J. CUNNINGHAM.

FIFTH-WHEEL.

No. 169,627. Patented Nov. 9, 1875.

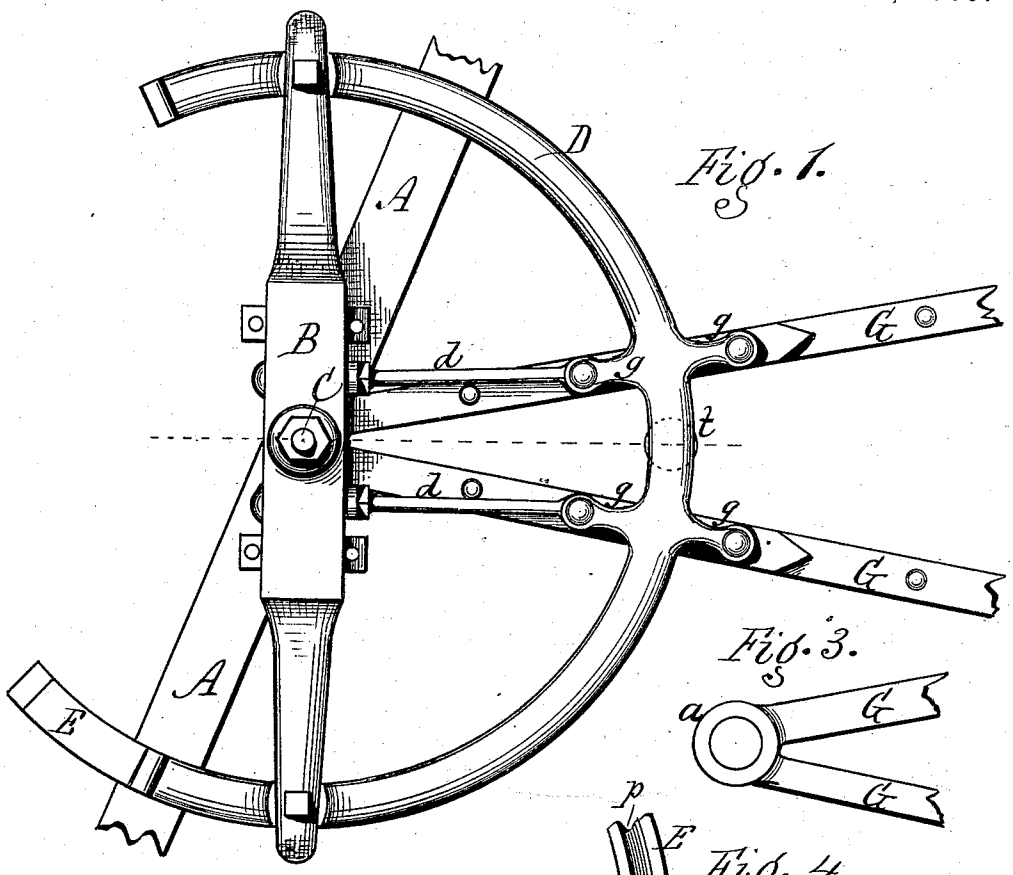

Fig. 1.

Fig. 3.

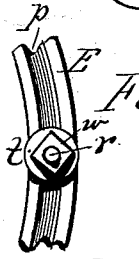

Fig. 4.

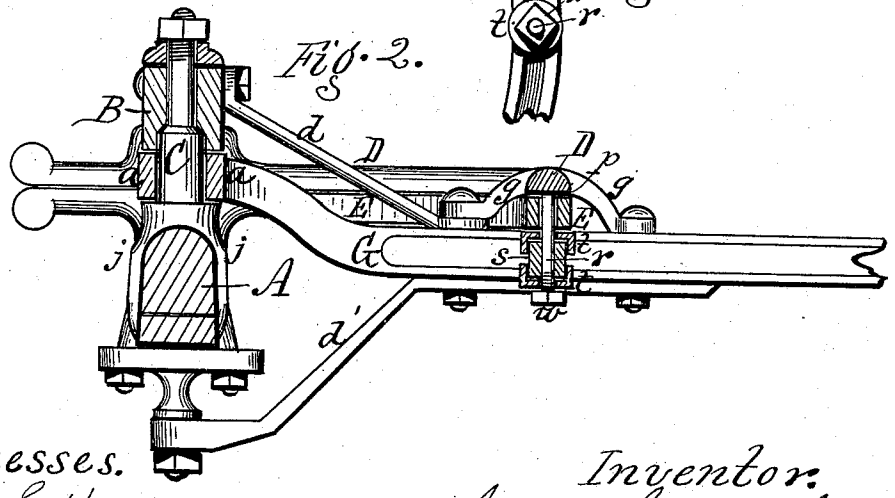

Fig. 2.

Witnesses.
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UNITED STATES PATENT OFFICE.

JAMES CUNNINGHAM, OF ROCHESTER, NEW YORK.

IMPROVEMENT IN FIFTH-WHEELS.

