

(No Model.)

C. W. HUNT.
CONNECTION FOR CAR AXLE BOXES.

No. 412,028.

Patented Oct. 1, 1889.

Fig. 2.

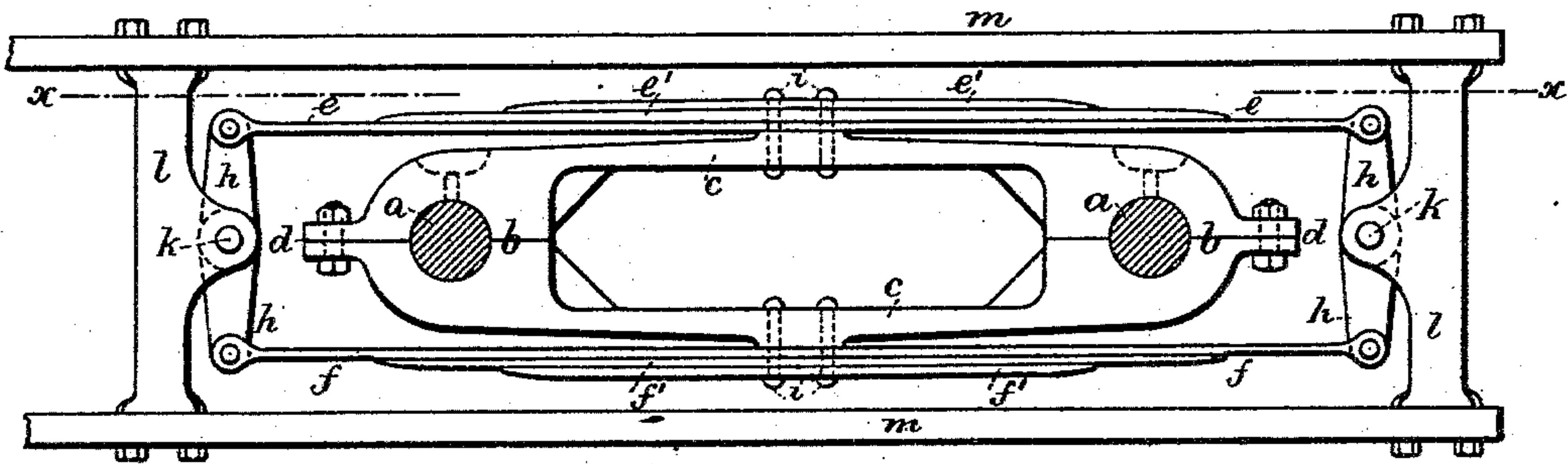


Fig. 1.

