No. 774,237. PATENTED NOV. 8, 1904.

L. J. DILLON.

THILL COUPLING.

APPLICATION FILED MAY 9, 1901.

NO MODEL.

Fig. 1.

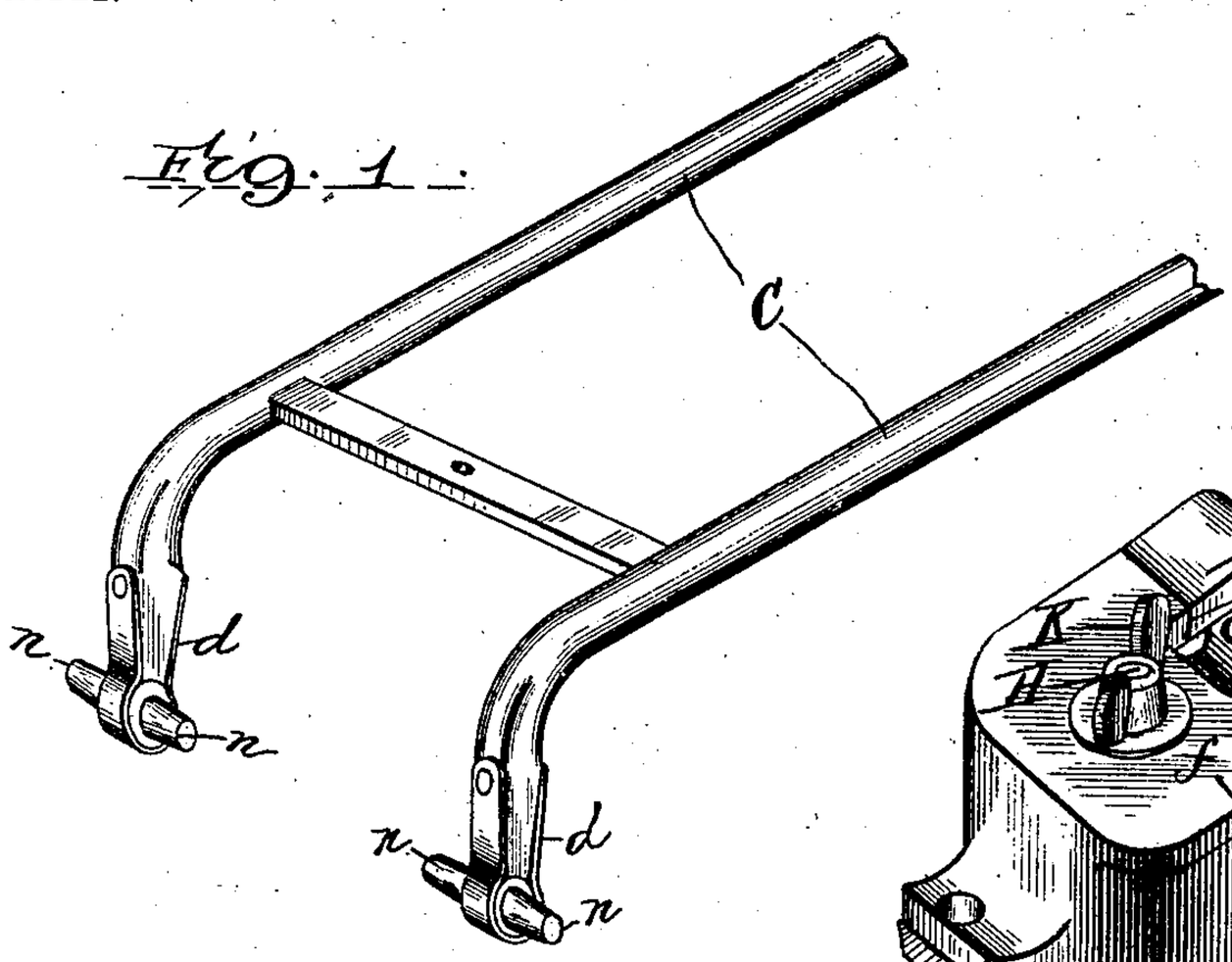


Fig. 2.

