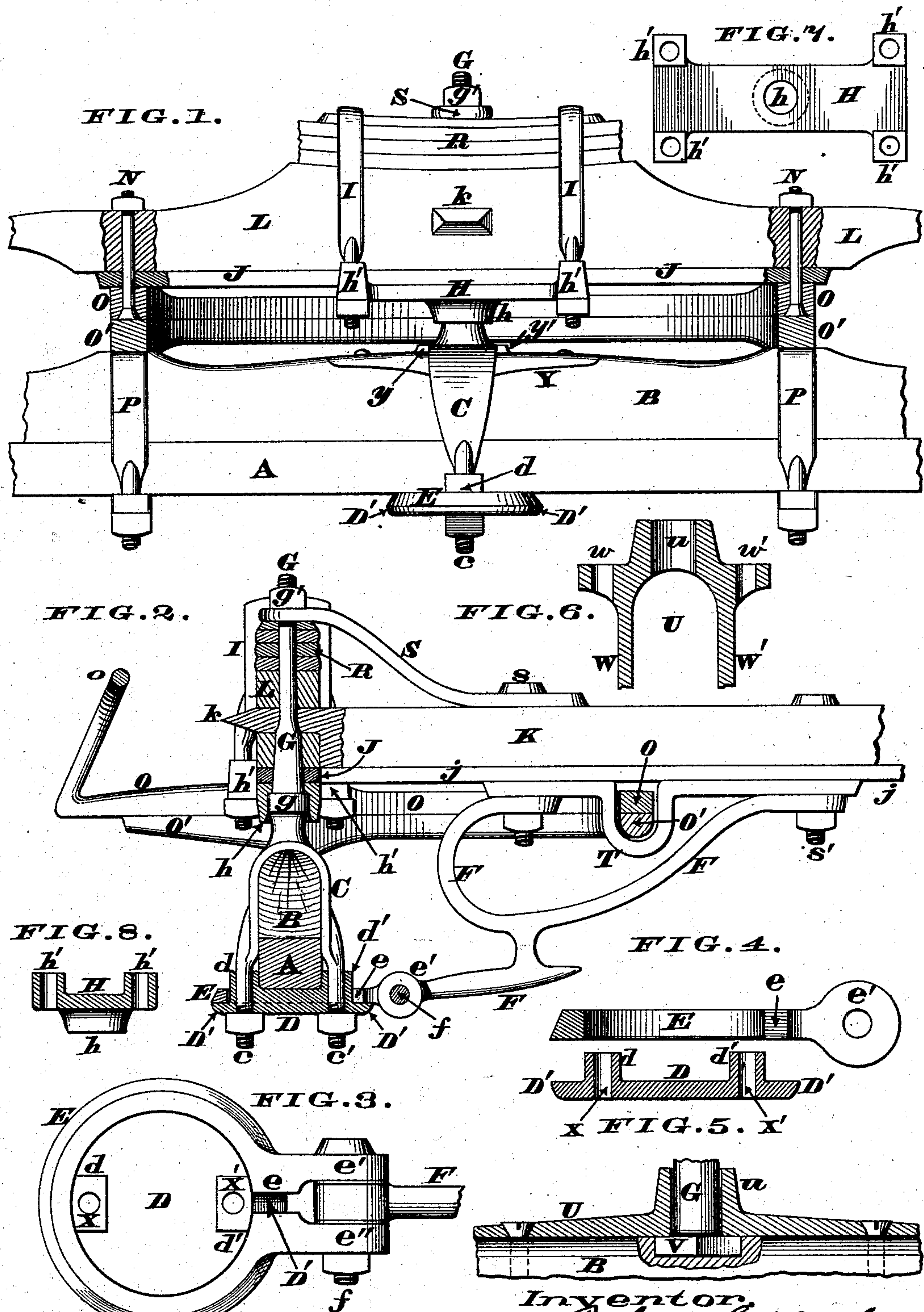


(No. Model.)

R. G. WOOD.  
CARRIAGE COUPLING.

No. 282,142.

Patented July 31, 1883.



