

(No Model.)

G. W. SIMMONS.

KING BOLT.

No. 351,472.

Patented Oct. 26, 1886.

Fig: I.

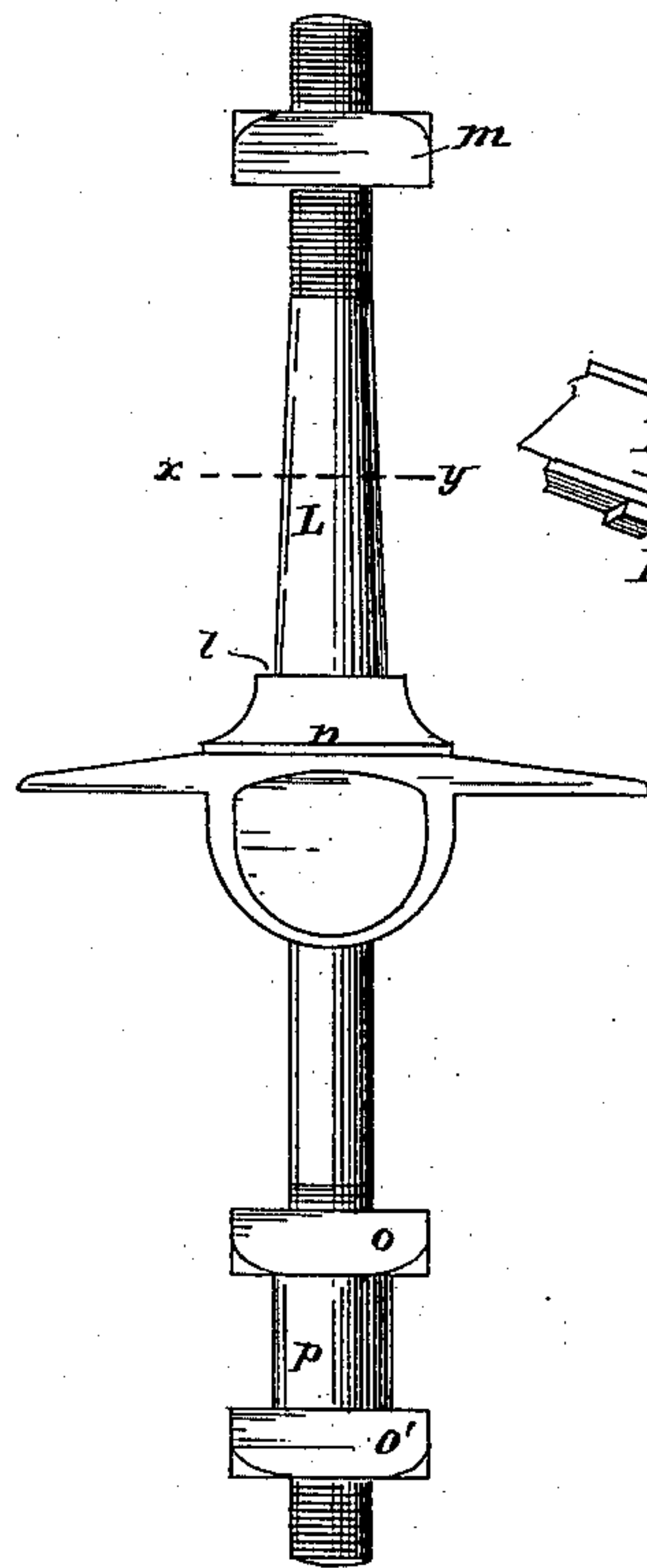


Fig: 3.

