

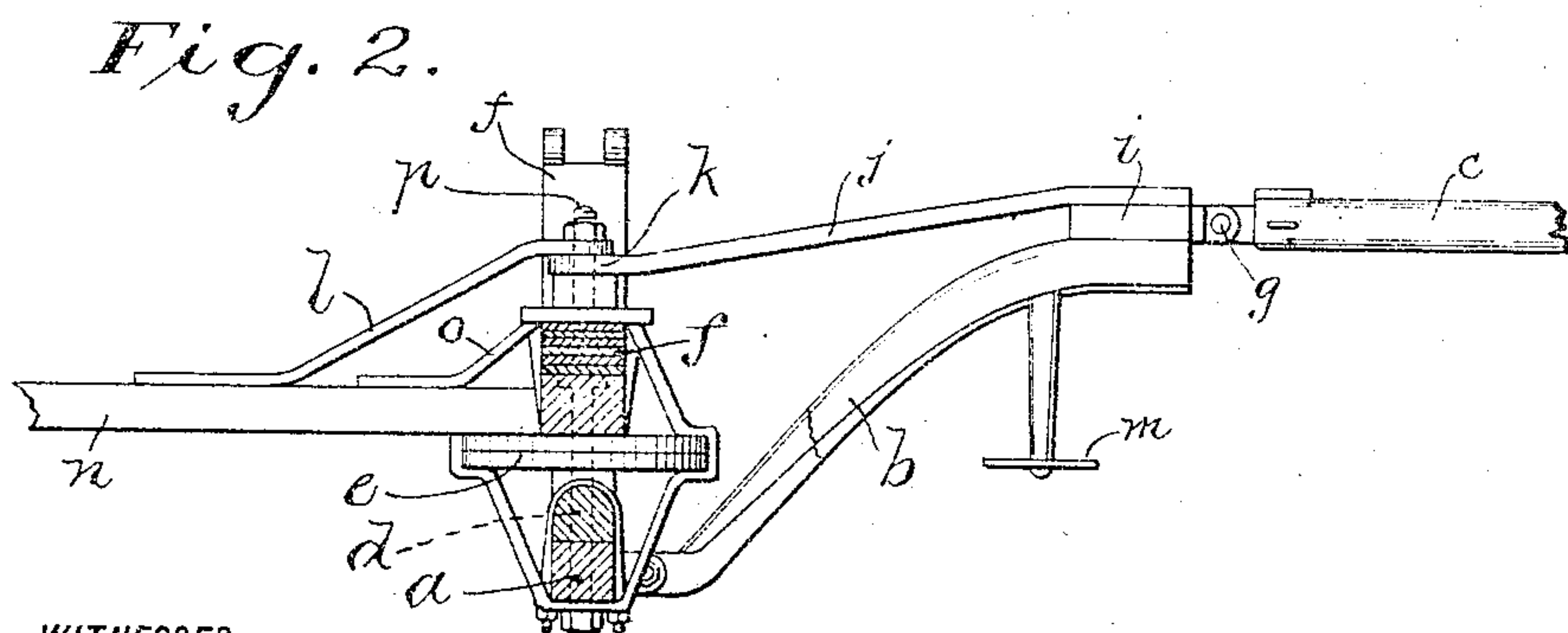
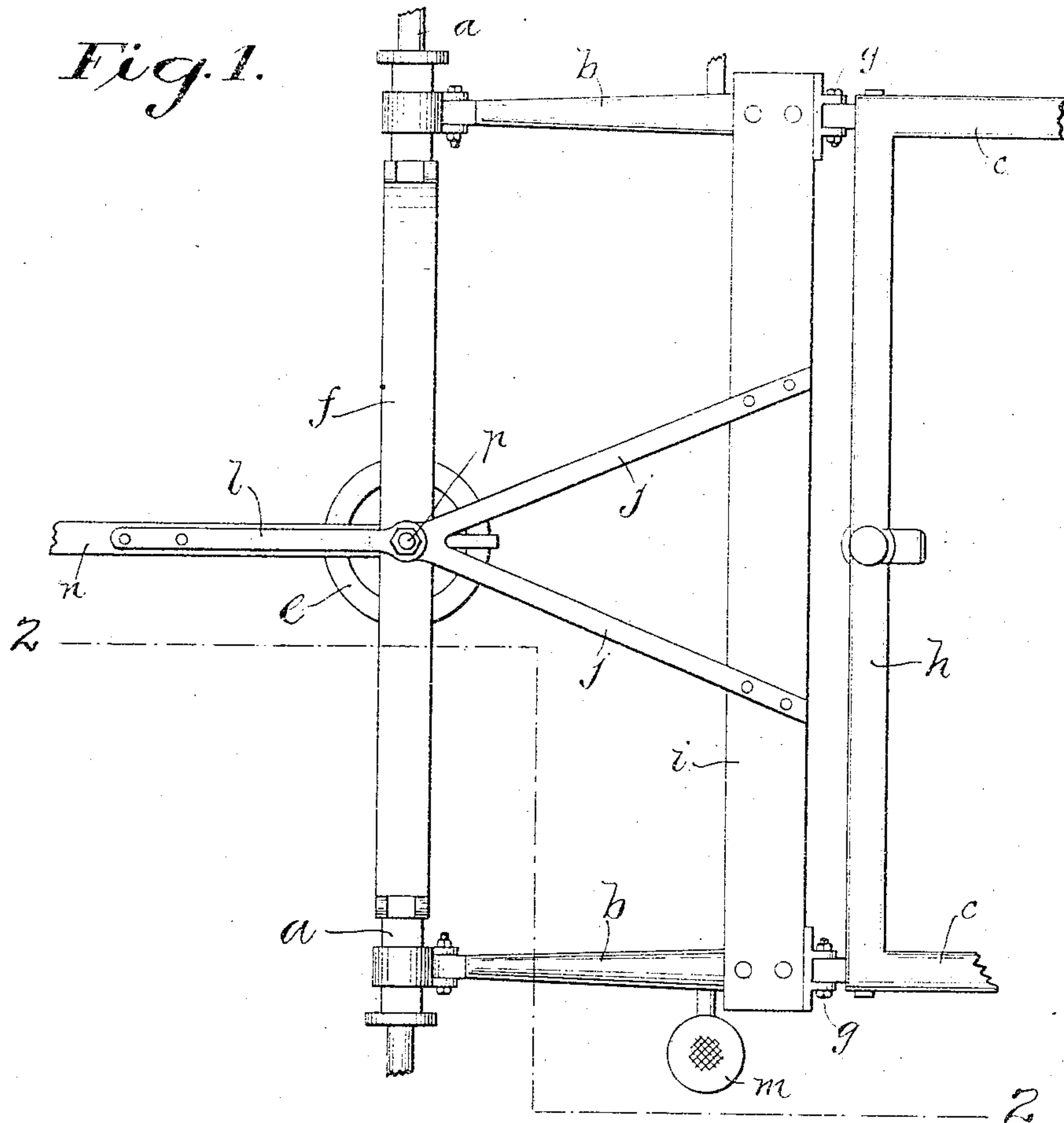
No. 765,983.