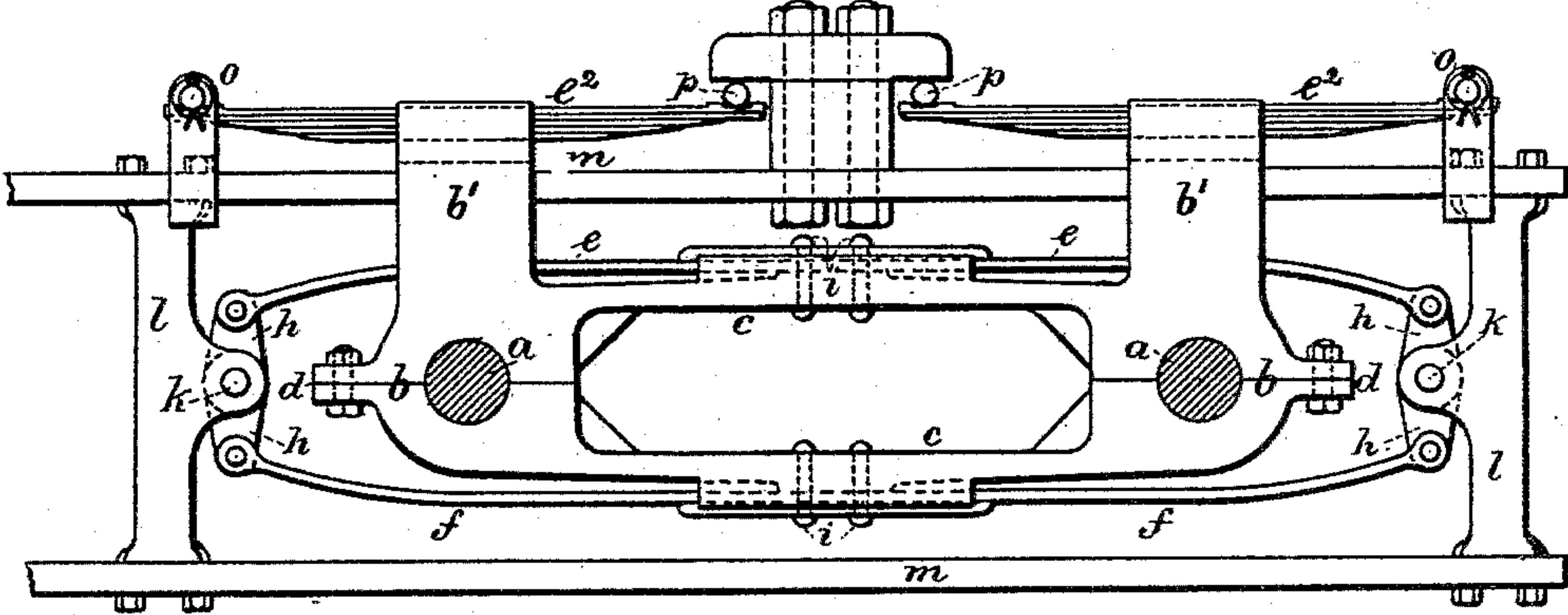


Fig. 3.

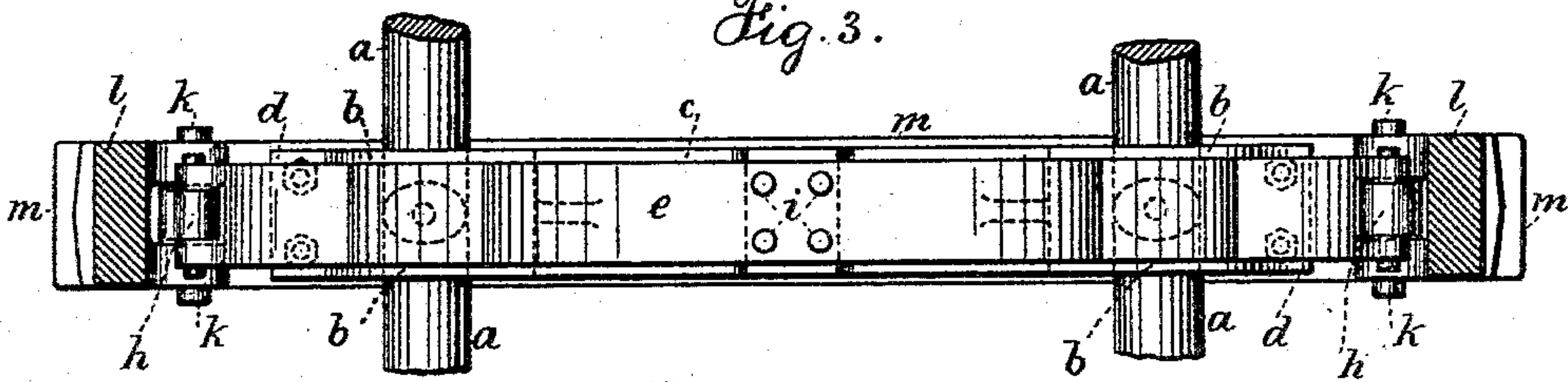
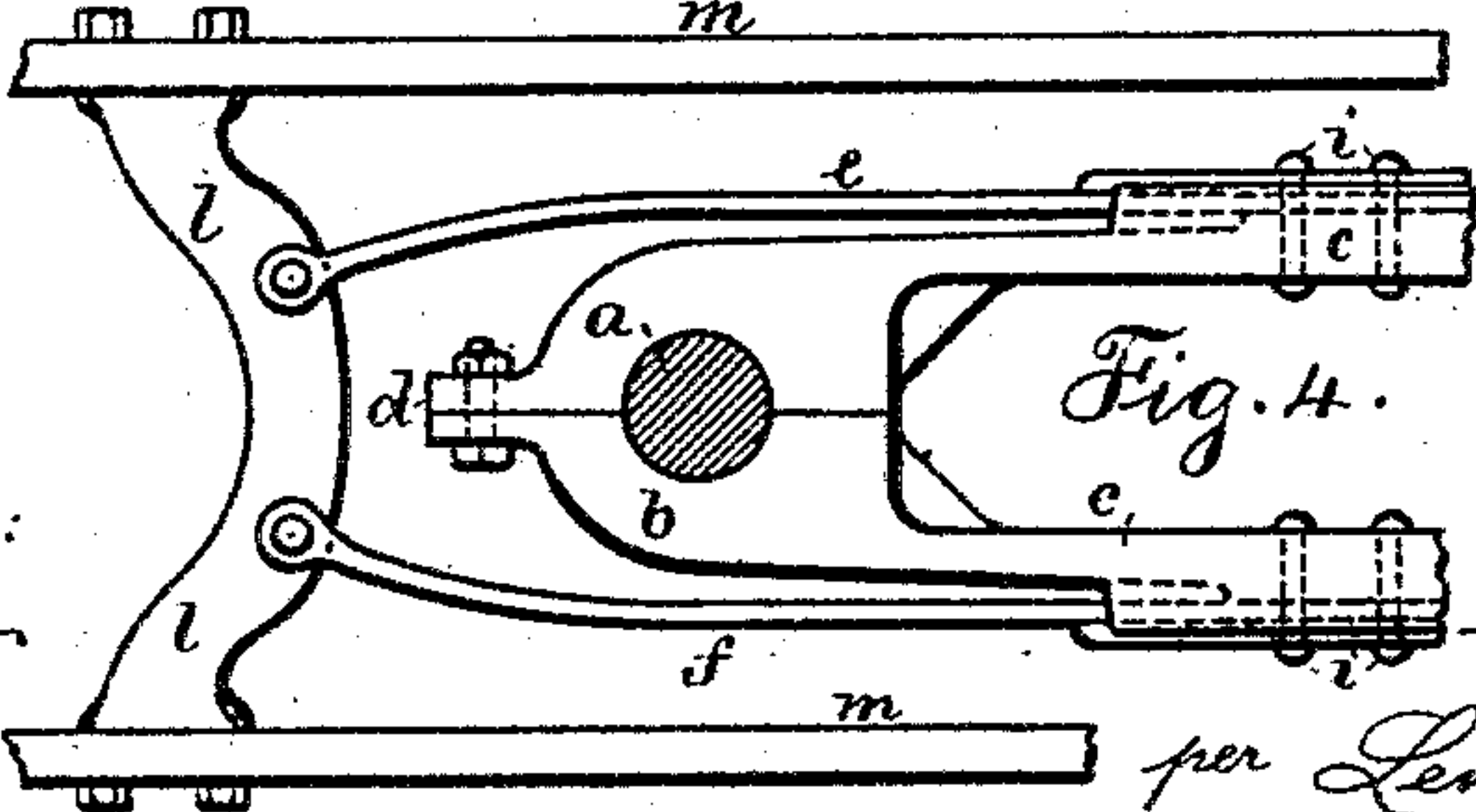