Attest.  
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# UNITED STATES PATENT OFFICE.

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## CARRIAGE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 282,142, dated July 31, 1883.

Application filed October 14, 1882. (No model.)

*To all whom it may concern:*

Be it known that I, RICHARD G. WOOD, a citizen of the United States, residing at Cincinnati, in the county of Hamilton and State of Ohio, have invented certain new and useful Improvements in Carriage-Couplings, of which the following is a specification.

The first part of my invention comprises a novel construction of pivot-disk and encircling frame, housing, or ring, which devices constitute a sixth-wheel, that enables a carriage head-block to be coupled to the front axle without perforating the latter or the bed to which it is applied, the details of the combination being hereinafter more fully described, and pointed out in the claims.

The second part of my invention comprises a novel construction of socket-plate that supports the T-head of the perch-brace and receives the king-bolt of the coupling, as hereinafter more fully described, and pointed out in the claims.

In the annexed drawings, Figure 1 is a front elevation of an axle and head-block coupled together with my improved sixth-wheel, the fifth-wheel being sectioned at its points of attachment. Fig. 2 is a vertical section of the coupling, taken in the plane of the perch. Fig. 3 is an enlarged plan of the pivot-disk and ring or sixth-wheel detached from the axle. Fig. 4 is a vertical section of said disk and ring separated from each other. Figs. 5 and 6 are respectively longitudinal and transverse sections of a modification of my invention. Fig. 7 is a plan showing the upper side of the socket-plate. Fig. 8 is a transverse section of the same.

The axle A and its bed B are united at their mid-length by a clip, C, whose screw-threaded shanks *c c'* pass, respectively, through perforations X X' of lugs *d d'*, projecting upwardly from a pivot-disk, D, that is clamped tightly against the under side of the axle by means of customary nuts engaged with said shanks. This disk has an annular rim, D', supporting a ring frame or housing, E, split in the rear at *e*, and provided with two ears, *e' e''*, traversed with a bolt, *f*, that unites said ring to a brace, F, of any suitable shape. This disk and its inclosing ring or housing I designate as the "sixth-wheel" of a vehicle.

Projecting vertically from clip C is a king-bolt, G, whose collar *g* fits within a socket, *h*, of plate H, said plate being provided with four perforated lugs, *h'*, to admit clips I, where- with said plate is clamped tightly against the T-head J, formed at the front end of a brace, *j*, which latter is securely bolted to the under side of the perch or reach K. This provision of socket-plate H *h* obviates the necessity of making a recess in the under side of head-block L to admit the collar *g* of king-bolt G. This perch is mortised into the head-block L at *k*.

N are bolts that unite the T-head J and the upper half, O, of the fifth-wheel to the head-block L, the lower half, O', of said wheel being secured to the axle A and its bed B by clips P. The front portion of the wheel O is united by a customary bow, *o*, of which one-half is seen in Fig. 2.

Resting upon the head-block L, and secured thereto by the clips I and nut *g'* of the king-bolt, are the leaves R, of any suitable form of spring. Interposed between this nut and spring is the perforated end of a brace, S, whose rear extremity is secured to the perch K by one of the bolts, *s*, that holds the brace F in position. *s'* is the other bolt for the brace F.

Interposed between the attached ends of brace F and perch K, and secured with said bolts *s s'*, is a bar having a downward bend, that serves as a keeper or bearing for the central portion of the fifth-wheel, as seen in Fig. 2.

When my coupling is fitted together, the king-bolt G *g* traverses the socket-plate H *h*, T-head J, head-block L, springs R, and brace S, which various members are bound together by the nut *g'*, screwed onto the upper end of said king-bolt. Furthermore, the clip C *c c'* being engaged with the sixth-wheel D D' *d d'* X X' causes the king-bolt to be vertically in line with the center of motion of the axle A B. Consequently said axle is free to turn in either direction on account of the pivot-disk D rotating horizontally within its ring frame or housing E, which freedom of motion, being obtained without perforating the axle, renders the construction of the vehicle perfectly secure, and does not add materially to the cost of manufacture. If at any time the sixth-



