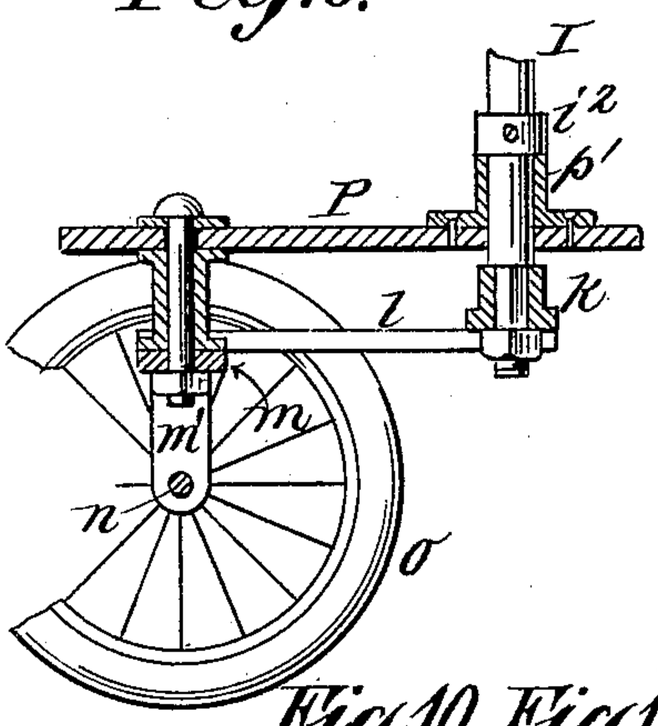


Fig. 6.



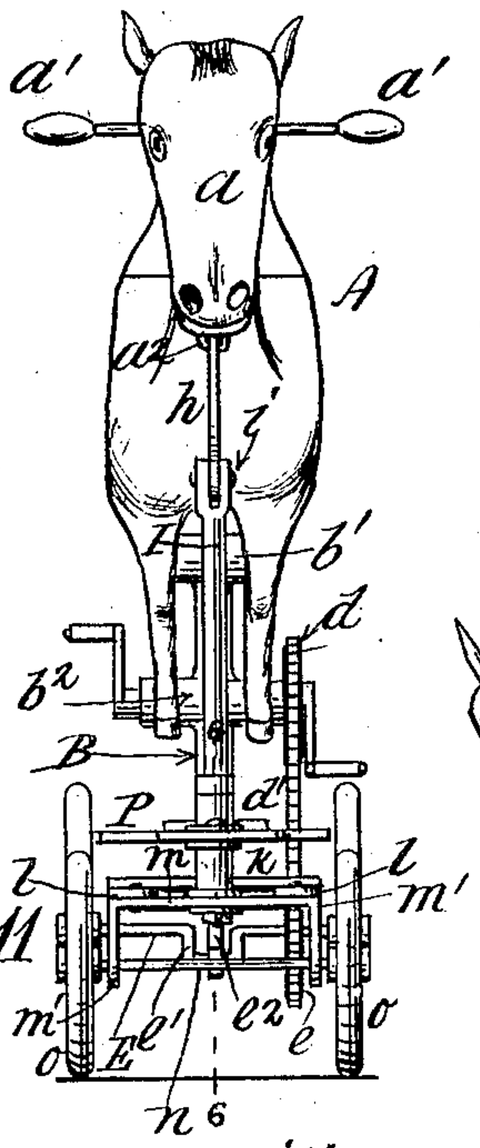


Fig. 8. Fig. 9.