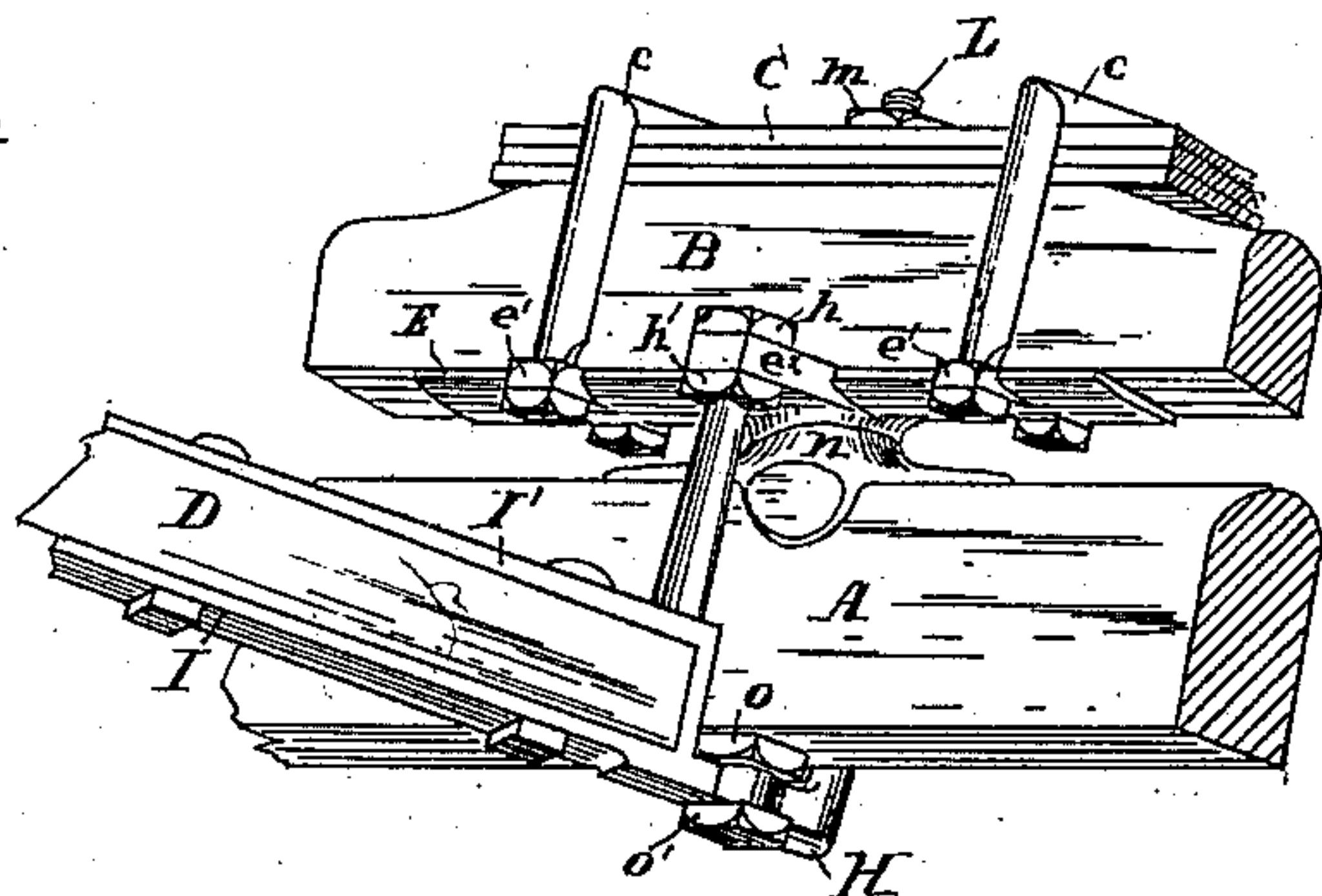


Fig: 2.

