

(No Model.)

C. WILCOX.
WHIFFLETREE COUPLING.

No. 491,790.

Patented Feb. 14, 1893.

FIG. 1

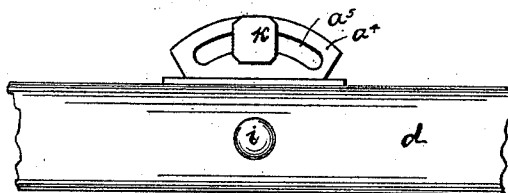


FIG. 2

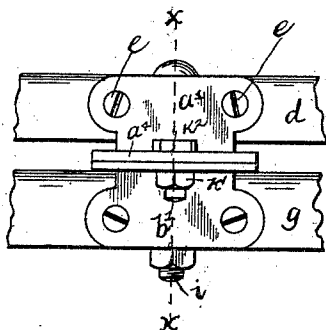


FIG. 3

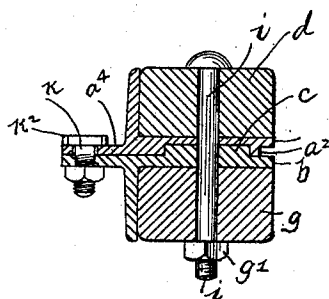


FIG. 4

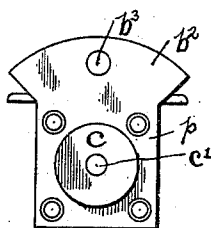
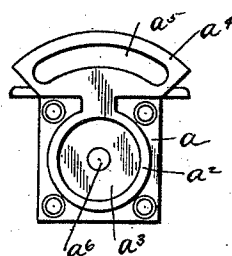


FIG. 5



Witnesses
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UNITED STATES PATENT OFFICE.

CORNELIUS WILCOX, OF SUNBURY, OHIO.

WHIFFLETREE-COUPLING.

SPECIFICATION forming part of Letters Patent No. 491,790, dated February 14, 1893.

Application filed July 3, 1891. Serial No. 398,329. (No model.)

To all whom it may concern:

Be it known that I, CORNELIUS WILCOX, a citizen of the United States, residing at Sunbury, in the county of Delaware and State of Ohio, have invented a certain new and useful Improvement in Whiffletree-Couplings, of which the following is a specification.

My invention relates to the improvement of pivot supports for vehicle whiffle-trees, and the objects of my invention are, to provide a superior form of pivot coupling between the whiffle-tree and shaft cross-bar and to construct said coupling in a simple, durable and inexpensive manner; to so construct said pivot coupling, as to produce a uniform bearing of the connected parts; to provide means for decreasing or increasing the frictional contact or pressure between said parts and to produce means for limiting the swinging or lateral movement of the whiffle-tree. These objects I accomplish in the manner illustrated in the accompanying drawings, in which,—

Figure 1 is a plan view of the central portion of the whiffle-tree, shown connected with my improved pivot coupling. Fig. 2 is a rear elevation of said pivot coupling showing in connection therewith, the central portion of the shaft cross-bar and whiffle-tree. Fig. 3 is a central transverse section taken on line xx of Fig. 2. Fig. 4 is a view of the cross-bar plate with the whiffle-tree plate removed, and Fig. 5 is an under side face view of the whiffle-tree plate.

Similar letters refer to similar parts throughout the several views.

a represents the whiffle-tree pivot or coupling plate, which comprises as shown, a horizontal portion provided with a flattened upper side, from the rear portion of which extends upwardly at right-angles with said horizontal portion, an attaching flange a' . Formed on the under side of the horizontal portion of the plate a is a circular flange as indicated at a^2 , which results as shown, in the formation with said flange or ring, of a circular seat or shallow socket a^3 .

a^4 represents a rear extension of the plate a , said extension having its under side flush or on a level with the bottom of the ring a^2 and preferably having its rear edge curved and its ends flaring outwardly as shown. Formed in the extension a^4 and extending to

within close proximity to the ends thereof, is a slotted opening a^5 , which as shown is formed in the arc of a circle. Formed in the plate a at the center of the ring a^2 is a central pivot or bolt-hole a^6 .