Fig. 4.



Witnesses:
J. Stair
Chas. N. Smith

Inventor:
Charles W. Hunt
per Lemuel W. Serrell atty

UNITED STATES PATENT OFFICE.

CHARLES W. HUNT, OF WEST NEW BRIGHTON, NEW YORK.

CONNECTION FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 412,028, dated October 1, 1889.

Application filed August 2, 1889. Serial No. 319,560. (No model.)

To all whom it may concern:

Be it known that I, CHARLES W. HUNT, of West New Brighton, in the county of Richmond and State of New York, have invented
5 an Improvement in Connections for Car-Axle Boxes, of which the following is a specification.

In railway-cars, especially those for city railroads, considerable difficulty has arisen in
10 the axle-boxes sliding up and down in the frames or hangers while exposed to the dust and to the lateral and oscillating motion of the car-body.

My present invention is especially available upon small locomotives and motors, but
15 may be used on street-cars.

In my improvements the movements of the axle-boxes are not obstructed or the parts worn by the presence of dust, and the lateral strain and end-thrust due to the wheels passing
20 over obstructions or to inequalities in the track are taken by yokes that connect the journal boxes or bearings and upon thrust-bars that extend from the yokes to the framework of the car.

In the drawings, Figure 1 is an elevation of the yoke and parts connected therewith. Fig. 2 is a similar elevation, with the thrust-bars in a slightly-different shape; and Fig. 3 is a plan view, partially in section, at the line x
30 x , Fig. 2. Fig. 4 is a view of a modification in the connections for the thrust-bars.

