

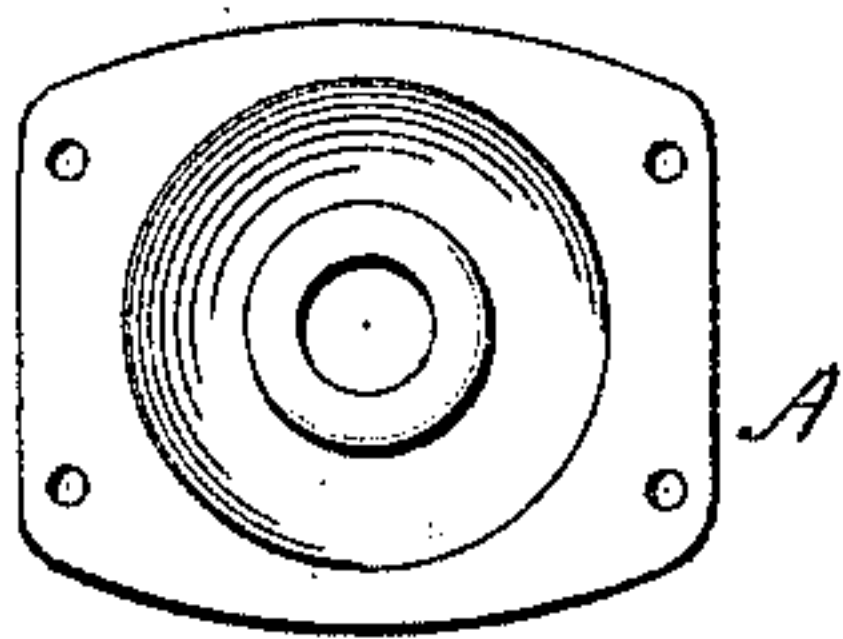
(No Model.)

E. W. M. HUGHES.  
BOLSTER BEAM JOURNAL.

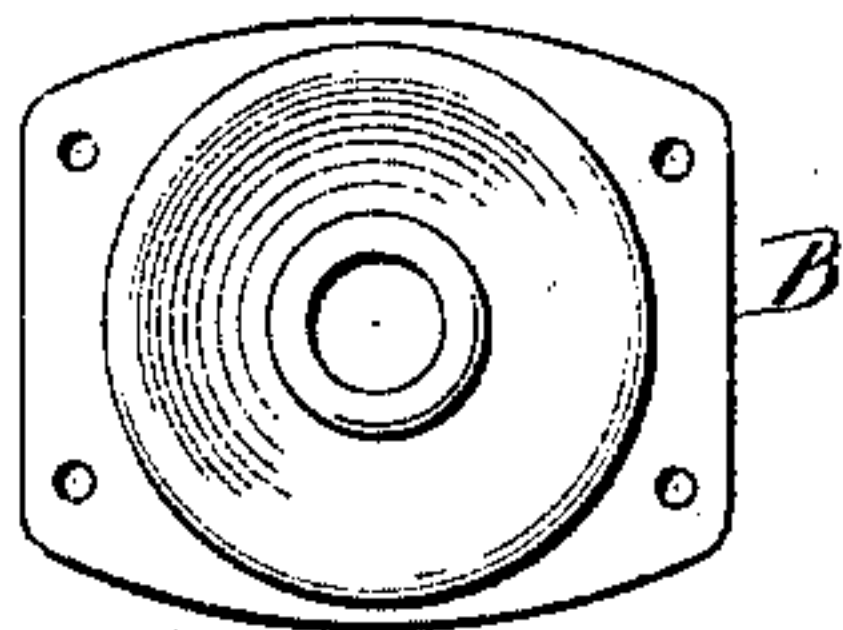
No. 421,937.

Patented Feb. 25, 1890.

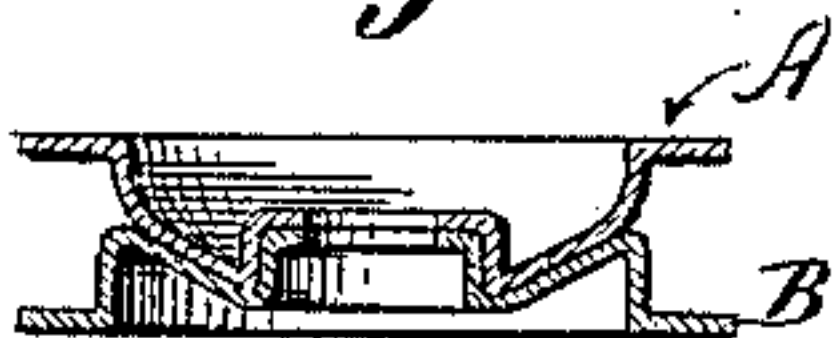
*Fig. 1.*



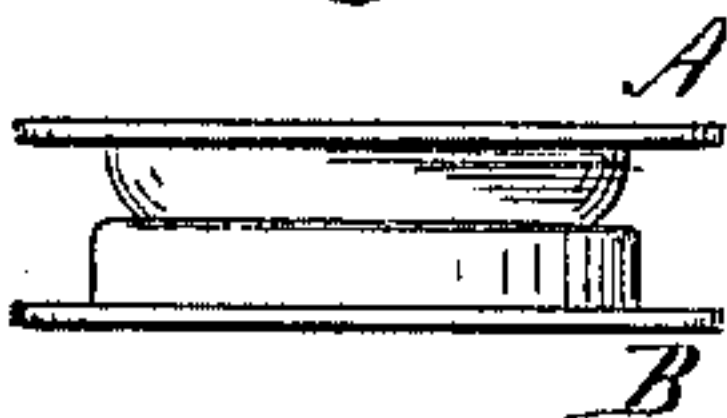
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



