

(No Model.)

2 Sheets—Sheet 1.

S. K. PADEN.
FIFTH WHEEL.

No. 566,615.

Patented Aug. 25, 1896.

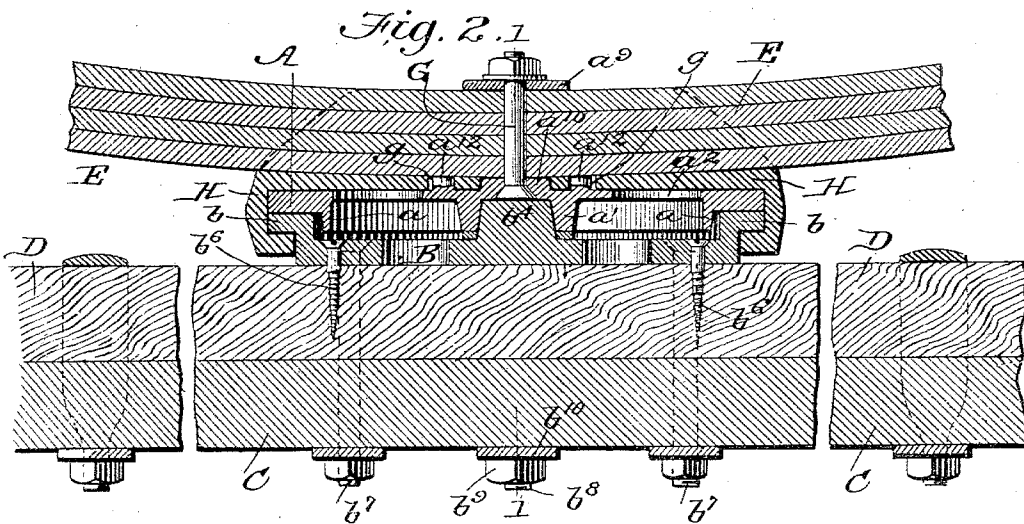
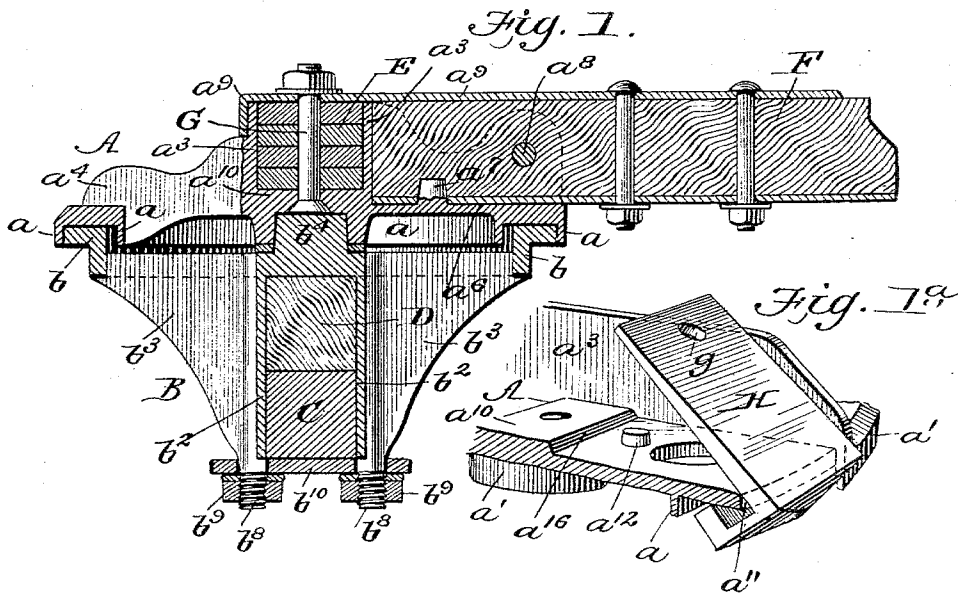
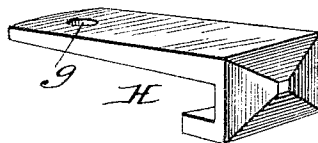


Fig. 3.



WITNESSES:
W. A. Blondel.
Amos W. Nash

INVENTOR
S. K. Paden.
BY *Munn & Co.*
ATTORNEYS.