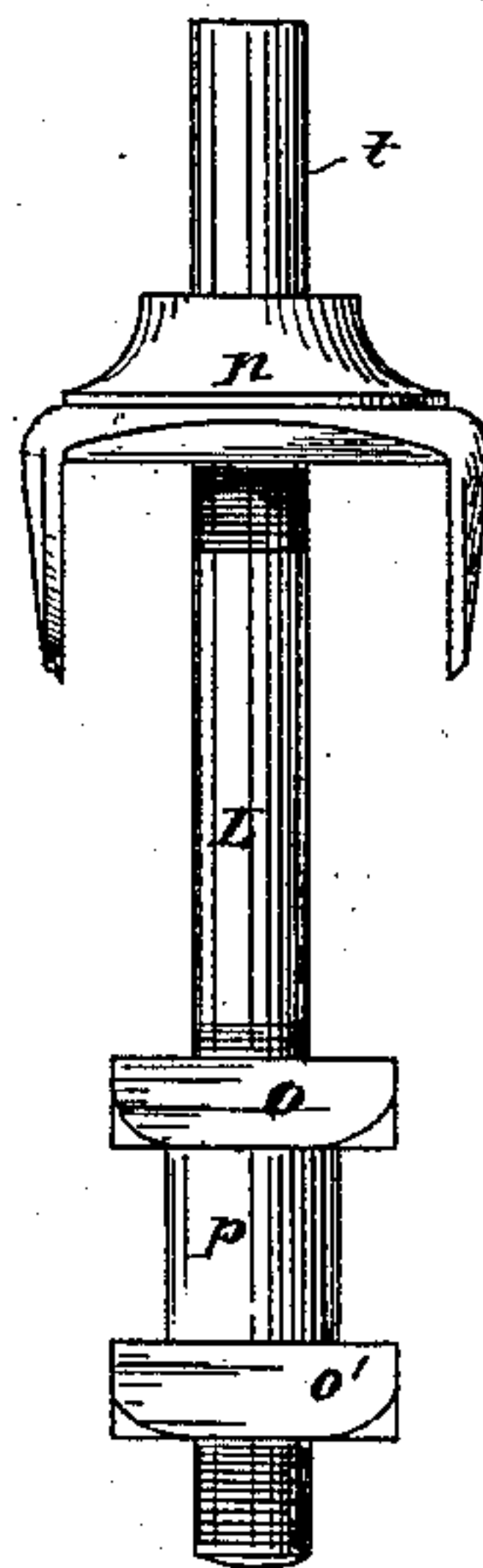
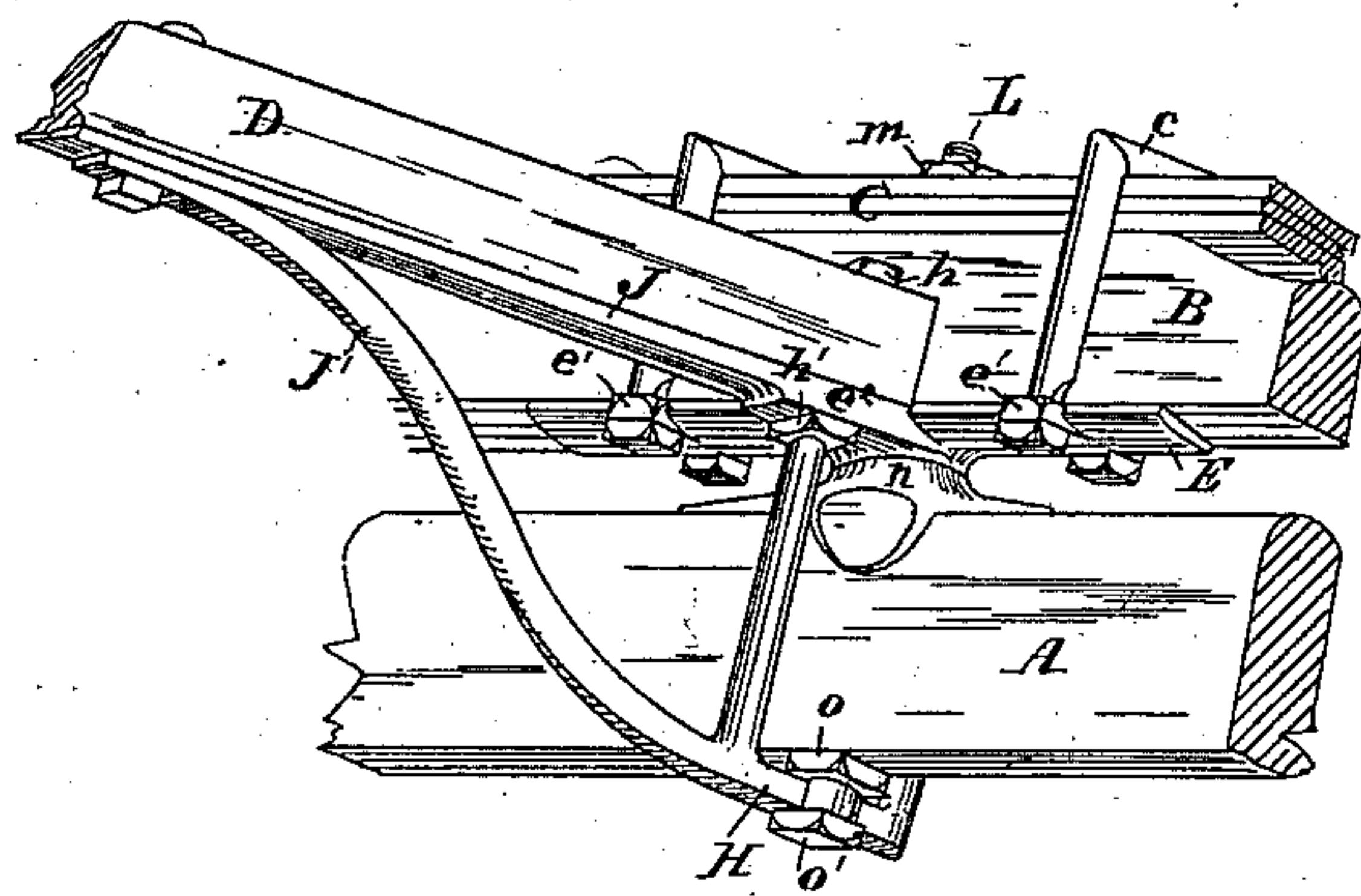


Fig: 4.