Witnesses: *Edward William Hughes, Inventor.*  
*D. W. Gardner*  
*W. Hartwell*  
*W. R. Hilting*

# UNITED STATES PATENT OFFICE.

EDWARD WILLIAM MACKENZIE-HUGHES, OF CHICAGO, ILLINOIS, ASSIGNOR  
TO THE FOX SOLID PRESSED STEEL COMPANY, OF ILLINOIS.

## BOLSTER-BEAM JOURNAL.

SPECIFICATION forming part of Letters Patent No. 421,937, dated February 25, 1890.

Application filed January 3, 1889. Serial No. 295,321. (No model.)

*To all whom it may concern:*

Be it known that I, EDWARD WILLIAM MACKENZIE-HUGHES, of Chicago, Cook county, Illinois, have invented a new and useful Improvement in Bolster-Beam Journals, of which the following is a full, true, and exact description, reference being had to the accompanying drawings.

In journals or bearing-plates for bolster-beams as ordinarily made great difficulty is experienced in obtaining uniformity of surface and resistance to wear. These plates, being usually made of cast metal, are liable to variation in shape and structural difficulties. By my invention I make both these plates between dies of pressed steel, whereby I insure uniformity and certainty of fit between the various parts and a uniform structure, rendering fracture substantially impossible.

In my drawings, Figure 1 represents a top view of the upper part of the journal attached to the car; Fig. 2, a view of the lower part of the journal attached to the truck; Fig. 3, a section through the same, and Fig. 4 an exterior view of the two parts in position.

In the drawings, A represents the upper journal, which is pressed from a plate of steel, and consists of a central cup-shaped portion having a cylindrical elevation in its bottom. A flange projects from the top of the cup-shaped portion, by means of which the journal is secured to the axle of the vehicle, the flange being preferably provided with holes for this purpose, although it may be secured in any other suitable manner. The lower journal B is also pressed from a plate of steel, and consists of an outer cylindrical portion, the top of which is depressed or inclined inwardly to correspond with the bottom of the central cup-shaped portion of the journal A, thereby forming an oil-receptacle as well as forming bearing-surfaces. Rising from the lowest portion of the depressed top of the journal B is a smaller cylindrical portion, which fits within the cylindrical elevation in the bottom of the cup-shaped portion of the journal A. The smaller or inner cylindrical portion of the journal B and the elevation of the journal A engage with each other and prevent lateral movement. By hav-

ing the bottom elevation in the cup-shaped portion of the journal A resting on the top of the inner cylindrical portion of the journal B the wearing-surfaces are increased and a portion of the load is taken up by the top of the inner cylindrical portion of the journal B, neither of which objects is accomplished in the construction shown in my former patent, No. 408,032, which is intended to permit of a rocking motion in all directions. The journals are provided with holes which register with each other and through which a bolt can be passed for securing them together. As the top of the elevation is below the top of the cup within which it is formed, the top of the bolt does not interfere with the axle to which the journal is secured, thus avoiding additional recesses or depressions, as in journals as heretofore constructed. The same result is also accomplished in the lower journal by having the inner cylindrical portion above the bottom of the journal, the journal being also provided with a flange around it for securing it to the axle in the same manner as the upper journal.

By making the journals of pressed steel, as above described, they can be made very cheaply, as they can be stamped up from a sheet-metal plate at one operation, thus always insuring uniformity of size and consequent even contact at all points of the bearing-surfaces, and by making the bearing-surfaces conical or cup-shaped and the supporting-walls for the same cylindrical the greatest possible strength and durability is secured with the least possible material; and as the journals are made of pressed steel and the bearing-surfaces are suspended, as it were, intermediate the top and bottom, or rather, the outer faces of the journals, they possess an amount of elasticity that cannot be secured by any other construction, and consequently the liability to damage to the journals from jars or jolts in passing over obstructions, as well as to the other parts of the vehicles to which the journals are attached, is reduced to the minimum.

Without limiting myself to the exact construction shown, I claim—

Journals for bolster-beams and fifth-wheels of vehicles, consisting of plates of pressed



steel, the upper journal having a central cup-shaped portion with a cylindrical elevation in its bottom, and the lower journal having an outer cylindrical portion, the top of which  
5 is inclined inward to correspond with and bear against the cup-shaped portion of the upper journal, and an inner cylindrical portion rising from said inclined top, fitting within and engaging with the elevation of  
10 the upper journal, said inner cylindrical por-

tion and elevation being each provided with a hole registering with each other for the reception of a bolt, substantially as described.

In testimony whereof I have signed my name to this specification in the presence of 15 two subscribing witnesses.

EDWARD WILLIAM MACKENZIE-HUGHES.

Witnesses:

J. C. STIRLING,

W. S. HARTWELL.