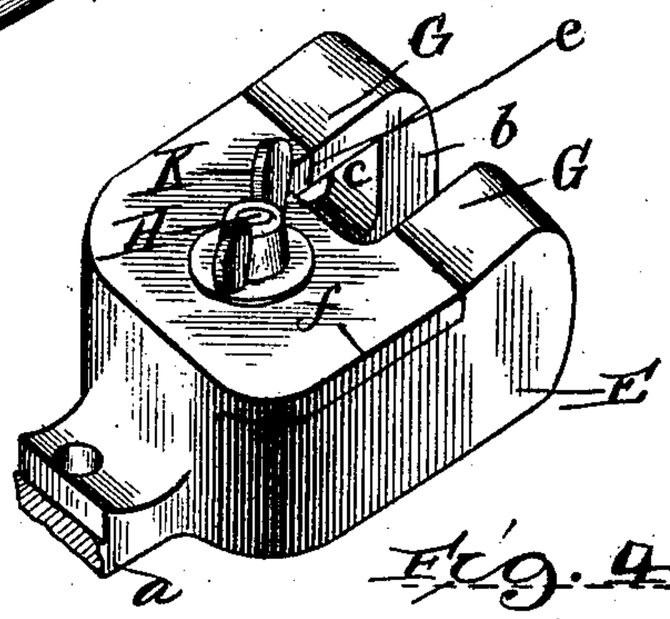


Fig. 3.

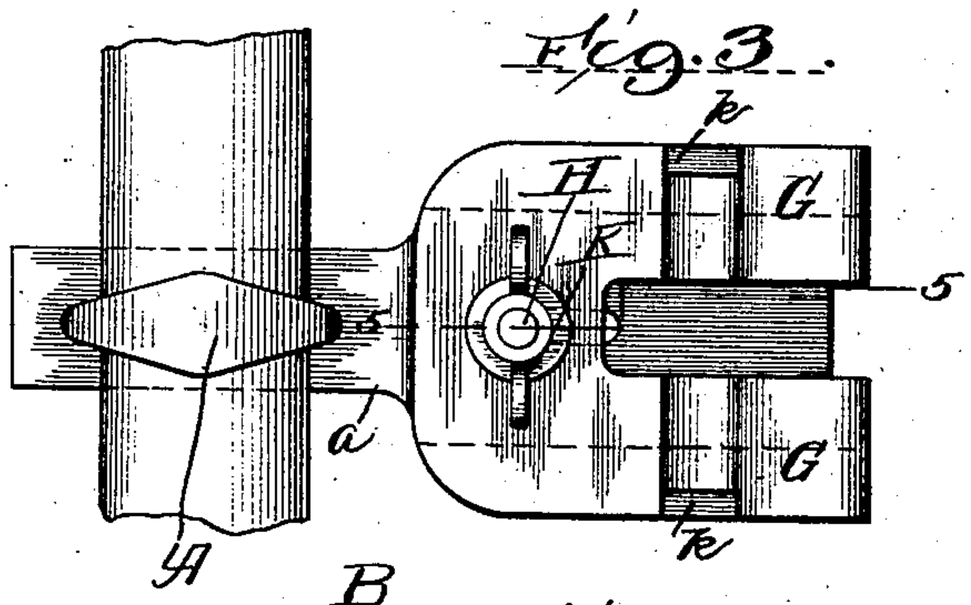


Fig. 4.