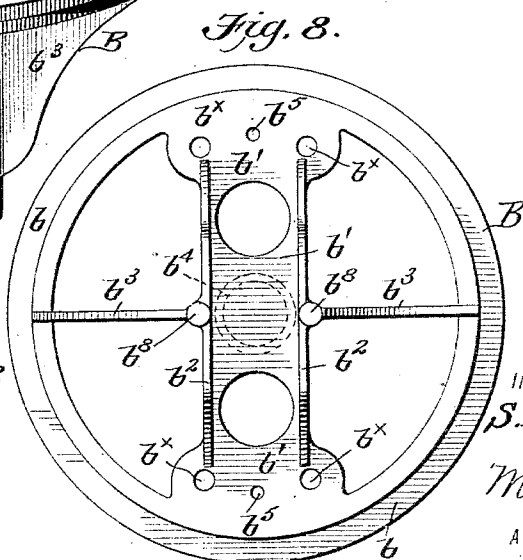
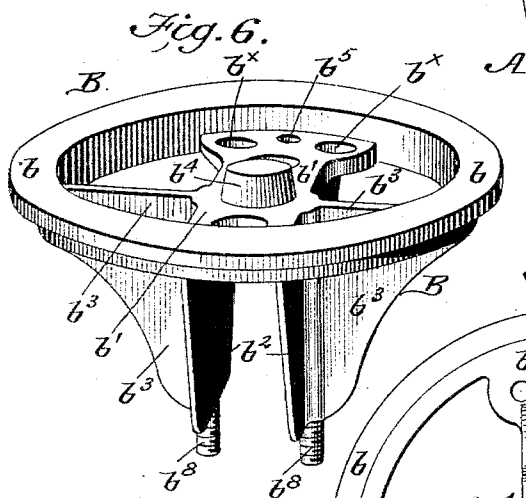
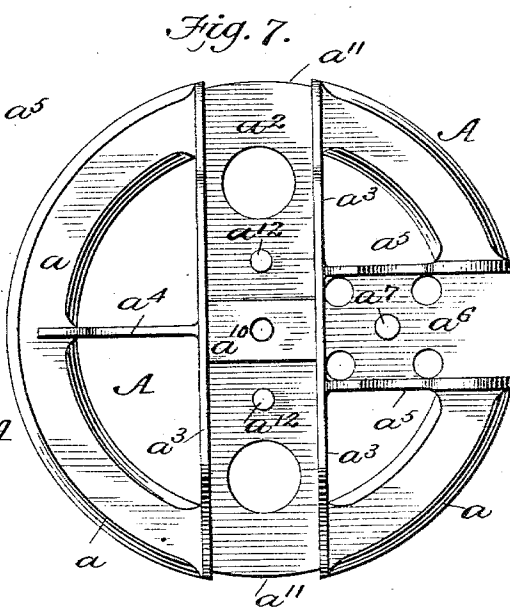
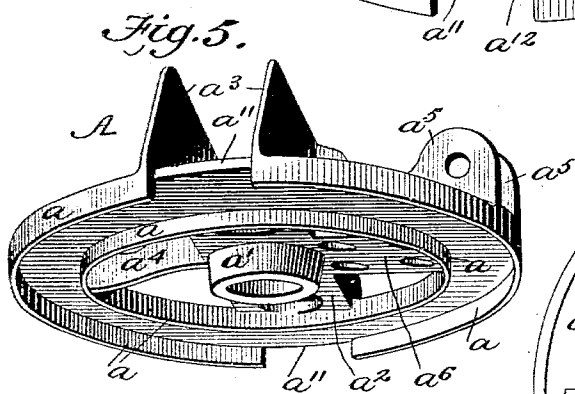
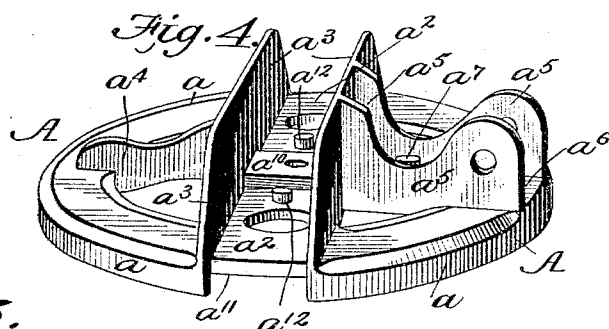
(No Model.)

2 Sheets—Sheet 2.

S. K. PADEN.
FIFTH WHEEL.

No. 566,615.

Patented Aug. 25, 1896.



WITNESSES:

W. D. Bloude
Amos W. Hart

INVENTOR

S. K. Paden.
By
Munn & Co.
ATTORNEYS.

UNITED STATES PATENT OFFICE.

