

No. 788,001.

PATENTED APR. 25, 1905.

D. S. WATSON.  
POLE COUPLING FOR VEHICLES.

APPLICATION FILED AUG. 22, 1904.

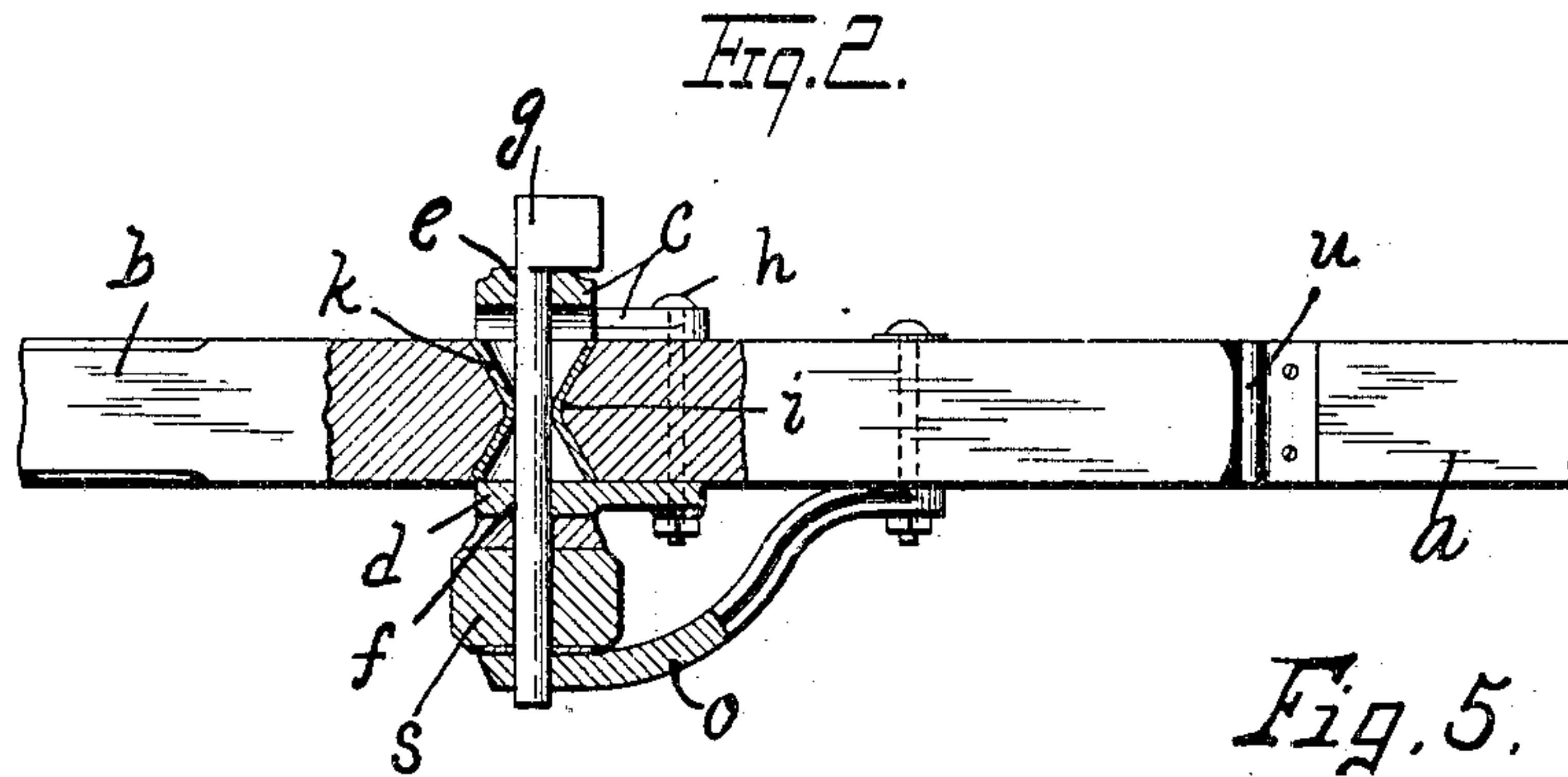
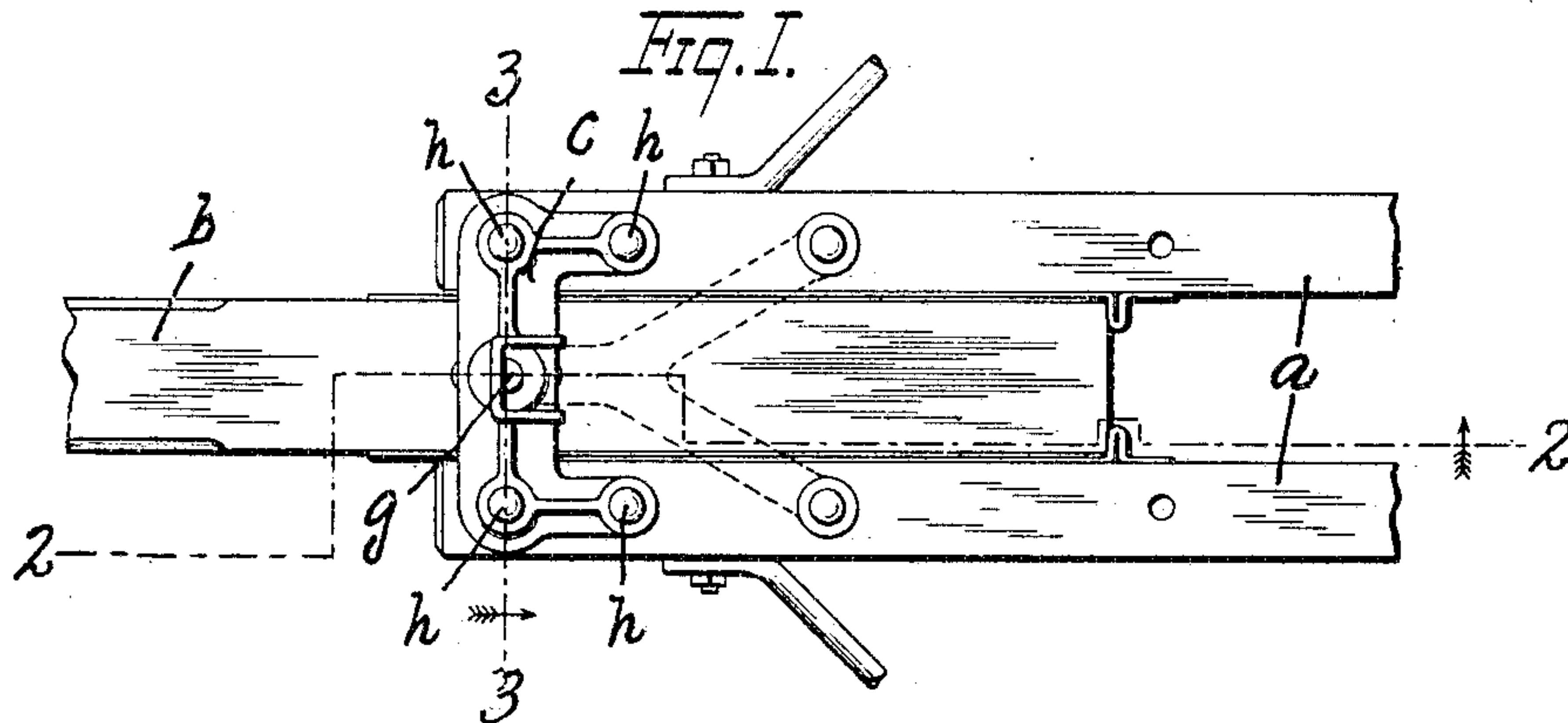


