

(No Model.)

E. LESLIE.
CAR AXLE BOX.

No. 405,040.

Patented June 11, 1889.

Fig: 1.

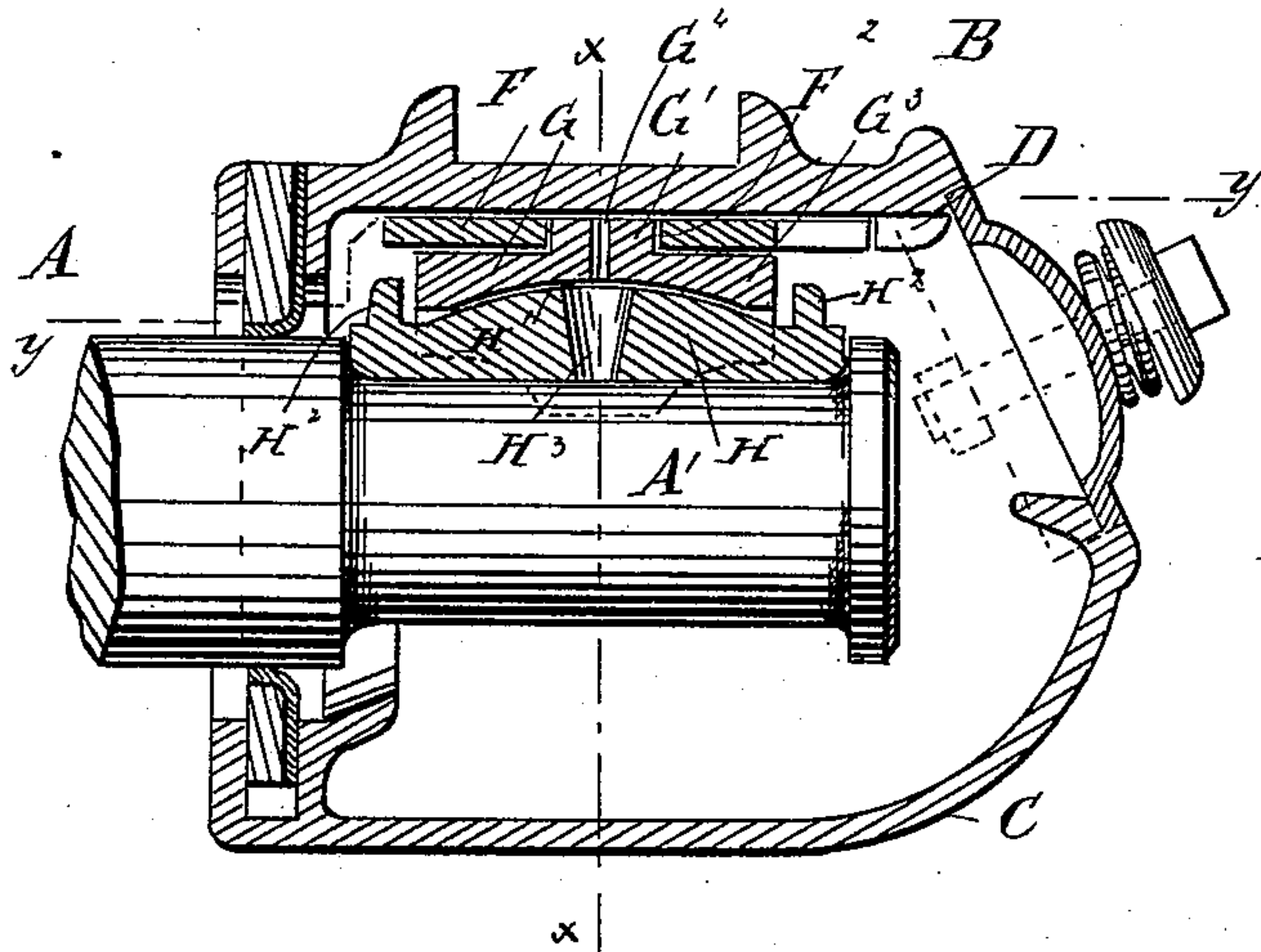


Fig: 2.