Specification forming part of Letters Patent No. **169,627**, dated November 9, 1875; application filed August 30, 1875.

To all whom it may concern:

Be it known that I, JAMES CUNNINGHAM, of the city of Rochester, in the county of Monroe and State of New York, have invented a certain new and useful Improvement in Carriages; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a plan of the axle, head-block, fifth-wheel, and reach of a carriage, showing my improvement. Fig. 2 is a vertical section of the same. Figs. 3 and 4 are detail views.

My improvement relates to that class of carriages in which the reach is sunken or depressed so that the fifth-wheel comes above it instead of below it, as in the old style of carriages. Carriages of this kind are already known; hence I lay no claim, broadly, to a depressed reach.

My invention consists of a depressed or bent reach, having an eye that forms a direct connection of the reach with the king-bolt; also of lugs forged on or from the upper half of the fifth-wheel, which are bolted to the top of the reach, and embrace the lower half of the fifth-wheel; also stays or braces from the reach to the head-block and axle.

A represents the front axle. B is the head-block or bolster. C is the king-bolt, secured to the axle by a suitable clip, *j*, and passing through the head-block. D is the upper half, and E the lower half, of the fifth-wheel. G G is the double reach. Thus far the parts are of ordinary construction. The reach G G is depressed or sunken, so as lie beneath the fifth-wheel, which allows the carriage-body to be set lower without striking.

Heretofore, so far as I am aware, the attachment of the depressed reach to the front running-gear has been by an arm or arms bent upward, and connecting with the head-block or bolster above the axle, thus forming an indirect connection, and bringing the attachment so high, and so out of line with the reach, as to produce leverage, and having a tendency to twist or turn the head-block back over the axle, thereby producing great friction or strain, especially under sudden shocks in passing over irregular surfaces. It is also subject to great strain, owing to the rocking action of the head-block upon the axle, as it is impossible to so connect the head-block and axle that they will always keep in the same exact plane in passing over irregularities of the surface. Under such action the strain is expended upon the arm, and it is liable to bending and disarrangement, and, if broken, the reach becomes detached. To obviate these difficulties I make a direct connection of the reach to the king-bolt by forming on the extremity an eye, *a*, which fits upon the king-bolt C, as shown. A permanent and unfailing connection is thus made in line with the axle, thus preventing twisting or strain on the head-block, produced by the leverage. Should the braces become broken, loosened, or bent, this eye-connection of the reach will always preserve the connection, and prevent accident. The eye fits in the space between the axle and head-block, and lies in a horizontal line with the fifth-wheel, so that the action will be easy. In addition to this connection I employ braces *d d'*, extending from the reach, respectively, to the head-block and bottom of the axle, to which they are bolted, as shown. These braces serve to prevent undue rocking action, the eye *a* receiving the draft and preserving the connection. The eye *a* produces a strong and simple connection, is cheaply and easily made, and takes the strain from the braces, which alone are insufficient for the purpose. I form, midway on the upper half of the fifth-wheel, two lugs, *g g*, which extend downward in an angular direction, and are bolted on top the reach. These lugs form a part of the body of the upper half of the fifth-wheel, and they embrace the lower half loosely, thereby allowing it a free turning motion, while they form a guide. I thereby avoid the use of separate blocks and cushions interposed between the reach and the upper half of the fifth-wheel, which is necessary when simple bolts are used to enable the lower half to run free. This makes the connection of the fifth-wheel to the reach much stronger, and avoids the use of separate parts, which are liable to get loose and rattle, and it also simplifies the construction, and greatly reduces the cost. The lower half of the fifth-wheel is provided with a concentric slot, *p*, Figs. 2 and 4, through which passes a bolt, *r*, made fast to the upper

half. On this bolt, beneath the lower half, is a rubber packing, *s*, which fits between two metallic thimbles or washers, *t t*. A nut, *w*, rests on the bolt beneath the thimbles, by which the packing is tightened. This packing device holds the two halves of the fifth-wheel in close contact, and prevents rattling and loose motion.

Instead of a double reach, as shown in the drawings, a single reach may be employed with the same effect.

Having thus described my invention, I do not claim, broadly, a bent or depressed reach; but

I claim—

1. The bent or depressed reach G, constructed with the eye *a*, forming a direct connection of the reach with the king-bolt between the axle and head-block, as shown and described, and for the purpose specified.

2. The lugs *g g*, formed from the body of the upper half of the fifth-wheel, extending down and bolted to the reach without intermediate parts, and inclosing the lower half of the fifth-wheel, and forming a guide thereto, as shown and described, and for the purpose specified.

3. The combination, with the bent reach, having the eye *a* connected with the king-bolt C of the braces *d d'*, extending from the reach to the head-block and axle, as shown and described, and for the purpose specified.

In witness whereof I have hereunto signed my name in the presence of two subscribing witnesses.

JAMES CUNNINGHAM.

Witnesses :

AUGUSTUS FRENCH,

JEREMIAH GOODSPEED.