PATENTED JULY 26, 1904.

W. B. MORGEY.
CARRIAGE.

APPLICATION FILED MAR. 21, 1904.

NO MODEL.



WITNESSES:

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CARRIAGE.

SPECIFICATION forming part of Letters Patent No. 765,983, dated July 26, 1904.

Application filed March 21, 1904. Serial No. 199,112. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. MORGEY, a citizen of the United States, residing at Philadelphia, county of Philadelphia, and State of Pennsylvania, have invented a new and useful Improvement in Carriages, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, which form a part of this specification.

The object of my invention is to so reconstruct the ordinary carriage of the perch-mount type that the shafts may be swung upward to a substantially vertical position and that the front portions of the shafts will be relieved from the strain incident to mounting the vehicle-body from steps secured to such shafts.

The ordinary carriage of the type specified is open to a serious objection arising from the location of the steps on the shafts. Whenever the driver mounts the carriage, a severe strain is thrown upon the shafts, which strain is imparted to the horse or horses hitched thereto. In all but the lighter-draft vehicles this cannot conveniently be remedied by locating the step in any other situation. In my invention the step is retained in its old position; but the construction of the shaft itself is so changed and such additional mechanism is provided that the strain is properly distributed on the vehicle-gear. Another objection to the ordinary carriage is that the shafts are at their rear ends necessarily curved downwardly to enable them to be hinged to the axle, and the vehicle-body overhangs the front of the axle, which features of construction make it impossible to elevate the shafts to a vertical position or any position approaching a vertical position. This objection also is remedied by my improved construction. Another objection to the ordinary carriage is that as the pulling strain is wholly on the axle and as the axle is below the direct line of draft the tendency is to pull the king-bolt and fifth-wheel forwardly, while any weight thrown on the shafts, as in mounting the vehicle, tends to pull the king-bolt and fifth-wheel backwardly. Thus these parts are constantly subjected to opposing twisting strains,

which wear them out. My improved construction also entirely removes this objection.

