No. 728,924. PATENTED MAY 26, 1903.

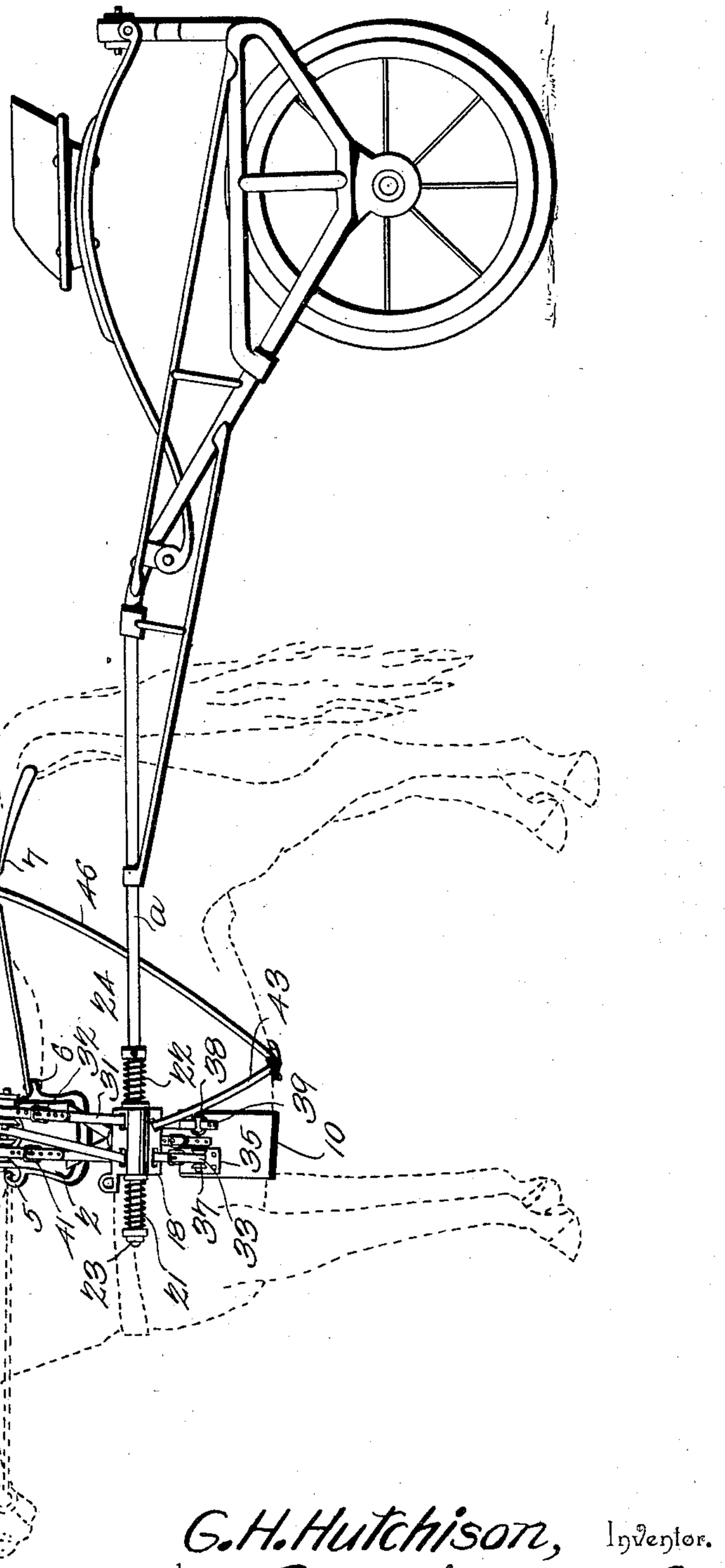
G. H. HUTCHISON.

HARNESS.

APPLICATION FILED FEB. 5, 1902.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 3.