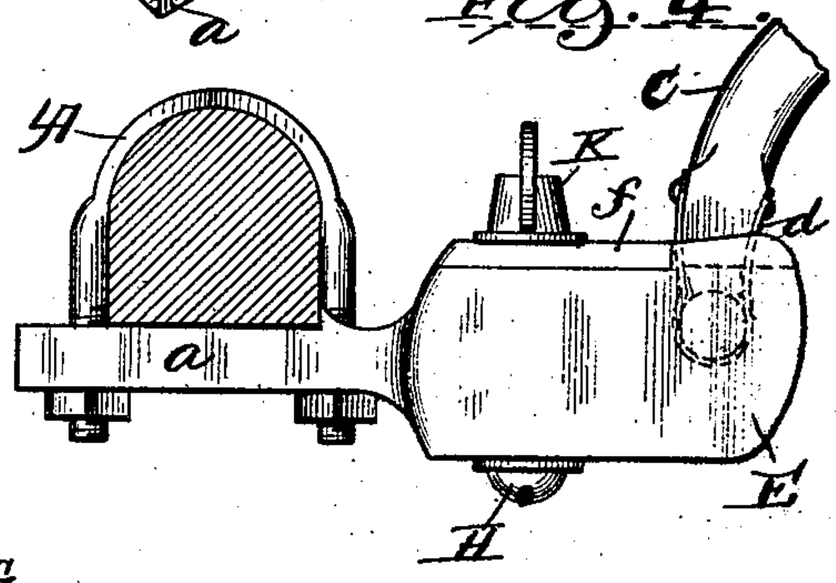


Fig. 5.

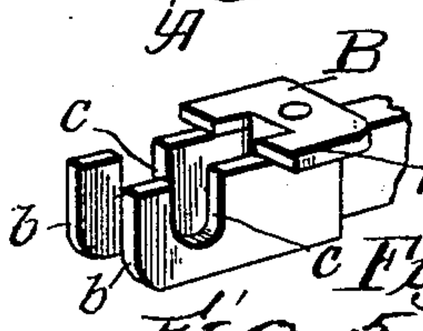


Fig. 8.

Fig. 7.

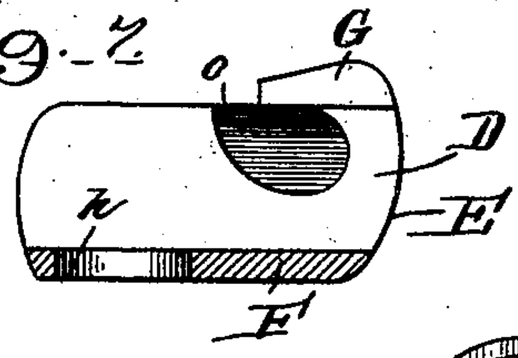
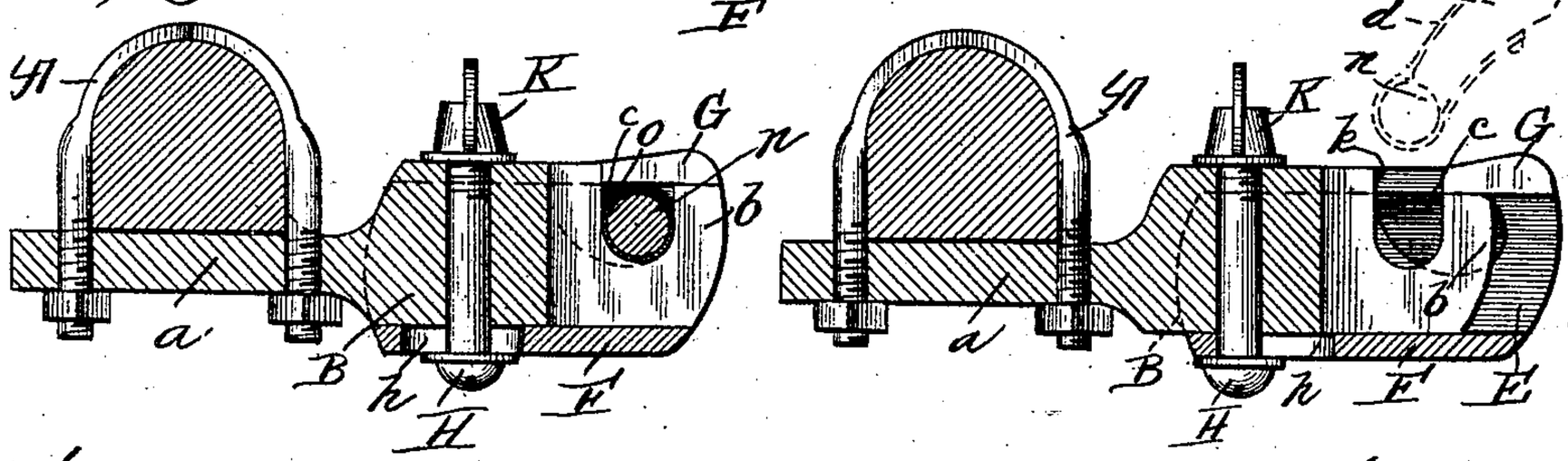


Fig. 6.