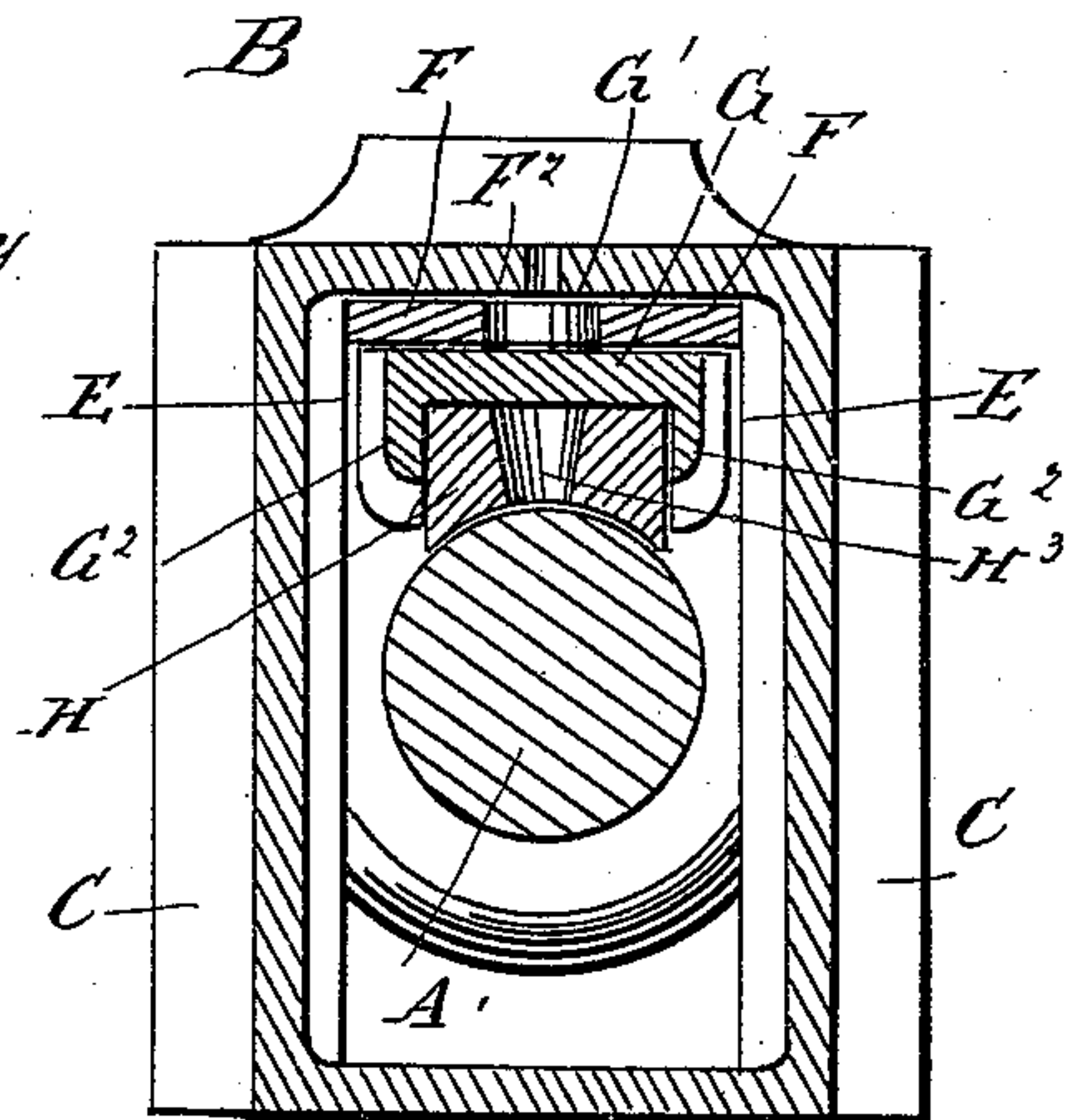


Fig: 3.