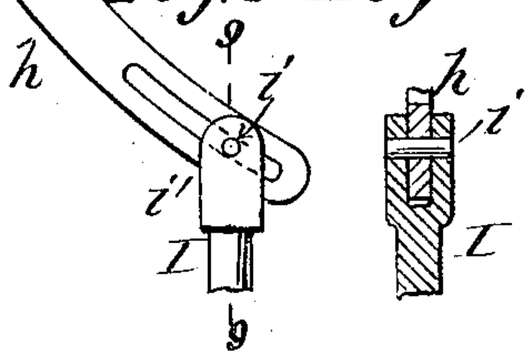
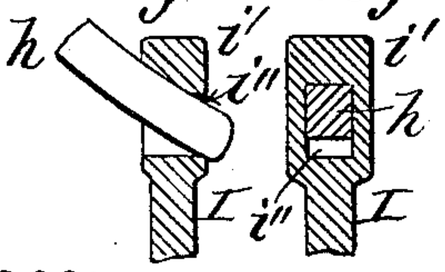


Fig. 10. Fig. 11



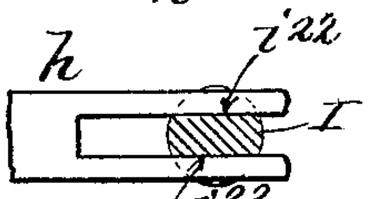


Fig. 12.

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UNITED STATES PATENT OFFICE.

STANLEY TRESOUTHICK, OF JERSEY CITY, NEW JERSEY.

VELOCIPEDE.

No. 827,481. Specification of Letters Patent. Patented July 31, 1906.

Application filed April 13, 1906. Serial No. 311,432.

To all whom it may concern:

Be it known that I, STANLEY TRESOUTHICK, a citizen of the United States, residing in Jersey City, Hudson county, and State of New Jersey, have invented certain new and useful Improvements in Velocipedes, of which the following is a specification.

My improvements relate to the class of carriages impelled by the riders thereof and known generally as "velocipedes," and particularly to the form of such vehicles in which the rocking figure of a horse or other animal is used as a seat or support for the rider.

The main object of the invention is the utilization of the head of the rocking figure as a medium for controlling and operating the steering mechanism of the vehicle, thus imitating in so far as is practicable the method of guiding a living prototype of the animal represented.

The invention consists in the construction and arrangement of parts hereinafter described and claimed specifically.

In the accompanying drawings, Figures 1 and 2 are sectional elevations showing the rocking-horse in different positions. Fig. 3 is a plan of the vehicle; Fig. 4, a view of the under side thereof; Fig. 5, a front view. Fig. 6 is a sectional elevation, upon an enlarged scale, taken upon plane of line 6 6, Fig. 5. Fig. 7 is a sectional elevation of the treadle-standard. Fig. 8 is a detail view of the link-bar and head of the steering-shaft; Fig. 9, a section upon plane of line 9 9, Fig. 8. Figs. 10 and 11 are sectional details illustrating a modification in the form of the steering-head and link-bar. Fig. 12 is a detail view showing still another modification.

Obviously the form or representation of the animal A is of minor importance, that indicated in the drawings being intended to represent the usual "hobby-horse," by which term, for convenience, I will hereinafter designate said rocking animal-body, it being understood that the term is applied in a broad generic sense and that I do not restrict myself to any special animal-model.

The body of the hobby-horse A is pivotally supported upon the upper part of the treadle-standard B upon the platform P in any suitable manner. Thus, as shown in the drawings, an eye-plate *c*, secured to the under side of the body A, engages with a pin *b*, supported in the bifurcated end *b'* of said treadle-standard, as will be understood by reference more particularly to Fig. 7.

The treadle-shaft is supported in the bearing b^2 on said standard B and carries a sprocket-wheel *d* or equivalent for transmitting power and motion through the medium of the belt or chain *d'* to the wheel *e* upon the driving shaft or axle E, which latter is mounted in bearings *p p* on the under side of the platform P. The driving-shaft E is formed with a crank *e'*, connected by a pitman-rod e^2 with the rear of the body A, to which said pitman is pivotally connected, so that as the driving-shaft E rotates it will rock the hobby-horse on its pivotal support *b*.

The head *a* of the hobby-horse A is pivotally attached to the body by a screw-bolt *f* passing through the neck of the horse, an antifriction device *g*, consisting of ball-bearing plates and rollers, being preferably interposed between the opposed surfaces of the neck and body, as indicated in Figs. 1 and 2. The head *a* is provided with handles *a' a'* or other means to facilitate the turning of the head laterally in either direction upon the bolt *f* as a pivot.