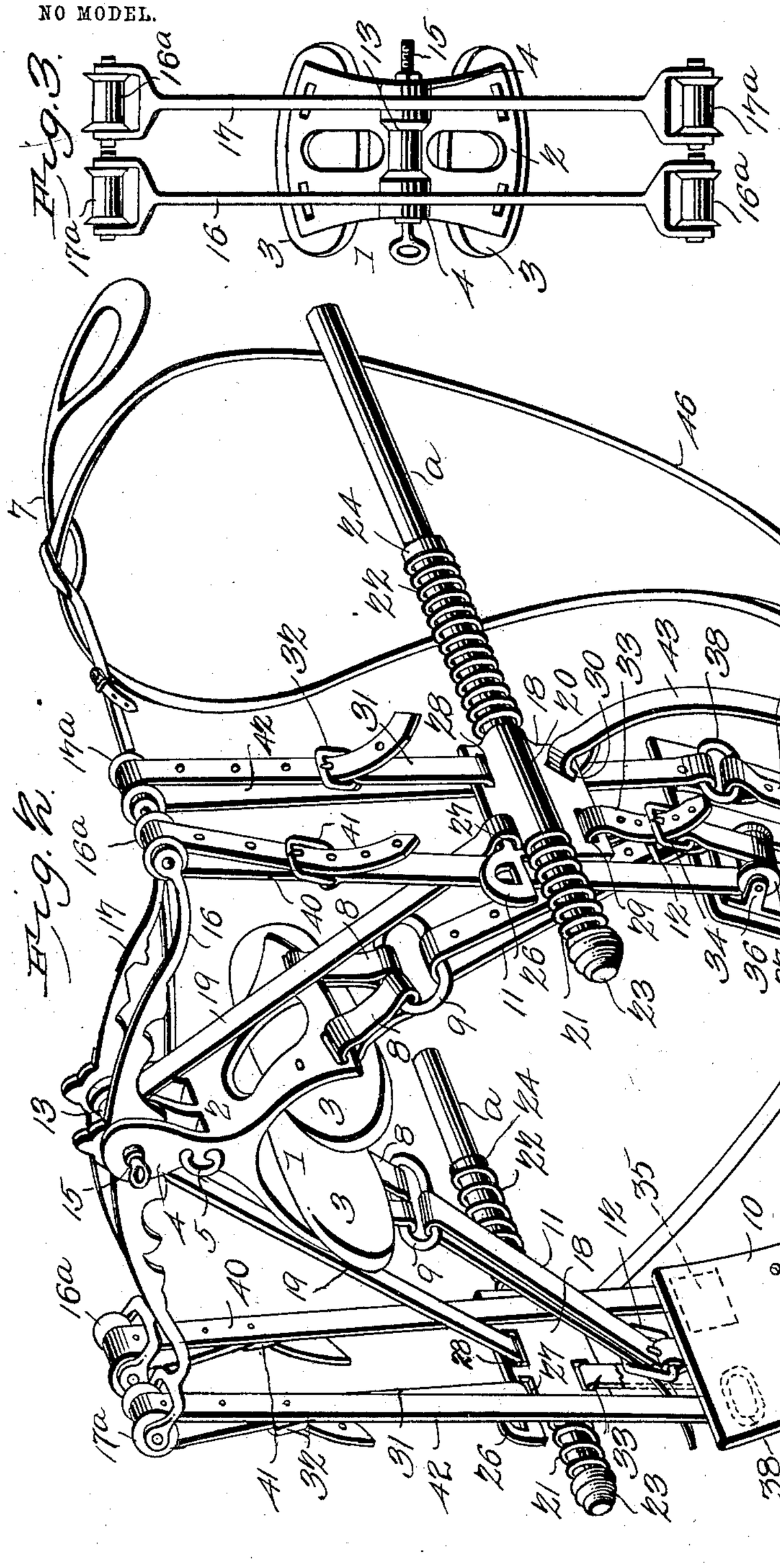
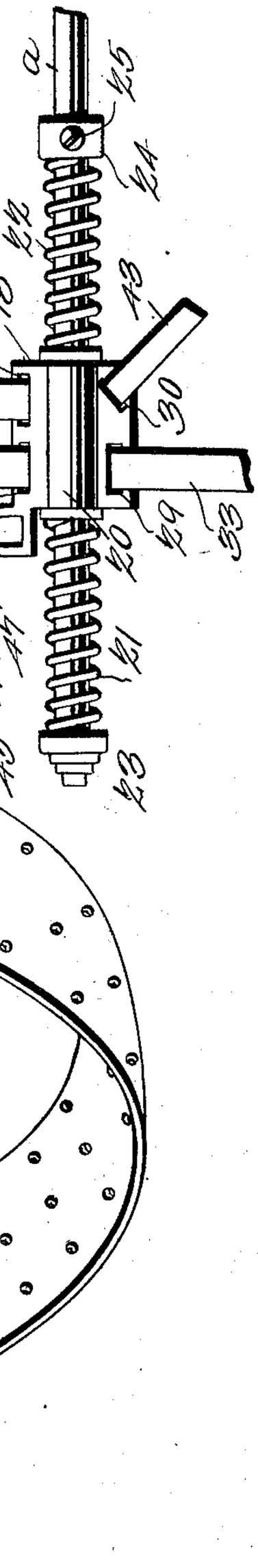


Fig. 4.



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728,924. Patented May 26, 1903.

UNITED STATES PATENT OFFICE.