In the drawings, Figure 1 is a plan view of a portion of a carriage embodying my invention. Fig. 2 is a section on the line 2 2 of Fig. 1.

a is the fore axle; *d*, the king-bolt; *e*, the fifth-wheel; *f*, the lower half of the elliptical or double leaf-spring on which the carriage-body is mounted; *n*, the perch or reach joining the fore and hind axles, and *r* the head-block of the perch, to which the lower half *f* of the spring is secured in the usual manner.

The shafts are of the usual shape—that is, substantially straight except at their rear ends, where they are curved downwardly toward the axle. The construction of the shafts, however, differs from that usually adopted in that they are each made in two sections, the relatively short downwardly-curved rear section *b* and the relatively long substantially straight front section *c*. The two sections are hinged or pivoted together at *g*, and the rear section is pivotally attached in the usual manner of shafts to the fore axle. The rear sections *b b* of the shafts are connected at their front ends by the cross-bar *i*, and the cross-bar *i* is connected to a bolt *p* by means of bars *j j*, the front ends of which are secured, some distance apart from each other, to the cross-bar *i*, while the converging rear ends are integral with a collar *k* on a bolt *p*. To accommodate this collar, the bolt *p* may be welded or otherwise integrally secured to the spring-stay *o*, secured to the perch *n*, it being undesirable to extend the king-bolt up through the spring in view of the weakening of the spring that would result therefrom.

The steps *m m* are secured to the sections *b b* of the shaft. In mounting the wagon the entire weight of the driver as he places his foot upon the step is thrown upon the rear sections *b b* of the shafts and their supporting-frame *i j j*, and no weight is thrown upon the front sections *c c* of the shafts, and thus none upon the horses. The frame *j j* has sufficient resiliency to cause the sections *b b* to have an appreciable pivotal movement upon the axle to which they are hinged.

In hitching or unhitching the front sections

c c of the shafts are alone manipulated. As the hinges *g g* are forward of the wagon-body and not underneath it, as usual, and as the sections *c c* are substantially straight, they can be
5 lifted to a vertical position without interference with the front of the wagon-body.

To prevent the bolt *p* being twisted by the weight or strain thus thrown upon it, a stay *l* is secured at one end to the perch *n*, while
10 the other end embraces the top of the bolt *p* and abuts against the collar *k*.

h is the usual cross-bar, to which the whiffletree is attached. This cross-bar connects the rear ends of the front sections *c c* of the shafts.

15 By the foregoing principle of construction it will be observed that the bolt or pin *p*, to which the bars *j j* are attached, is secured to the spring-stay, which while resting on the spring supported on the head-block of the
20 perch is also secured to the perch back of the head-block, and it will also be observed that the stay *l* is secured to the perch. Thus it will be seen that any strain on the cross-bar *i* and bars *j j* is thrown on the perch and is
25 not borne by the axle.

In the ordinary construction or, in fact, any construction in which the shafts are secured wholly to the axle, whether directly or through the medium of an intermediate frame, the pulling strain being thrown entirely on the axle,
30 and therefore at a point below the direct line of draft, tends to pull the king-bolt and fifth-wheel forwardly, while stepping on the shafts tends to pull the bolt and fifth-wheel back-
35 wardly. Thus these parts are subjected to great wear and tear and torsional strain, necessitating their frequent repair and replacement. By my construction the strain on the frame *i j j* is thrown on the top of the bolt
40 *f*, which is in the direct line of draft back of the front sections of the shaft, and this strain in turn is thrown on the perch, which is the member of the wagon-gear best able to bear it.

The specific construction described is suitable for heavy-draft wagons. For lighter-draft vehicles, such as buggies, it is customary to secure the steps to the buggy-body, and in these vehicles especially it is not essential that the sections *b b* should be hinged to the axle,
50 but they may be rigidly secured thereto. When the sections *b b* are rigidly secured to the axle and the steps secured to the vehicle-body, the connection between the shafts and bolt *p* need not be so stout, and a single bar *j* may connect
55 the cross-bar *i* with said bolt.

Other variations from the foregoing specific structure may be made without departing from the invention, such variations depending upon the fancy of the individual constructor as well
60 as upon the different kinds of vehicles to which the invention is applied.