The axles $a a$ are of any desired size and kind, and the boxes or bearings b may be of any suitable material and lined with brass, Babbitt metal, or other suitable substance, and
35 lubricated by oil in receptacles or cups. The boxes or bearings b are in pairs, united by the yoke-pieces c , the top and bottom surfaces of which are rounding toward the ends above and below the bearings b , and it is preferable
40 to make the yoke and boxes in two parts, separated upon a horizontal plane passing through the axles a , and to bolt the parts together at the end flanges d , as shown. The thrust-bars
45 $e f$ are above and below the yoke, and they are fastened to the middle portions of the yoke by bolts or connections at i , and the ends of the thrust-bars $e f$ are preferably pivoted to the ends of the vertical levers h , which
50 levers are upon fulcrum-bolts k , passing through such levers and through jaws on the frames or standards l . These standards are

connected to the car or locomotive body in any convenient manner. I have represented horizontal bars $m m$ at the ends of such stand- 55 ards, the standards and bars forming part of the car-frame or being connected thereto. The thrust-bars $e f$ are either straight or nearly so, as seen in Fig. 2, or they are more or less curved or elliptical, as seen in Fig. 1. In either 60 shape the thrust-bars are under more or less tensile strain, and the levers h hold the ends of such thrust-bars and prevent them drawing toward each other. If the ends of the thrust-bars are curved, as in Fig. 1, the yoke 65 will be allowed greater freedom of motion, as the thrust-bars are drawn out more nearly straight and spring back to their curved form. In consequence of the yoke being rounding upon its top and bottom surfaces and the 70 thrust-bars being attached thereto in the middle, the yoke can swing as either one axle or the other is raised by inequalities of the track, and the thrust-bars being long are not liable to break while in use, and lateral oscil- 75 lation or side-thrust, due to the wheels striking a curve or an obstruction when the car is in rapid motion, would throw an edgewise strain on the thrust-bars, for which they are amply strong. In cases where the thrust-bars 80 are curved so as to yield lengthwise, or where the frame is not too rigid, the thrust-bars may be jointed at one end to the yoke and at the other to the frame itself; or both ends can be jointed directly to the frame and bolted in 85 the middle to the yoke, as indicated in Fig. 4.

It will now be understood that in almost all instances the thrust-bars will not be depended upon as springs for the vehicle. They, how- 90 ever, should be of spring-steel.

For locomotives and other motors the bearings b may be extended upwardly, as at b' , Fig. 1, and springs e^2 provided, the same being held at their ends by suitable clips $o o$ and bearings and rollers p or other suitable 95 connections.

In the form represented in Fig. 1 the thrust-bars $e f$ perform the especial duty of preventing end motion of the yoke under the action of the engine's connecting-rods and cranks of 100 the locomotive or other motor.

In Fig. 4 the ends of the thrust-bars are shown as attached directly to the frame of the car, thereby dispensing with the levers

but the parts must be sufficiently yielding to allow of the vertical movement of the car-axles in passing over inequalities.

Where greater strength or stiffness is required in the thrust-bars *e f* additional plates or leaves *e' f'* may be used, as seen in Fig. 2.

I claim as my invention—

1. The combination, with the axles, of the boxes and yoke connecting such axles, the thrust-bars *e f* above and below the yoke and connected at the middle portions to such yoke, and the levers pivoted upon the frame and to the ends of the thrust-bars, substantially as set forth.

2. The combination, with the axles, of the boxes and yoke made in two parts and bolted together so as to grasp the axles, the thrust-bars above and below the yoke and connected thereto and having curved end portions, and the levers pivoted upon the frame and connected at their ends to the respective thrust-bars, substantially as set forth.

3. The combination, with the axles, of the boxes and yoke connecting the axles, thrust-bars above and below the yoke and connected to the same, levers connecting the ends of the thrust-bars and pivoted upon the frame, and springs for supporting the weight, substantially as set forth.

4. The combination, with the axles, of the boxes and yoke made in two parts and bolted together so as to grasp the axles, and the thrust-bars above and below the yoke and connected thereto and having curved end portions connected at their ends to the frame, substantially as set forth.

Signed by me this 25th day of July, 1889.

CHAS. W. HUNT.

Witnesses:

W. C. TURNER,
GEO. F. HALLOCK.