GEORGE HARVEY HUTCHISON, EAST LAS VEGAS, TERRITORY OF NEW MEXICO.

HARNESS.

SPECIFICATION forming part of Letters Patent No. 728,924, dated May 26, 1903.

Application filed February 5, 1902. Serial No. 92,700. (No model.)

To all whom it may concern:

Be it known that I, GEORGE HARVEY HUTCHISON, a citizen of the United States, residing at East Las Vegas, in the county of San Miguel and Territory of New Mexico, have invented a new and useful Harness, of which the following is a specification.

My invention is an improved harness especially designed for use in attaching a draft-animal to a one-wheel vehicle; and it consists in the peculiar construction and combination of devices hereinafter fully set forth and claimed.

One object of my invention is to simplify the construction of the harness.

A further object of my invention is to provide means to prevent the harness from chafing the animal by neutralizing the motion of the thills.

A further object of my invention is to provide means to relieve the vehicle of the horse motion, so that the vehicle will run steadily.

In the accompanying drawings, Figure 1 is a side elevation of my improved harness, showing the same on a horse attached to a one-wheel vehicle. Fig. 2 is a perspective view of my improved harness. Fig. 3 is a detail top plan view showing the saddle and the laterally-projecting arms pivoted thereto. Fig. 4 is a detail elevation.

In the embodiment of my invention I provide a harness-saddle 1, which may be of any preferred construction. As here shown, the same is an arched frame or casting 2 and a pair of pads 3, which pads bear on the back of the animal, the arched frame 2 spanning the ridge on the animal's back. The said arched frame is provided on its upper side with vertical standards 4, of which two pairs are here shown. A hook 5 for the attachment of the checkrein is on the front side of the arched frame, and on the rear side thereof is a loop 6 for the attachment of the crupper-strap 7. Loop-straps 8 are connected to the sides of the arched frame above the pads 3, and rings 9 are attached to the said loop-straps. The girth 10, which is of considerable width and is preferably perforated, as here shown, is connected to the rings 9, and hence to the saddle, by adjustable straps 11, each of which is provided with a buckle 12, whereby it may be lengthened or shortened, and hence the harness may be fitted on horses which vary in size.

An antifriction-roller 13 is disposed between the pairs of standards 4 and adapted to rotate on a bolt 15, that passes through openings with which said pairs of standards are provided. A pair of arms 16 17, which are disposed transversely with reference to the saddle and one in advance of the other, are respectively disposed with their central portions between the pairs of standards 4 and are pivoted on the bolt 15. Each of the said pivoted arms is provided at its opposite ends with antifriction-rollers 16^a 17^a, which are arranged reversely on the respective pivoted arms.

A pair of thill-plates 18 are connected to a thill-tug 19. Said thill-tug passes over and bears upon the antifriction-roller 13. Each of the thill-plates is provided with a tubular portion 20, and the thills *a* of the vehicle pass through said tubular portions and are adapted to move longitudinally therein. Springs 21 22, which are here shown as coiled extensile springs, are attached to the thills and bear, respectively, against the front and rear ends of the thill-plates, so that the latter are cushioned with respect to the longitudinally-movable thills. As here shown, the springs 21 22 are disposed on and around the thills. Caps 23 are secured on the front ends of the thills and bear against the front ends of the springs 21, and sleeves 24 are adjustable on the thills and bear against the rear ends of the springs 22, said sleeves being provided with suitable means whereby they may be secured at any desired adjustment on the thills to keep the springs at the requisite tension. I here show set-screws 25 to thus adjustably secure the sleeves to the thills. The thill-plates 18 are provided, preferably, at their front upper corners with loops or other suitable devices 26, to which may be attached short traces when a collar is used or to which the breast-strap may be attached when one is employed instead of a collar. Each thill-plate has on its upper side, near its front and rear corners, respectively, loops 27 28 and is provided on its under side, near its front and rear corners, respectively, with loops 29 30, the lat-

ter being preferably inclined, as shown. To one loop 28 is attached a strap 31, having a buckle 32, and another strap 31 is attached to the loop 27 on the other side of the harness. A similar strap 33 is attached to each loop 29 and has a buckle 34. The thill-tug 19 is connected at one end to the loop 27 on one side of the harness and at its other end to the loop 28 on the other side of the harness.

