

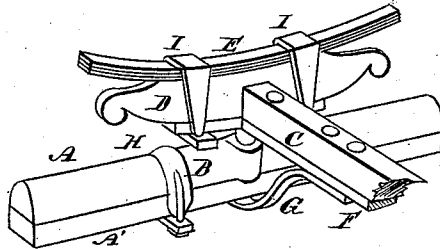
(No Model.)

G. B. ST. JOHN.  
FIFTH WHEEL.

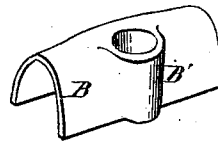
No. 503,177.

Patented Aug. 15, 1893.

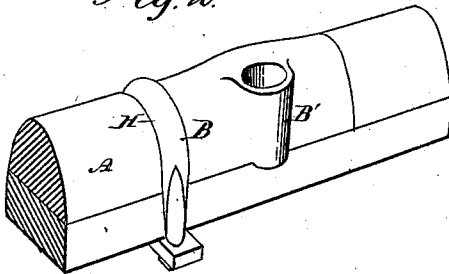
*Fig. 1.*



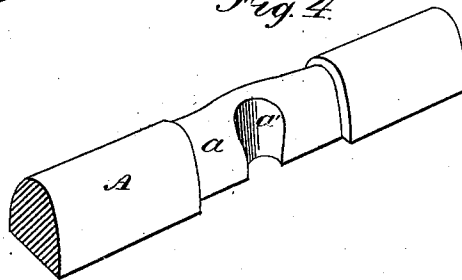
*Fig. 3.*



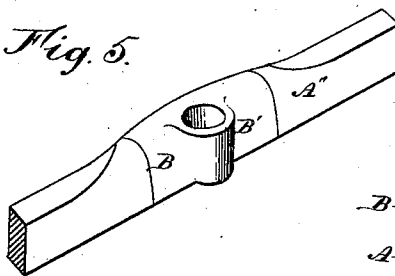
*Fig. 2.*



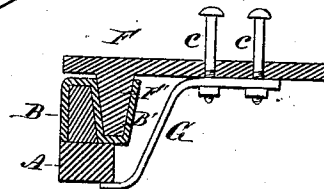
*Fig. 4.*



*Fig. 5.*



*Fig. 6.*



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# UNITED STATES PATENT OFFICE.

GARLAND B. ST. JOHN, OF KALAMAZOO, MICHIGAN.

## FIFTH-WHEEL.

SPECIFICATION forming part of Letters Patent No. 503,177, dated August 15, 1893.

Application filed March 30, 1892. Serial No. 427,140. (No model.)

### *To all whom it may concern:*

Be it known that I, GARLAND B. ST. JOHN, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Vehicle-Reach Couplings; 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 that type of couplings for the reach and front axle of vehicles for which Letters Patent No. 422,992 were granted to me on the 11th day of March, 1890; and the object of this invention is to improve the construction of the coupling with more, special reference to light vehicles, so as to secure a strong and effective coupling of the parts by the use of devices which are simple and neat in appearance, and comparatively inexpensive in manufacture.

The invention consists in the construction, combination and arrangement of parts, as hereinafter fully set forth and claimed.

In the accompanying drawings, forming a part of this specification, Figure 1 is a view in perspective of a device embodying my invention as applied to a fragmentary gear. Fig. 2 is a similar detached view of the socket portion of the coupling as attached, but with one of the clips removed. Fig. 3 is a detached view of the socket. Fig. 4 is a similar view of that part of the axle to which the socket is attached. Fig. 5 is a modification, showing the manner of attaching the socket to an axle wholly iron or steel. Fig. 6 is a central, vertical section, on the line of the middle of the reach.

Similar letters of reference indicate like parts.

Referring to the drawings, A represents the wood and A' the iron portions of an ordinary light vehicle axle. At the middle this is provided with the socket B, which serves as one part of the reach connection in place of the ordinary fifth-wheel. This socket is in the nature of a clip, or more strictly speaking a cap, fitting the top and sides of the axle, with a lateral, conical socket B' formed therein. It should be made of malleable iron, cast steel, or wrought metal, drop-forged, brass, or

other suitable tough and strong material, so as to render it capable of being made light and neat as indicated.

In practice I prefer to form the socket B' partly external and partly within the general outer line of the shell itself, obviating on the one hand excessive cutting away of the wood of the axle, as would be the case if the socket were central, and undue side strain which would be the result if placed farther back. This of course makes an internal projection of the inner wall of the socket, as indicated in Fig. 6, to allow for which the wood of the axle is cut away at that point, as shown in Fig. 4 at a'. I also prefer in practice to let the socket-cap into the wood, as shown at a, so that the outer face of the same is flush with the adjacent face of the axle. This is not only neater in appearance than it would be if made large enough to fit over the axle's natural size, but it also admits of a convenient application of clips H, which hold the part in position, and also serve to completely cover and conceal the joint where the metal and wood meet. The bottom of the socket should be closed so as to retain oil. The other part of the coupling is connected with the reach C and bolster D which supports the forward spring E. It is a conical plug F' connected with or forming an integral part of a T-iron attached to the bolster by suitable clips I I, and to the reach by bolts c c.

To hold the parts from displacement when in the normal position a hook G is attached to the under side of the reach, its forward end passing under the axle and bearing on it a short distance, as shown. In practice I make this hook a spring of sufficient tension to hold the parts snugly in place and prevent rattle, but not so strong as to cause undue friction. In the event of the vehicle's overturning the spring yields sufficiently to allow the cone to come out of the socket, thus liberating the front end of the vehicle to which the team is attached.

The device as constructed and as described presents a neat and symmetrical appearance, having none of the clumsy characteristics of the ordinary fifth-wheel. It has also the capacity for long running without re-oiling, as set forth in the Letters Patent hereinbefore referred to, and in practice is a noiseless,

strong and efficient coupling for the front axle and reach of the class of vehicles referred to.

Having thus described my invention, I claim—

1. The combination with the front axle, having a gain formed therein to receive the socket-iron, of the socket-iron B enveloping the gained portion of the axle and terminating at the bottom of the part so gained, and having a socket B' closed at the bottom and opening upwardly, formed at one side of the longitudinal center, clips securing said socket-iron to the axle and covering the joint at the ends, the reach and bolster or head-block, substantially as described, and the reach-iron F with a downwardly extending cone F' engaging with said socket, substantially as and for the purpose set forth.
2. The combination with a reach and bolster provided with a downwardly extending conical pin or lug, substantially as described, of the front axle A having the gain  $a$  and re-

cess  $a'$  formed therein, the socket-iron B having the socket B' formed with a closed bottom, and partly within and partly without said socket-iron, and clips adapted to secure the socket-iron to the axle and cover the joints at the ends, substantially as and for the purpose set forth.

3. The combination in a vehicle, of the reach having a downwardly extending cone attached thereto, the front axle having a socket-iron secured thereto, the socket coinciding with said cone, and a spring hook extending from the reach under the axle and bearing thereon, whereby the parts are prevented from rattling when in normal position, and are permitted to separate in case the vehicle overturns.

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

GARLAND B. ST. JOHN.

Witnesses:

JAMES M. DAVIS,  
DORA DAVIS.