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No. 774,237. Patented November 8, 1904.

UNITED STATES PATENT OFFICE.

LYBRAN J. DILLON, OF CHICAGO, ILLINOIS, ASSIGNOR OF TWO-THIRDS TO WILLIAM BURNS AND ALEXANDER B. SHAW, OF CHICAGO, ILLINOIS.

THILL-COUPLING.

SPECIFICATION forming part of Letters Patent No. 774,237, dated November 8, 1904.

Application filed May 9, 1901. Serial No. 59,400. (No model.)

To all whom it may concern:

Be it known that I, LYBRAN J. DILLON, a citizen of the United States, and a resident of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Thill-Couplings, of which the following is a full, clear, and exact specification.

My invention relates to thill-couplings; and its object is to dispense with the necessity of the pivotal bolts now in extensive use in this class of wagon-fixtures, the wear of which causes so much rattling and has given rise to numerous inventions designed to overcome this objection, and a further object of my invention is to furnish pivotal means and bearings therefor of such character that the shafts can be easily removed therefrom or inserted therein, and any packing of any kind—such, for instance, as leather or rubber or other material—can be easily inserted to prevent rattling and take up wear. This I accomplish by the means hereinafter fully described, and as particularly pointed out in the claims.

In the drawings, Figure 1 is a perspective view of the shafts removed from the coupling. Fig. 2 is a perspective view of the coupling detached and with clip-bar broken away. Fig. 3 is a plan view of the coupling and portion of axle to which it is attached. Fig. 4 is a side view thereof. Fig. 5 is a vertical section taken on dotted lines 5 5, Fig. 3, showing the bearings locked. Fig. 6 is a similar view showing the bearings opened. Fig. 7 is a longitudinal central section through the detached case of the coupling. Fig. 8 is a perspective view of the head of the coupling having the sliding case removed.

In the drawings, A represents a clip adapted to be clamped to the forward axle of the vehicle and having the forward end of its bar *a* increased both vertically and laterally to produce a head B. The forward end of this head has two corresponding parallel lugs *b b*, projecting forward therefrom, the outer surfaces of which are in the same plane as the vertical longitudinal sides of head B and have corresponding open bearings *c c* in their upper edges. The space between these lugs is of such width that the rear ends *d d* of the thills of the shaft C can be placed between them, and the laterally-projecting corresponding trunnions or bearing-studs *n n*, journaled in the open bearings *c c*. The upper edges of the lugs *b b* between the open bearings and their respective extremities are in a plane slightly lower than the portion of their upper edges to the rear of said bearings, which latter, it will be observed, are in the same horizontal plane as the upper surface of the head B, and the side edges of said head above the horizontal plane of the upper edges of the said forward ends of lugs *b b* are provided with corresponding lateral flanges *f f*, substantially as shown.

D represents a channeled case, the width of which corresponds to the distance between the outer edges of the flanges *f f* of the head and the length to that of said head B and the lugs *b* combined. The distance between the parallel side walls or members E E of this case correspond to the thickness of head B, and the mean depth of said walls E corresponds to the height of the head below the flanges *f f* thereof. The side walls of this case D are provided in their inner surfaces near their forward ends with recesses *o o*, which enter the upper edge and are slightly deeper than the open bearings *c*. The width of recesses *o* at the upper edge of said walls E is about twice the diameter of the laterally-projecting trunnions *n* of the thills *d* of the shafts C; but the entrance to these recesses *o* is reduced to about one-half this width by shields G, projecting transversely and inwardly toward each other from the forward portions of the said upper edges of walls E. Case D is slipped longitudinally upon and when in proper relation thereto incloses the longitudinal sides of said head B below the flanges *f f* thereof. The shields G of the case engage and overlap the upper edge of the forward extremity of lugs *b* and when in position to lock the trunnions of the thills *d* in the coupling cover the entrance of the open bearings *c c* and bear