SAMUEL K. PADEN, OF PULASKI, PENNSYLVANIA.

FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 566,615, dated August 25, 1896.

Application filed April 29, 1896. Serial No. 589,560. (No model.)

To all whom it may concern:

Be it known that I, SAMUEL K. PADEN, of Pulaski, in the county of Lawrence and State of Pennsylvania, have invented a new and useful Improvement in Fifth-Wheels, of which the following is a specification.

My present invention is an improvement upon the fifth-wheel for which I have received Letters Patent of the United States, No. 525,995, dated September 11, 1894.

The several novel and improved features embodying the invention will be hereinafter described.

In accompanying drawings, two sheets, Figure 1 is a central vertical section of my improved fifth-wheel, on line 1 1 of Fig. 2. Fig. 1^a is a detail perspective hereinafter referred to. Fig. 2 is a central vertical section taken at right angles to that shown in Fig. 1. Fig. 3 is a perspective view of one of the detachable clips that secure the two parts of the fifth-wheel together. Fig. 4, Sheet 2, is a perspective top view of the upper part of the fifth-wheel. Fig. 5 is a perspective view of the same. Fig. 6 is a perspective top view of the lower part of the fifth-wheel. Fig. 7 is a plan view of the upper part of the fifth-wheel. Fig. 8 is a plan view of the lower part of the fifth-wheel.

In my former invention the upper part A and lower part B of the fifth-wheel were made entire or as solid plates, the upper one, A, having a pendent circular rim or flange that overhung the edge of the lower one, B. In the present case I make such parts A B skeleton-like, or with cut-out portions, in order to render them lighter, and I provide the upper one, A, Figs. 1 and 5, with two parallel circular pendent flanges *a*, the space between them forming an annular recess that receives the rim *b* of the lower part B. This construction forms a circular bearing, from which dirt and other foreign substances are excluded. It will be noted also that the rim of the lower part B is so constructed that it has the form of an inverted L. The flat horizontal portion of the bearing-surface of said rim works in sliding contact with the bottom of the recessed rim *a* of part A, while the vertical portion of rim *b* raises it a due height above the axle-cap C on bolster D.

The circular portion or rim *b* of the lower

part B, Fig. 6, has a broad flat diametrical bar *b'*, from which depend two parallel flanges *b*², that embrace, Fig. 1, the sides of both the bolster D and axle C. At right angles to the bar *b'* and said flanges *b*², are arranged two radial webs *b*³, that serve as braces for the latter and supports for the rim *b*.

The bar *b'* has a circular boss or projection *b*⁴ at its middle, which enters a corresponding socket *a'*, Figs. 1, 2, and 5, in the upper part A of the fifth-wheel. The bar *b'*, Figs. 2 and 6, is provided with a countersunk hole *b*⁵ at each end contiguous to the rim *b* for reception of screws *b*⁶, Fig. 2, that secure the part B to the axle-bolster D, so that it is prevented from sliding on the same. There are other countersunk holes *b*⁶ to receive bolts *b*⁷, Fig. 2, for securing the part B to the bolster D and axle C.

A feature of special importance in the construction of the part B is the joined flanges *b*² and braces *b*³ with pendent bolt-like extensions *b*⁸, which are screw-threaded, and thus adapted to receive nuts *b*⁹, Fig. 1, that hold a clip-plate *b*¹⁰ in place, and thus secure the part B firmly to the axle and bolster. The construction of the part B with the L-rim *b*, the central bar *b'*, the pivot *b*⁴, pendent flanges *b*², braces *b*³, and bolt extensions *b*⁸ all in one piece. The spaces between such bar *b'* and braces *b*³ being left open insures the combination of maximum lightness and strength.

The upper part A of the fifth-wheel (shown best in Fig. 4) has a flat diametrical bar *a*², from the side edges of which rise parallel vertical flanges *a*³, that embrace the sides of the multi-leaf spring E, Fig. 1. A brace *a*⁴ extends forward between the flanges *a*³ and the rim *a*, as shown, and the spaces between the brace and flanges are open. It will be seen that the bar *a*², the flanges *a*³, and brace *a*⁴ of part A correspond closely in arrangement and function with the bar, flanges, and braces of the lower part B, so that, like the latter, the part A is distinguished by lightness and strength.

In addition to the features above specified, the part A has two other parallel vertical flanges *a*⁵, Figs. 1 and 5, arranged at right angles to the flanges *a*³, and serving to embrace the forward end of the reach F, Fig. 1.