WITNESSES:

Geo. E. Rose,  
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# UNITED STATES PATENT OFFICE.

GEORGE W. SIMMONS, OF YOUNGSTOWN, OHIO, ASSIGNOR OF ONE-HALF  
TO EDWARD F. THOMAS, OF SAME PLACE.

## KING-BOLT.

SPECIFICATION forming part of Letters Patent No. 351,472, dated October 26, 1886.

Application filed August 30, 1886. Serial No. 212,255. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE W. SIMMONS, of the city of Youngstown, in the county of Mahoning and State of Ohio, have invented  
5 certain new and useful Improvements in King-Bolts for Vehicles, and the Combination of my King-Bolt with other Improved Running-Gear for Vehicles; and I do declare the following to be a full, clear, and exact description of my in-  
10 vention, such as will enable others skilled in the art to which it pertains to make and use the same.

The object of my invention is to produce a king-bolt which shall be stationary in the axle  
15 and be so constructed as to serve the purpose of a pivot or trunnion, and have other advantages of construction, below set forth. For this purpose I use a sleeve-nut and other features of construction hereinafter described;  
20 also, to produce a combination of my improved king-bolt with other improved running-gear for vehicles, as below set forth.

In the drawings annexed, Figure 1 shows in perspective my king-bolt provided with  
25 sleeve-nut. Fig. 2 represents king-bolt provided with sleeve-nut and with trunnion cap or plate. Figs. 3 and 4 show combination of king-bolt with other portions of improved running-gear for vehicles.

30 In Fig. 1 the bolt L is provided with a shoulder, *l*, and is made larger above the shoulder *l* than below. The bolt is provided with a nut, *m*, and a cap or plate, *n*, which rests upon the axle-bed under the shoulder *l*.  
35 This cap or plate *n* may be made a part of the bolt L or may be made separate. The bolt L extends through the axle, and is provided with a thread below the axle. Upon the threaded portion below the axle is drawn the sleeve-  
40 nut O P, which is made with the upper portion, O, having sharp corners, and the lower portion, P, round, and the lower portion, P, is made sufficiently long to serve the purpose of a pivot or trunnion. The sleeve-nut O P  
45 is drawn tight against the lower surface of the axle and turns as a pivot or trunnion in the

eye *h*<sup>2</sup>, Figs. 5 and 6, of the brace-rod or reach-iron. The ordinary nut, O', is drawn tight against the sleeve-nut O P, the two thus forming a set or jam nut.

50 In Fig. 2 the sleeve-nut O P is constructed and drawn tight against the lower surface of the axle, as already described, the surface of L below the axle being threaded for the purpose. The trunnion cap or plate *n* consists  
55 of a trunnion with cap or plate made integral, there being a hole through the cap and entire length of the trunnion, containing a thread to receive the thread of the bolt L. The trunnion cap or plate and sleeve-nut are drawn  
60 tight above and below the axle, respectively, and both serve as pivots or trunnions. The sleeve-nut O P may be dispensed with, in which case the bolt L is provided with a  
65 shoulder below the axle and enlarged portion corresponding in size to the round portion of the sleeve nut, and answering the purpose of a pivot or trunnion.

What I claim is—

1. A king-bolt which is stationary in the  
70 axle, the bolt having a shoulder and cap above the axle and provided with a sleeve-nut below the axle, constructed substantially as and for the purposes set forth.

2. A king-bolt which is stationary in the  
75 axle, having the surface above and below the axle threaded, and provided with a sleeve-nut below the axle and with trunnion cap or plate above the axle, substantially as and for the pur-  
80 poses set forth.

3. A king-bolt which is stationary in the axle, provided with a shoulder and an enlarged portion below the axle to serve the purpose of a pivot or trunnion, and a threaded portion  
85 above the axle-bed to be used in combination with a cap or plate resting on the top of the axle-bed, substantially as and for the purposes set forth.

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Witnesses:

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G. E. ROSE.