The girth is provided at its ends with plates 35, which are respectively disposed near the front and rear sides of the girth, and each of which has bearings 36, between which is mounted an antifriction-roller 37. Loop-rings 38 are connected by loop-straps 39 to the end portions of the girth and respectively at the rear and front sides thereof. Girth-tugs 40 are provided at their lower ends with loops which are connected to the buckles 34 and are hence adjustably connected to the straps 33, whereby the latter are included as elements of the girth-tugs. Said girth-tugs pass under and around the antifriction-rollers 37 and are hence slidably connected to the girth and pass over the antifriction-rolls 16^a at the oppositely-disposed ends of the pivoted arms 16 and 17 and are attached thereto by buckles 41. Supplemental girth-tugs 42 have their lower ends connected to the loops 38 and are hence attached to the girth, passed up to and over the antifriction-rollers 17^a at the ends of the arms 16 17 opposite the antifriction-rollers 16^a, and are adjustably connected to the straps 31 by the buckles 32. Hence the supplemental girth-tugs are attached to the girth and the thills through the medium of the thill-plates 18 and are slidably connected to the pivoted arms 16 and 17 on opposite sides of the harness.

The tug 19, which is connected to the thills and slidably connected to the saddle, prevents the rolling motion of the horse from being communicated to the thills, and hence to the one-wheel vehicle, which is balanced on its single wheel. The girth-tugs 40, which are connected to the pivoted arms 16 and 17 of the saddle and to the thills through the thill-plates and have a running connection with the girth, pull downwardly on the thills and enable the girth to partake of the rolling motion of the horse without communicating the same to the thills. The supplemental girth-tugs, which are attached to the girth and the thills through the medium of the thill-plates and have a running connection with the pivoted arms 16 and 17 of the saddle through the medium of the antifriction-rollers 17^a, draw upwardly on the girths and cooperate with the tug 19 and also adapt the girth to move with the horse without communicating rolling motion to the thills and the vehicle.

Straps 43 are attached to the loops 30 of the thill-plates and are connected to a ring 44, preferably by snap-hooks 45. Straps 46 are connected to the crupper-straps 7 and are connected, preferably, by snap-hooks 47 to the said ring 44, which bears under the body of the horse, the straps 43 and 46 passing, respectively, under and around the body of the horse, as shown.

I do not desire to limit myself to the precise construction and combination of devices herein shown and described, as it is evident that modifications may be made therein without departing from the spirit of my invention.

Having thus described my invention, I claim—

1. The combination of a harness-saddle having laterally-extending arms, a girth connected to the saddle, a thill-tug slidably connected to the saddle, girth-tugs connected to the arms, thills, and slidably connected to the girth, and supplemental girth-tugs connected to the girth, thills, and arms, substantially as described.

2. The combination of a harness-saddle, laterally-extending arms pivoted thereto, a girth connected to the saddle, a thill-tug slidably connected to the saddle, girth-tugs to draw downwardly on the thills and connected respectively to one end of each of said pivoted arms at points on opposite sides of the saddle, and supplemental girth-tugs connected to the girth and slidably connected respectively to the other ends of the pivoted arms at points on opposite sides of the saddle, said supplemental girth-tugs being adapted to be attached to the thills to draw upwardly thereon, whereby the thills are prevented from partaking of the rolling motion of the horse.

3. The combination of a harness-saddle, a girth connected to the saddle, a thill-tug slidably connected to the saddle, girth-tugs slidably connected to the girth and adapted to be connected to the thills, to draw downwardly on the latter, supplemental girth-tugs attached to the girth, movable therewith and adapted to be attached to the thills, to draw upwardly thereon, and means to connect said girth-tugs and supplemental girth-tugs to the saddle, so that the same are movable independently of each other, and transversely with reference to the saddle, substantially as described.

4. The combination with a harness-saddle, a girth, and a thill-tug movable relatively to the saddle, of main and supplemental girth-tugs connected with each thill for exerting strain in opposite directions thereon, one of said girth-tugs being connected with the saddle and having a running connection with the girth, and the other being attached to the girth and having a running connection with the saddle.

5. The combination with a harness-saddle, a girth, and a thill-tug movable relatively to the saddle, of main and supplemental girth-tugs connected with each thill for exerting strain in opposite directions thereon, the main girth-tugs being connected with the saddle and having a running connection with the girth, and the supplemental girth-tugs being

attached to the girth and having a running connection with the saddle.

6. The combination with a harness-saddle, a girth, and a thill-tug movable relatively to the saddle, of main and supplemental girth-tugs connected with each thill for exerting strain in opposite directions thereon, one of said main girth-tugs having a running connection with the front edge of one end of said girth and connected with the saddle, the other main girth-tug having a running connection with the rear edge of the other end of said girth, and connected with the saddle, the supplemental girth-tugs having a running connection with the saddle and attached to front and rear edges respectively of the opposite ends of said girth.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

GEORGE HARVEY HUTCHISON.

Witnesses:

A. D. WHITSON,

THOMAS C. LIPSETT.