Fig. 5.



Fig. 3.

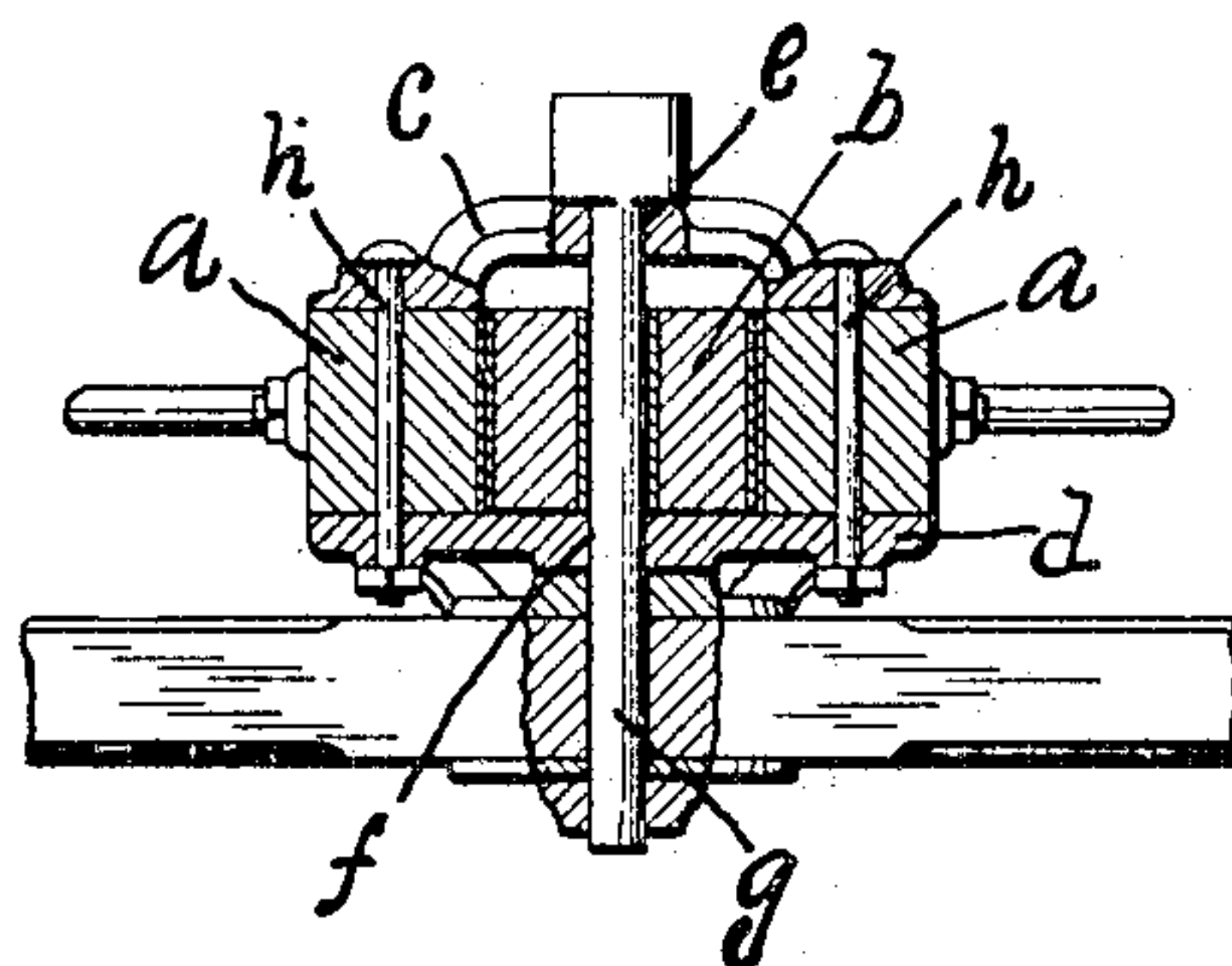
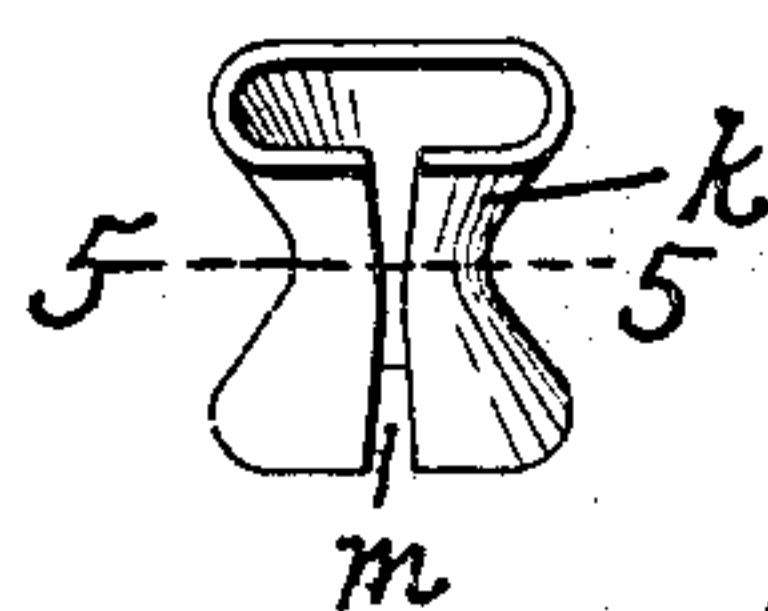


Fig. 4.



Witnesses:  
B. C. Robinson  
W. C. Chase

Inventor  
David S. Watson,  
By  
Howard P. Driscoll  
att'y.

# UNITED STATES PATENT OFFICE.

DAVID S. WATSON, OF CANASTOTA, NEW YORK, ASSIGNOR TO WATSON WAGON COMPANY, OF CANASTOTA, NEW YORK, A CORPORATION OF NEW YORK.

## POLE-COUPLING FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 788,001, dated April 25, 1905.

Application filed August 22, 1904. Serial No. 221,797.

*To all whom it may concern:*

Be it known that I, DAVID S. WATSON, of Canastota, in the county of Madison, in the State of New York, have invented new and  
5 useful Improvements in Pole-Couplings for Vehicles, of which the following, taken in connection with the accompanying drawings, is a full, clear, and exact description.

This invention relates to improvements in  
10 pole or tongue connections for vehicles, and is particularly useful in connection with dump-wagons and similar heavy vehicles which are usually used in excavations, fills, and other places where these wagons are subjected to  
15 severe strains, and consequently bring more or less uneven strain upon the pole and horses.