against the shoulders *k*, created by making the upper edges of said lugs *b* to the rear of the open bearings higher than that portion in front of the same. The case is retained in operative engagement with the head B by means of a bolt H, which is passed up through a longitudinal slot *h* in the rear portion of the bottom of the case and up through a suitable opening in the rear portion of the head and is provided with an easily-manipulated nut K on its upper end extending above the head. When it is desired to lock the thill in the coupling, the case is moved into the position shown in Fig. 6. This leaves the open bearings *c c* in lugs *b b* uncovered, and the trunnions *n n* of the thills can be easily inserted therein. The case is then moved longitudinally back to the position shown in Figs. 2, 4, and 5 of the drawings and until the rear end of the shields G bear against the shoulders *k* of the lugs *b* and the bearings *c* are covered, whereupon the bolt H is tightened by manipulating nut K until the head B and case D are securely clamped together. This locks the trunnions in the bearings and the thills to the axle. Should the trunnions wear and the coupling have a tendency to rattle, this can be readily cured by stuffing leather or rubber or other fabric in the space above and around said trunnions. The web of the case prevents such packing from falling out of the coupling, and a little attention from time to time would prevent or cure any rattling which otherwise might occur.

What I claim as new, and desire to secure by Letters Patent, is—

1. The combination with shafts for vehicles, the rear ends of the thills of which are provided with suitable trunnions; of a thill-coupling consisting of a suitable head having lugs extending from the forward end thereof which are provided with open bearings adapted to receive said trunnions, and a longitudinally-adjustable case provided with means for engaging the upper surface of said lugs and adapted to close said open bearings.

2. The combination with shafts for vehicles, the rear ends of the thills of which are provided with suitable trunnions; of a thill-coupling consisting of a suitable head having corresponding lugs extending therefrom which are provided with open bearings comprising notches in the upper edges of said lugs to receive said trunnions, and a longitudinally-adjustable channeled case inclosing and contacting with the sides and bottom of said head, and provided with means overlapping the upper edges of said lugs and covering said notches.

3. The combination with shafts for vehicles, the rear ends of the thills of which are provided with suitable trunnions; of thill-couplings consisting of a suitable head having corresponding lugs extending therefrom, which are provided with open bearings and a longitudinally-adjustable channeled case having corresponding side walls, the lower portions of which are connected by a web, said web and side walls adapted to bear against and lap the longitudinal sides of the head, and laterally-projecting wings carried by the forward portions of the upper edges of said sides sliding on the upper edges of said lugs for closing said open bearings.

4. The combination with shafts for vehicles, the rear ends of the thills of which are provided with suitable trunnions; of thill-couplings each provided with bearing-lugs between which the thills are placed, and in the bearings of which said trunnions are journaled; a longitudinally-adjustable channeled case having sliding engagement with the sides and bottom of the head and adapted to cover said bearings; and devices for locking said case to said head.

5. The combination with shafts for vehicles, the rear ends of the thills of which are provided with suitable trunnions; of thill-couplings consisting of a suitable head having corresponding lugs extending therefrom which are provided with open bearings, and a longitudinally-adjustable channeled case comprising two side walls having sliding engagement with and adapted to inclose the side walls of the head, a web connecting the lower edges of said side walls throughout their length, and bearing against the under side of the head; a longitudinal slot in said web; and a bolt extending through said slot and through said head, and a nut therefor.

6. The combination with shafts for vehicles, the rear ends of the thills of which are provided with suitable trunnions; of thill-couplings consisting of a suitable head having corresponding lugs extending therefrom which are provided with open bearings for said trunnions which extend transversely therethrough; a longitudinally-adjustable channeled case having side walls that lap against the sides of the head and are provided with recesses in their inner surfaces into which said trunnions extend, and said side walls being connected by a web coming next the under side of said head; and laterally-projecting wings on said side walls for covering said open bearings.

7. The combination with shafts for vehicles, the rear ends of whose thills are provided with suitable trunnions, of thill-couplings comprising each a head, parallel lugs projecting from the forward end of said head, notches in the upper edges of said lugs adapted to receive and normally retain said trunnions, a case comprising side walls having sliding engagement with the sides of the head, a web connecting the bottom sides of said side walls throughout their length, and bearing against the bottom of the head, and inwardly-projecting wings on the upper edges of said side

walls having sliding engagement on the upper edges of said lugs, adapted to be brought over said notches by longitudinal movement of said case and to retain said trunnions in said notches against abnormal upward movement, a slot in said web, and a screw through said slot engaging said head, adapted to secure said casing against longitudinal movement on said head.

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