No. 816,832. PATENTED APR. 3, 1906.

J. A. WELCH.

FIFTH WHEEL.

APPLICATION FILED JUNE 1, 1905.

Fig. 1.

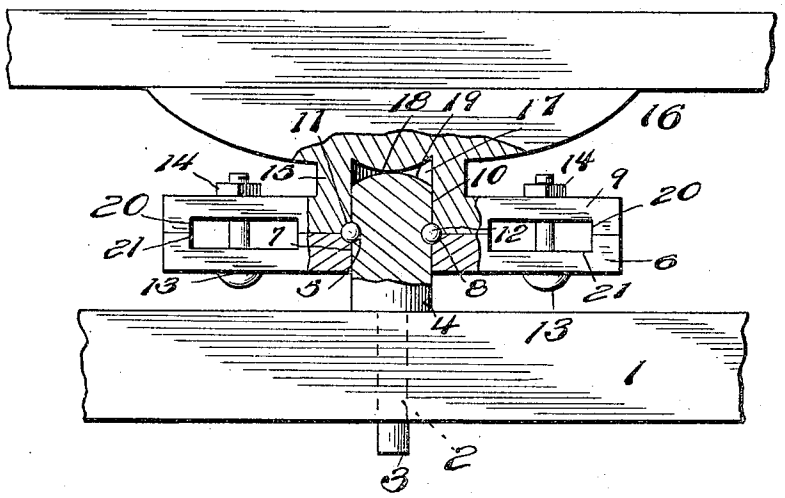


Fig. 2.

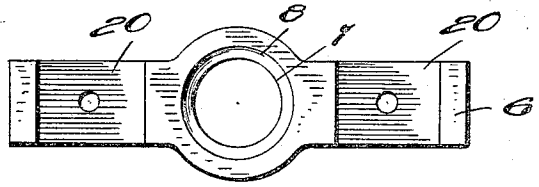
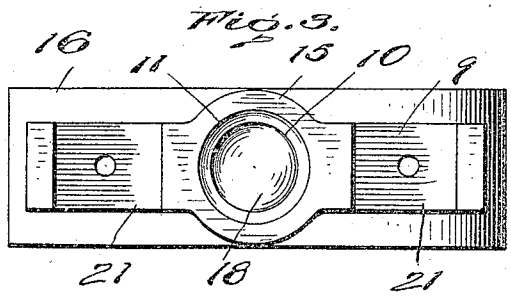


Fig. 3.



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UNITED STATES PATENT OFFICE.

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FIFTH-WHEEL.

No. 816,832. Specification of Letters Patent. Patented April 3, 1906.

Application filed June 1, 1905. Serial No. 263,215.

To all whom it may concern:

Be it known that I, JOHN A. WELCH, a citizen of the United States, residing at Loyal, in the county of Clark, State of Wisconsin, have invented certain new and useful Improvements in Fifth-Wheels; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to a combined king-bolt and fifth-wheel.

One object of the invention is to provide a device of the character stated wherein the fifth-wheel elements will coöperate with the king-bolt proper.

Another object of the invention resides in the provision of a simple, inexpensive, durable, and efficient fifth-wheel for vehicles wherein the fifth-wheel will be directly mounted upon a king-bolt, the latter being free of flanges.

With these and other objects in view the present invention consists in the combination and arrangement of parts, as will be hereinafter more fully described, shown in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes in the form, proportion, size, and minor details may be made within the scope of the claims without departing from the spirit or sacrificing any of the advantages of the present invention.

In the accompanying drawings, Figure 1 is a front elevation of the fifth-wheel and king-bolt, partly in section. Fig. 2 is a plan view of the lower fifth-wheel plate, and Fig. 3 is an inverted plan view of the upper fifth-wheel plate.

Referring now more particularly to the accompanying drawings, the reference character 1 designates the usual form of axle-beam, having a perforation 2 therethrough for the reception of the reduced end 3 of the king-bolt 4, which latter has an annular groove 5 near its upper end for a purpose presently explained.

The fifth-wheel consists of the lower plate 6, which has a central perforation 7, around one corner edge of which is a groove 8, adapted for alinement with the aforesaid groove 5 in the upper end of the king-bolt 4, there being a second plate 9, provided with a perforation 10, around the outer edge of which is a groove 11, adapted to aline with the aforesaid grooves 5 and 8. The alining of the aforesaid grooves results in a raceway for the reception of a circular series of bearing-balls 12, through the instrumentality of which the king-bolt is suspended directly from the plates 6 and 7. It will be observed that the upper and lower fifth-wheel plates are secured together by means of suitable bolts 13, coöperating with the nuts 14 and with the upper fifth-wheel plate 9, which is suspended by an integral collar 15 from an arched plate 16, whose upper face is connected in any suitable manner to the vehicle. The collar 15 is formed integral with the plate 16 and has a recess 17 therein in which the upper portion of the enlarged end of the king-bolt works, it being observed that the top of the bore or recess 17, formed through the collar 15 of the plate 16, is concave, as at 18, to oppose the concave surface 19 of the upper end of the king-bolt to reduce friction therebetween—that is, between the upper end of the king-bolt and the bottom of the recess or bore 17.

It might be stated that the upper and lower fifth-wheel plates 9 and 6 are provided with notches 20 and 21, respectively, designed principally to lighten the fifth-wheel plates, and that the king-bolt has its reduced end 3 secured to the axle 1 to permit rotation of the king-bolt within the fifth-wheel plates irrespective of movement of the fifth-wheel plates. In other words, the fifth-wheel plates do not turn together or with respect to each other and the king-bolt only rotates in the guiding of the vehicle.

What is claimed is—

1. In a device of the class described, a king-bolt having a groove formed therein, and upper and lower fifth-wheel plates disposed upon the king-bolt, the plates being secured together and having a groove arranged opposite the groove of the king-bolt and bearing-balls arranged within the raceway formed by

said groove for suspending the king-bolt within the said plates and permitting rotation of the former.

2. In a device of the class described, a king-bolt having a groove formed between its ends, fifth-wheel plates detachably secured together and embracing the king-bolt, the plates being provided with grooves to form a raceway between them and the king-bolt, and bearing-balls arranged in said raceway to support the king-bolt rotatively within the fifth-wheel plates.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN A. WELCH.

Witnesses:
GEO. W. BARKER,
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