The object of my invention is to couple the pole to the hounds or front gear of the vehicle by means of a single pin and double conical  
20 bushing, whereby the pole is held from end-wise or lateral movement, but is free to vibrate or oscillate vertically, so that the horses or front gear may travel over uneven surfaces without bringing undue strain upon the horses  
25 or parts of the running-gear to which the pole is connected.

Other objects and uses will appear in the following description.

In the drawings, Figure 1 is a top plan of a  
30 portion of the front running-gear of a vehicle and a pole attached thereto by my improved connection. Figs. 2 and 3 are sectional views taken, respectively, on lines 2 2 and 3 3, Fig. 1. Fig. 4 is a perspective view of the de-  
35 tached bushing which is inserted into the pole. Fig. 5 is a sectional view taken on line 5 5, Fig. 4.

*a* represents a portion of the front running-gear of a vehicle comprising two parallel bars  
40 which are spaced apart to receive between them the rear end of a pole *b*. The front ends of the bar *a* are united by upper and lower clip-plates *c* and *d*, which are secured, respectively, to the top and bottom faces of the front  
45 ends of said bars and are provided with vertical aligned central apertures *e* and *f*, which receive a suitable bolt *g*, said clip-plates being secured to the bars *a* by bolts *h*. The pole *g*

is closely fitted in the space between the bars  
50 *a*, which serve as guides for confining the pole in its vertical movement and preventing lateral movement or torsional strain upon the bolt *g*. The pole extends between the clip-plates *c* and *d* and is provided with a vertical opening *i*, which is in vertical alinement with  
55 the openings *e* and *f* and has its upper and lower ends elongated longitudinally, while its central portion is contracted and of slightly greater diameter than the bolt *g*, which passes through the opening *i*.  
60

A metal bushing *k* is inserted in the opening *i* and has its lower and upper ends expanded longitudinally to conform to said opening *i*, thus forming a double conical bushing, which is split vertically through one side at *m*  
65 to permit it to be easily expanded in the opening *i*. It now appears that the opposite ends of this bushing are elongated in the direction of extension of the pole, while the central portion is contracted or of substantially circular  
70 outline in cross-section, (best seen in Fig. 5,) so that the opening at the center of the bushing midway between its ends is of substantially the same diameter as the bolt *g*, which passes through the bushing, and therefore the  
75 central portion of the bushing engages all sides of the bolt, while the sides only of the upper and lower ends of the bushing engage said bolt. This leaves a space between the  
80 bolt and the upper and lower front and rear sides of the bushing to permit the pole to rock vertically a limited distance upon the center bearing of the bushing.

A bracket or brace *o* is shown as secured to the lower faces of the bars *a* at the rear of  
85 the bolt *g*, but extends downwardly, and has an aperture in its front end to receive the lower end of the bolt, as best seen in Fig. 2.

A suitable evener *s* is pivotally mounted upon the bolt *g* between the front end of the  
90 brace *o* and clip-plate *f*, the rear end of the brace being bifurcated, as shown by dotted lines in Fig. 1, to permit the rear end of the pole to rock vertically, the end face of the pole riding against suitable stops or guides *u*,  
95 which serve to partially relieve the strain



upon the bolt *g* in case of excessive end thrust of either the pole or bars *a*.

Although I have shown and described the brace *o* and evener *s* as mounted beneath the pole, it is evident that a mere reversal by placing the bracket *o* and evener *s* above the pole is within the scope of my present invention, and it will be observed that the essential feature of my present invention consists in providing the pole with a metal bushing having a central opening of greater length at the top and bottom lengthwise of the pole than the central portion of the opening, whereby the pole is free to rock vertically, but is still prevented from endwise or lateral movement by reason of the fact that the central portion of the opening is of substantially the same diameter as and engages the bolt.

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

1. In combination with the front gear of a vehicle having a vertical bolt-opening, a bolt in said opening and a pole having a hollow metal bushing receiving said bolt and having

its central portion of substantially the same diameter as the bolt and its upper and lower ends elongated in the direction of the extension of the pole, whereby the pole is free to rock vertically upon the bolt.

2. A pole-coupling for vehicles, consisting of a metal bushing having a lengthwise opening circular in cross-section at the center, but elongated at the ends, and a bolt fitting in the circular part of the opening.

3. A pole or tongue for vehicles, said pole or tongue having a vertical opening, and a metal bushing inserted in the opening and having its ends expanded in the direction of extension of the pole and of greater diameter in one direction than the center of the bushing, in combination with a bolt of substantially the same diameter as the center of the opening in the bushing.

In witness whereof I have hereunto set my hand on this 2d day of August, 1904.

DAVID S. WATSON.

Witnesses:

ALBERT A. KEESLER,  
EARLE C. BROWN.