To the head *a* is connected, by means of an articulated joint, a link-bar *h*, the outer or free end of which is bifurcated or slotted to straddle a pin *i* in the bifurcated head *i'* of the vertical steering-shaft I, which latter is mounted in the sleeve-bearing *p'* on the platform P, a collar i^2 on the shaft I resting upon the upper end of the sleeve-bearing *p'*, or the shaft being otherwise sustained against vertical play or movement.

By reference to Figs. 8 and 9 it will be seen that the free end of the link-bar *h* is rectangular in cross-section and fits snugly within the bifurcated end head *i'*, while free to play or slide over the pin *i*. The upper end of the link-bar *h* is connected to the head *a* by a freely-articulating joint, as by forming it with an eye *h'*, coupling with an eye or staple a^2 on the head *a*. Hence when the head *a* is turned in either direction on the bolt *f* the link *h*, while free to follow and adapt itself to the vertical movement of the head *a*, will impart the lateral movement to the steering-shaft I, turning the latter axially in the same direction as that assumed by the head, and thereby steering the vehicle in that direction, it being understood, of course, that the steering-shaft I controls suitable steering mechanism. The latter may be variously construct-

ed and arranged, the essential and distinguishing feature of my invention in this connection consisting in the use of the slotted link-bar *h*, interposed between the head *a* and the steering-shaft I in such manner as to compensate for and admit of the rocking of the head *a* and body A without interfering with or impairing the steering of the vehicle, a result never heretofore attained in so far as I am aware.

Obviously the engagement between the link-bar *h* and the steering-shaft I may be effected, with like result, by resort to various mechanical expedients, so that I do not limit myself to a slotted or bifurcated link-bar, since, for instance, a solid bar may be used, as illustrated in the modifications shown in Figs. 10 and 11, in which the free end of the link-bar *h* simply rests in a suitable slot or recess i'', formed in the head of the steering-shaft I, the engagement of the side walls of the slot with the parallel sides of the link-bar insuring the turning of the steering-shaft on its axis in conforming with the movement of the head *a* upon its pivot *f*. In fact, the form in cross-section of the link-bar *h* is not material, provided the slot or recess in the head of the steering-shaft conforms thereto, the object being to allow the bar *h* to slide freely back and forth longitudinally in or on said head as the body A is rocked, while the lateral engagement between the parts insures the turning of the shaft axially simultaneously with the turning of the head A, or, if preferred, the free end of the link-bar *h* may be bifurcated vertically, so as to straddle plain flat surfaces i^{22}, formed in the upper end of the steering-shaft I, as in the modification illustrated in Fig. 12. In either case the result is essentially the same in that the lateral movement of the head is imparted to the steering-shaft, while the link *h* is free to admit itself to the vertical or rocking movement of the head and body.

The steering mechanism shown in the drawings as controlled by the steering-shaft I consists of a cross-bar *k*, secured rigidly to the lower end of the latter, said cross-bar *k* having pivotally attached to it the inner ends of links *l l*, the outer ends of which are pivotally attached to a yoke *m*, having vertical arms or extensions *m' m'*, which constitute the bearings for the axle *n*, on which the steering-wheels *o* are mounted. Thus the axial movement of the steering-shaft I will be transmitted, through the links *l l* to the yoke *m*, axle *n*, and wheels *o*.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a vehicle of the character designated, the combination with means for propelling the same, of the body of a figure pivotally supported on the carriage, means for rocking said body thereon, a laterally-movable head pivotally supported on said body, a link-bar connected with said head by an articulated joint and engaging at its free end with the sides of a slot or recess formed in the head of the steering shaft, together with said steering-shaft and steering mechanism connecting therewith and controlled thereby, for the purpose described.

2. In a vehicle of the character designated, the combination with means for propelling the same, of the body of a figure pivotally supported on the carriage, means for rocking said body thereon, a laterally-movable head pivotally supported on said body, a link-bar connected with said head by an articulated joint and interlocking at its free end with opposed flat plain surfaces on the steering-shaft, together with said steering-shaft and steering mechanism connecting therewith and controlled thereby, for the purpose described.

STANLEY TRESOUTHICK.

Witnesses:
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D. W. GARDNER.