The said flanges a^5 are joined at the base by a flat web a^6 , Figs. 4 and 7, having an upward-projecting dowel a^7 , Fig. 1, that enters the reach F, as shown. The latter is further secured in the socket by means of a bolt a^8 , Fig. 1, that passes transversely through it and the upper corners of the flanges a^5 . A reach iron or clip a^9 is bolted to the upper side of the reach F and extends over the spring E and flanges a^5 , Fig. 1.

The most important feature of my invention remains to be described. The bar or web a^2 of part A is thickened at its middle by means of a portion a^{10} , that projects upward, while the circular boss or flange a^1 , that forms a socket for the pivot b^4 of part B, projects downward from the under side. A countersunk hole for the single screw-bolt G, that secures the spring E to part A, is provided in such projection a^{10} , which also forms the central bearing or support on which the spring E rests. This construction gives great strength to the center of the part A when it is most required.

The means for detachably securing the two main parts A B of the fifth-wheel together are the clips H, Figs. 1', 2, and 3, whose hook portions lie in the notches or recesses a^{11} , formed in the rim a of part A, and embrace the horizontal portion of the rim b of part B.

In my former invention the clips were connected by a sort of double hook, which I now dispense with. Each clip H has a hole g , Figs. 1' and 3, near the inner end of its shank, to receive a dowel a^{12} , Fig. 2, projecting from the bar a^2 of part A. The shanks of the clips H are tapered to adapt them to conform to the curve of the spring E, Fig. 2, and their inner ends abut the central perforated projection a^{10} of said bar a^2 , as shown in Fig. 2. The clips H may be inserted or removed when the spring E is detached, as illustrated in Fig. 1'.

The two parts A B of the coupling or fifth-wheel turn freely on each other, and may describe a complete circle, yet are held firmly together by the clips H, as shown.

Having thus described my invention, what I claim, and desire to secure by Letter Patent, is—

1. The skeleton upper part of a fifth-wheel, composed of a recessed circular rim, a flat diametrical bar having an annular boss projecting downward from its center, parallel flanges projecting upward from the sides of said bar, a radial brace arranged at right angles to said flanges and joining one of the latter with the rim, and parallel vertical reach-flanges, having a web or bottom bar all constructed integrally as shown and described.

2. The skeleton upper part of the fifth-wheel composed of a recessed circular rim,

the parallel vertical flanges, the diametrical bar or web having a raised and thickened central portion on its upper side, which is provided with a countersunk perforation, and with an annular boss on the under side, to receive the pivot of the rotatable lower part of the fifth-wheel, and prevent entrance of dirt or dust, said parts being constructed integrally, as shown and described.

3. The upper part of the fifth-wheel composed of a recessed circular rim, the diametrical bar a^2 , which is perforated and provided with dowels, and parallel flanges a^3 , arranged at the sides of said bar, for holding the spring and clips in place, and the rear base or web a^6 , having a dowel, and the parallel flanges a^5 , arranged at right angles to the others and forming a reach-socket, substantially as shown and described.

4. The combination with the skeleton lower part of the fifth-wheel, having a circular rim and a central pivot, of the skeleton upper part having a recessed rim to receive the other, parallel vertical flanges, a diametrical bar provided with a central, perforated, raised portion, and dowels arranged on opposite sides of the latter, and the detachable hook-like clips having perforated shanks, as shown and described.

5. The skeleton lower part of the fifth-wheel, composed of a circular inverted-L rim, the diametrical web or bar having a central pivot, and the parallel pendent flanges, and the braces arranged at right angles to said flanges, all constructed integrally as shown and described.

6. The skeleton under part of the fifth-wheel, composed of the circular rim, the diametrical web, or bar, the pendent parallel flanges, the pendent braces, arranged at right angles to the latter, and the bolt extensions constructed integrally with said flanges and braces and extending downward, parallel to adapt them to pass on opposite sides of a bolster and axle, as shown and described.

7. The improved under part of a fifth-wheel, composed of the circular inverted-L rim, the diametrical bar having a central pivot, the parallel, vertical flanges, pendent from said bar, the vertical pendent braces joining the rim and flanges and the parallel cylindrical threaded portions or bolt extensions, projecting downward from the junction of the flanges and braces, and the clip plate and nuts applied to said bolt extension as shown and described, thereby securing said part to the axle as specified.

S. K. PADEN.

Witnesses:

AMOS W. HART,
M. D. BLONDEL.