The invention is applicable to wagons in which a pole is used as well as to those in which shafts are used. In this type of wagon
65 the shaft-sections *b b* are retained and the pole

pivoted or hinged to the cross-bar *i* midway of the latter's length.

Having now fully described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a carriage, the combination, with the axle and perch, of shaft-sections secured to the axle, a frame connected at its front portion with said shaft-sections, and stays, each secured to the perch, between which the rear
75 portion of said frame is confined, substantially as described.

2. In a carriage, the combination, with the axle and perch, of shaft-sections secured to the axle, a frame connected at its front portion
80 with the shaft-sections, a bolt to which the rear portion of said frame is connected, and stays secured to the perch and respectively overlying and underlying the rear portion of said frame, substantially as described.

3. In a carriage, the combination, with the axle and the head-block of the perch, the spring secured to the head-block and the spring-stay secured to the perch and overlying the spring,
90 of a bolt secured to the spring-stay, shaft-sections secured to the axle, a frame secured at its front portion to the shaft-section and at its rear portion embracing said bolt and overlying the spring-stay, of a stay secured at its
95 rear end to the perch and at its front end embracing said bolt and overlying the rear portion of said frame, substantially as described.

4. In a carriage, the combination, with the axle and shaft-sections, pivotally secured to
100 the axle, of the perch, the spring-stay secured thereto, a bolt secured to said stay, a cross-bar connecting the front ends of the shaft-sections, one or more bars connecting said bolt and the cross-bar, and a second stay connect-
105 ing the perch and bolt, substantially as described.

5. In a carriage, the combination, with the axle, of shaft-sections pivoted thereto, steps secured to said shaft-sections, a bolt sustained
110 on the vehicle-gear, a resilient frame connecting said shaft-sections with said bolt, and means to hold the bolt from twisting under strain due to mounting said steps, substantially as described.

6. In a carriage, the combination with the axle and two shafts, each composed of two sections hinged together, the rear section of each shaft being pivotally secured to the axle, steps
120 secured to the rear shaft-sections, a bolt sustained in the vehicle-gear, a resilient frame connecting the rear shaft-sections with said bolt, and means to hold said bolt from twisting under strain due to mounting said steps, substantially as described.

7. In a carriage, the combination, with two shafts each composed of a front and rear section hinged together, the fore axle, the perch extending rearwardly therefrom, the spring-
130 stay, a bolt secured to said stay, a frame con-

necting the rear shaft-sections and said bolt, and a second stay joining said bolt and perch and overlying the end of the frame engaging said bolt, substantially as described.

5 8. In a carriage, the combination, with two shafts, each composed of a front and rear section hinged together, the fore axle, the perch extending rearwardly therefrom, the spring-stay secured to the perch, a bolt secured to
10 said stay, the whiffletree cross-bar joining the rear ends of the front shaft-sections, a cross-bar joining the front ends of the rear shaft-sections, one or more bars connecting the last-named cross-bar and said bolt, and a sec-
15 ond stay joining said bolt and perch and overlying the end of the bar or bars engaging said bolt, substantially as described.

9. In a carriage, the combination, with the axle and perch, of shaft-sections secured to
20 the axle, a frame connected at its front portion with said shaft-sections and at its rear portion supported from the perch, and a stay, secured to the perch and overlying the rear portion of said frame, substantially as de-
25 scribed.

10. In a carriage, the combination, with the axle and perch, of shaft-sections secured to the axle, a bolt supported from the perch, a frame connected at its front portion with said

shaft-sections and at its rear portion connected 30 with said bolt, and a stay, secured to the perch and engaging said bolt and overlying the rear portion of said frame, substantially as described.

11. In a carriage, the combination with the 35 perch, the axle, and shaft-sections secured to the axle, of a cross-bar connecting the shaft-sections, and a plurality of bars secured to separate points along the cross-bar and converging rearwardly, the converging ends be- 40 ing supported from the perch, substantially as described.

12. In a carriage, the combination, with the perch, the axle, the shaft-sections secured to the axle, of a cross-bar connecting the front 45 portions of the shaft-sections, a bolt supported from the perch, and a plurality of bars supported at their rear ends on said bolt and diverging forwardly, the separated forward ends being secured to said cross-bar, substan- 50 tially as described.

In testimony of which invention I have hereunto set my hand, at Philadelphia, on this 16th day of March, 1904.

WILLIAM B. MORGEY.

Witnesses:

M. M. HAMILTON,

WILLIAM B. MARKS.