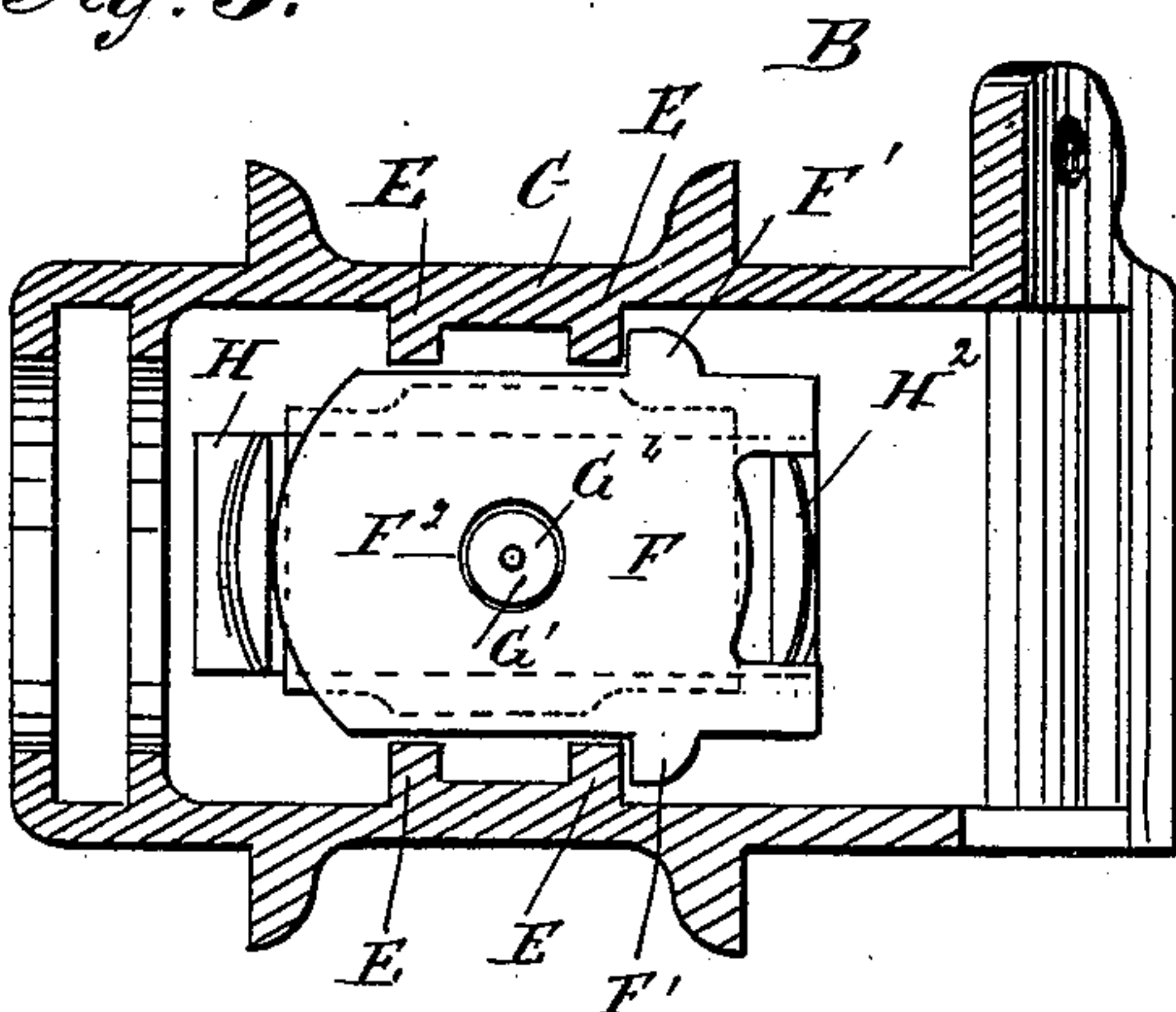


Fig: 4.