b represents the cross-bar plate or lower pivot bearing plate, which corresponds in size with the upper plate a and which has extending downwardly from its rear portion an attaching flange b' , which corresponds with the flange a' of the plate a . This lower plate b is also provided with a rear extension b^2 beyond said attaching flange, which corresponds in outline and size with the upper plate extension a^4 , said lower plate-extension being provided with a central screw-hole, as indicated at b^3 . Formed on the upper side of the body of the forward portion of the plate b is a disk-shaped bearing projection c , which is provided with a central bolt- or pivot-hole c' , said bearing projection being of a size to fit snugly and rotate within the socket or seat a^3 of the plate a .

The whiffle-tree plate a has its horizontal body secured by screws or bolts to the under side of the central portion of a whiffle-tree d , the rear side of the latter abutting against the attaching flange a' and secured thereto by suitable screws or bolts e .

The horizontal body of the cross-bar plate b , is secured by screws or other-wise to the upper side and central portion of a shaft cross-bar immediately beneath the plate a , the attaching flange b' of said plate b being secured as prescribed for the flange a' , to the rear side of the cross-bar. The parts being thus respectively secured to the whiffle-tree and cross-bar, it will be seen that the projection c of the plate b will find a bearing seat in the socket a^3 of the plate a and that the slotted extensions a^4 of the upper plate will bear upon the rear extension of the lower plate, as shown in the drawings.

l represents the pivot bolt, which as shown, pivotally connects the whiffle-tree and cross-bar by passing loosely through the whiffle-tree d , thence through the plate-holes a^6 and c' and cross-bar g and carrying upon said lower end portion a nut g' which abuts against the under side of the cross-piece.

Through the slot a^5 of the plate extension a^4 extends loosely the upper unthreaded por-

tion of a short bolt k , the screw-threaded lower portion of which enters and engages with the internal screw-threads of the screw-hole b^3 of the lower plate extension b^2 . Upon the lower projecting end of the bolt k is screwed a lock-nut k' while upon the upper end of said bolt is formed a flanged head k^2 . It will be evident from the foregoing description that should this nut work off the bolt, the screw-threaded engagement of the bolt with the aperture b^3 will prevent the loss of the bolt caused by the jarring of parts.

From the construction shown and described, it will be seen that the whiffle-tree plate is provided with a solid bearing both upon and about the disk-shaped projection of the cross-bar plate. It will also be seen that the partial rotation of the whiffle-tree upon the cross-bar will result in a sliding bearing of the plate extension a^4 upon the lower plate extension b^2 and that the head of the bolt k will serve to prevent any tendency of the upper plate toward tipping forward through the forward draft upon the whiffle-tree and by obviating this tendency, do away with the unequal wearing of the bearing parts toward the forward portions thereof, which as is well known is a common fault in whiffle-tree pivot couplings. It will also be seen that the bolt k in conjunction with its slotted guide-way, will serve to limit the swinging movement of the whiffle-tree and to obviate the necessity of employ-

ing straps or other ordinary means for this purpose.

The pivot coupling herein shown and described, is of such construction as to render it exceedingly durable and by tightening the nuts g' and k' admit of the friction being increased as desired between the parts.

Having now fully described my invention, what I claim and desire to secure by Letters Patent is,—

The combination with the cross-bar g and the whiffle-tree d , of the angular plate b secured to the upper and rear-side of the said cross-bar and provided with an integral disk shaped bearing projection c and an extension b^2 having a screw threaded bolt hole b^3 , the angular plate a secured to the under and rear side of the whiffle-tree and provided on its under side with a circular recess or seat into which works the said disk shaped bearing portion, and further provided with an extension a^4 having a curved slot a^5 , a bolt i passed through the whiffle-tree, plates and cross-bar and provided with a nut g' , and a bolt k passed through the curved slot and having a screw-threaded engagement in the bolt hole b^3 and with a nut k' , substantially as described.

CORNELIUS WILCOX.

In presence of—

E. E. BRAGG,

C. C. SHEPHERD.