wheel D should wear enough to rattle, the nut or bolt *f* can be tightened up, so as to reduce the width of the parting *e*, and thus compensate for such wear and tear. In order to allow for this springing of the frame E, elastic washers may be interposed between the ears *e' e''* and that end of the brace F through which passes the bolt *f*, as seen in Fig. 3. Furthermore, this joint *f* allows sufficient flexibility of motion to compensate for any springing of the perch K and its attachments. The plate H *h* not only serves as a socket for the collar of the king-bolt G, but its lugs *h' h' h' h'* bear against the T-head J in such a manner as to prevent said plate shifting either toward the front or rear side of the head-block L. Therefore the socket of the king-bolt will be immovably secured in its proper central position, no matter how roughly the vehicle may be used. In the modification of my invention seen in Figs. 5 and 6 the clip C is dispensed with and a transom-plate, U, is secured to the upper side of the axle-bed B, said plate having a socket, *u*, to admit the king-bolt G, which latter has a non-circular head, V, seated in an excavation made in said axle-bed. This plate has lips or strengthening-flanges W W', to bear against the front and rear side of the bed, and perforated lugs *w w'* for the reception of bolts to take the place of shanks *c c'* in securing the sixth-wheel D to the axle, to which is fastened said plate U. It will be seen that this modification, like the clip C *c c'*, allows free turning of the axle without making a hole through the latter to receive a central pivot or bolt.

In another modification the ring E may be made in two distinct pieces united at front and rear, and in some cases the vertically-projecting lugs may be omitted both from the pivot-disk D and socket-plate H. Again, a plate, Y, may be interposed between the clip C and axle-bed B, and be secured to the latter with screws or other devices, said plate being furnished with upwardly-projecting ribs *y y'*, to assist in preventing the clip shifting longitudinally of the axle. Finally, an inferior modification of the invention may consist of a complete ring, E, surrounding the sixth-wheel D, the adjusting devices *e e' e'' f* being omitted, and the wear of said members D E being compensated for by washers or equivalent devices.

I claim as my invention—

1. The sixth-wheel D D', perforated at X X' to admit clips or bolts, and fitted within a ring-frame, E, which latter has a brace connection with the perch, for the purpose described. 55

2. In combination with the axle A B and central clip, C *c c'*, the perforated sixth-wheel D D' *x x'*, split ring frame E *e e' e''*, and tightening device *f*, for the purpose described. 60

3. In combination with the axle A B, central clip, C *c c'*, and king-bolt G *g*, the perforated sixth-wheel D D' *d d' x' x'*, split ring frame E *e e' e''*, tightening device *f*, and brace F, the rear ends of the latter being secured either to the perch K or to some attachment of the same, for the purpose specified. 65

4. The plate H, having a central socket, *h*, and four perforated lugs, *h'*, for the purpose set forth. 70

5. The combination, in a carriage-coupling, of king-bolt G *g*, socket-plate H *h h'*, clips I I, T-head J, and head-block L, said T-head being interposed between the plate H *h h'* and head-block L, and the bolt G being passed through said socket-plate, T-head, and head-block, as herein described. 75

6. A carriage-coupling consisting of the axle A B, clip C *c c'*, perforated sixth-wheel D D' *d d' x' x'*, split ring frame E *e e' e'' f*, brace F, king-bolt G *g g'*, socket-plate H *h h'*, clips I, head-block L, and T-head J, as and for the purpose specified. 80

7. A sixth-wheel consisting of the disk D, having a marginal flange, D', that supports the ring E, which latter is split at *e* and terminates with ears *e' e''*, for the purpose specified, said disk being perforated at X X' to admit the clip-shanks *c c'*, and its upper or central surface, upon which the front axle rests, being substantially flush with the top of said surrounding ring E, as herein described. 85

8. The plate Y, interposed between clip C and axle-bed B, and provided with ribs *y y'*, as herein described. 90

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

RICHARD G. WOOD.

Witnesses:

JAMES H. LAYMAN,  
SAML. S. CARPENTER.