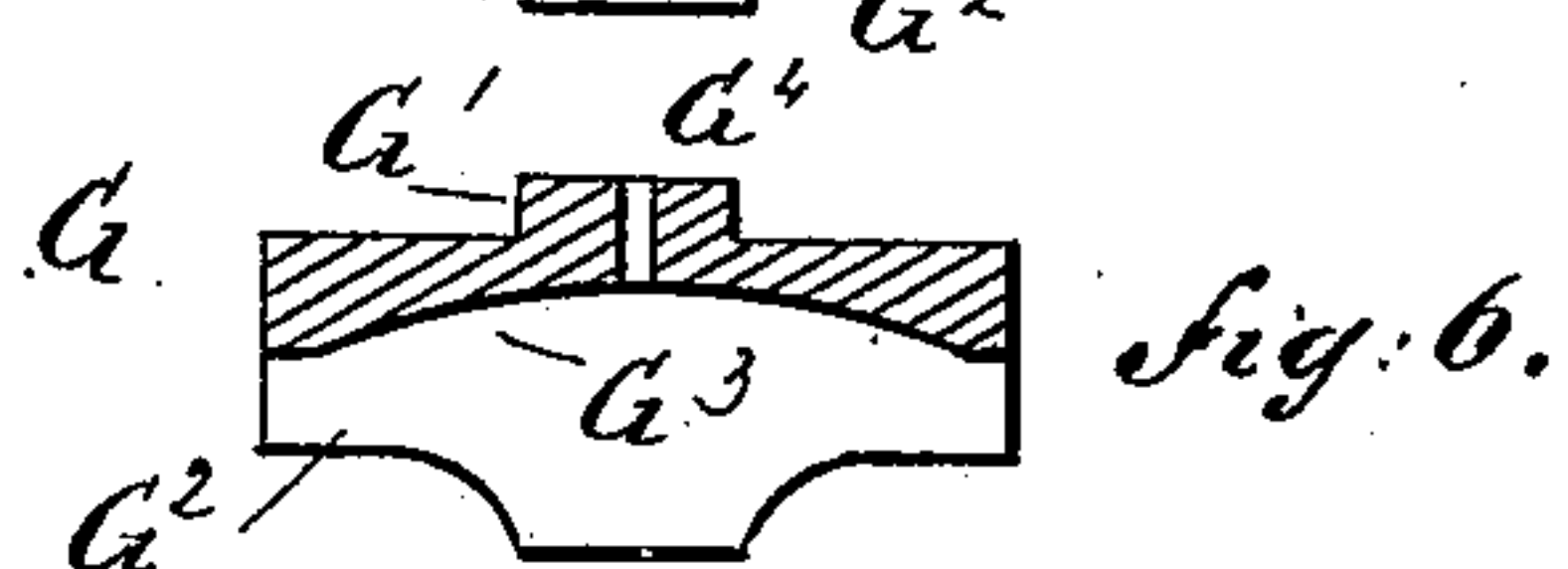
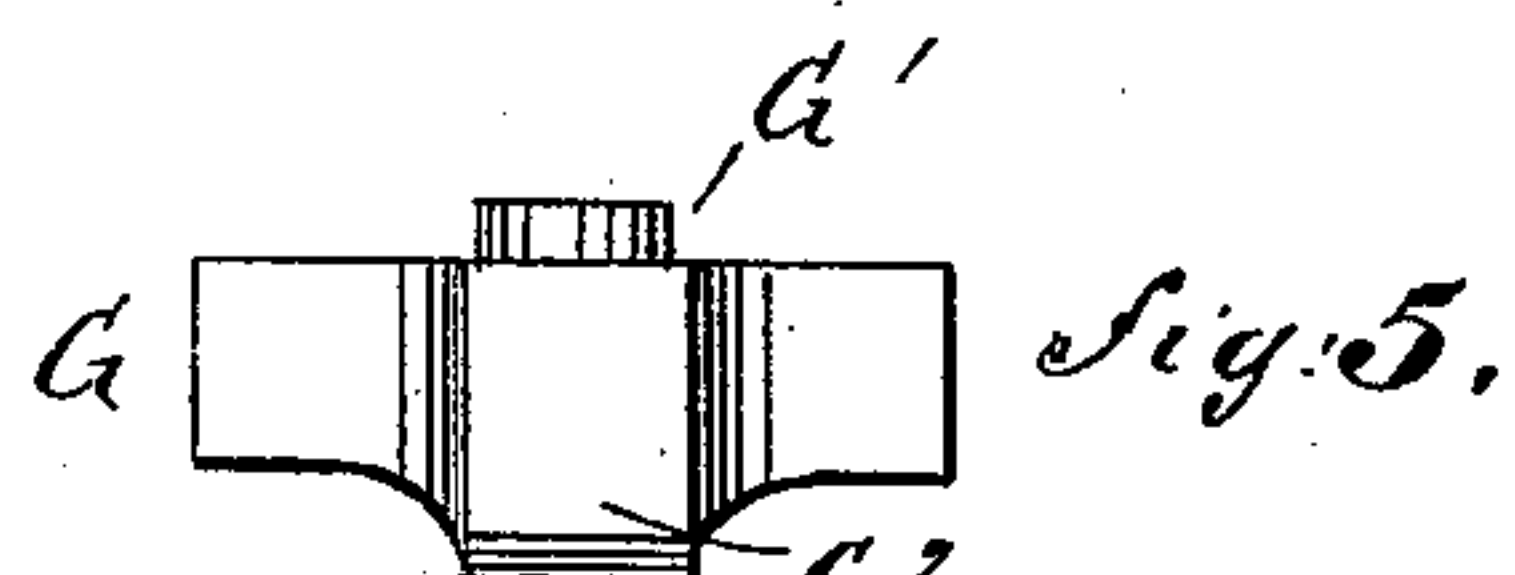
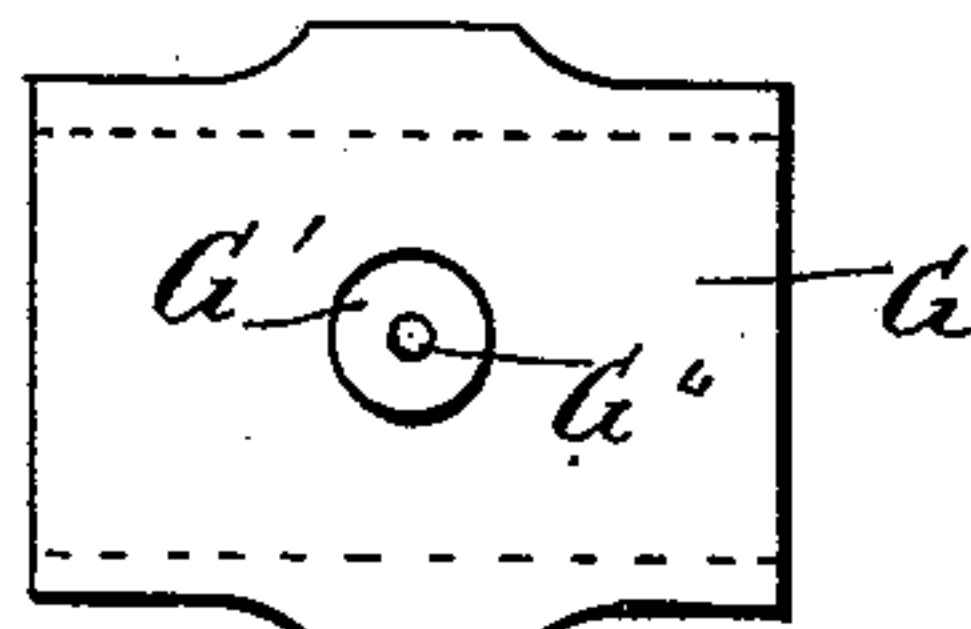
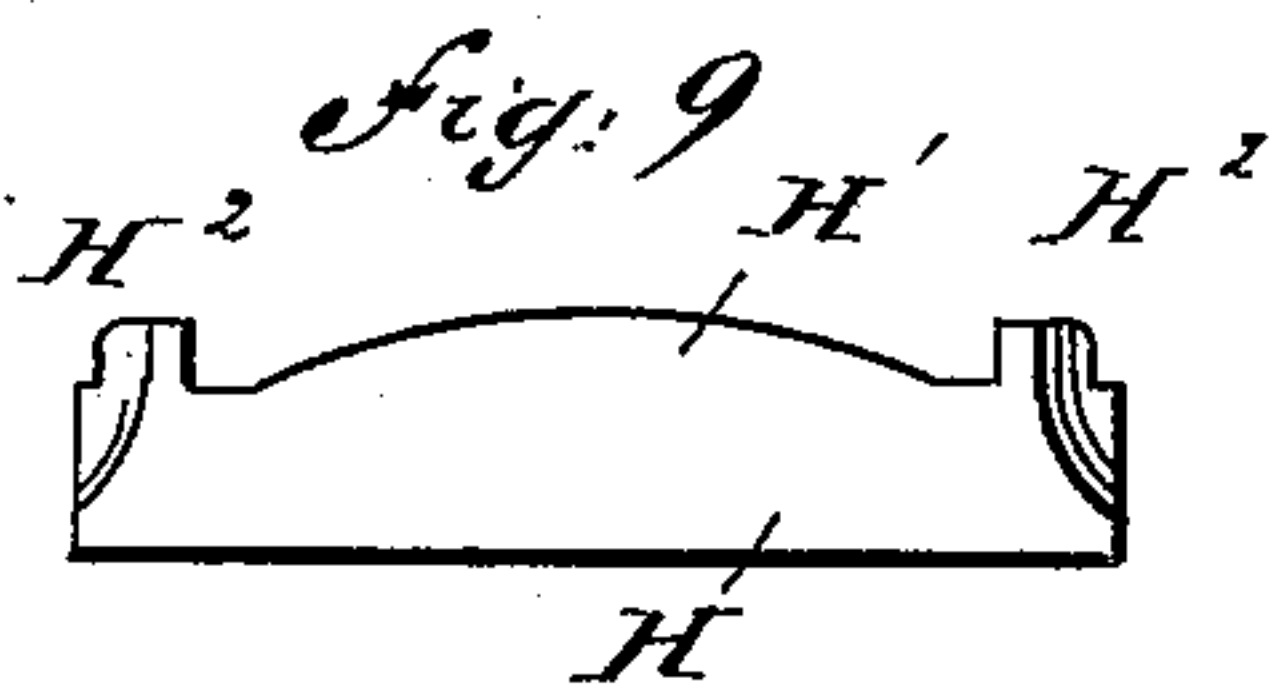
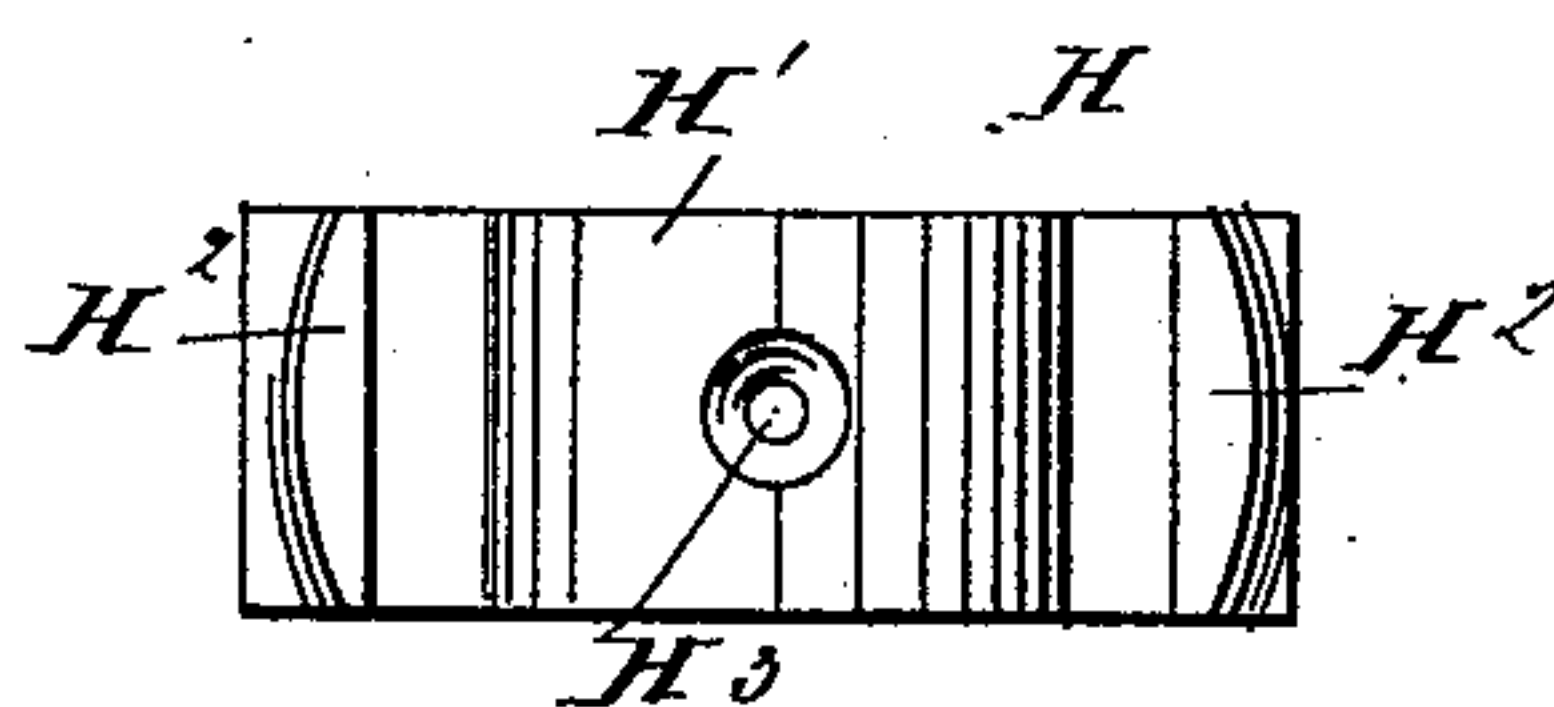


Fig: 8.



WITNESSES:

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UNITED STATES PATENT OFFICE.

EDWARD LESLIE, OF ORANGEVILLE, ONTARIO, CANADA.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 405,040, dated June 11, 1889.

Application filed June 18, 1888. Serial No. 277,437. (No model.)

To all whom it may concern:

Be it known that I, EDWARD LESLIE, of Orangeville, county of Dufferin, Province of Ontario, and Dominion of Canada, have invented a new and Improved Bearing for Car-Axles, of which the following is a specification, which, when taken in connection with the accompanying drawings, will enable others to practice my invention.

The object of my invention is to provide an improved car-axle bearing adapted for the standard-box, and in which the angular motion of the axle is allowed for, while at the same time a narrow bearing-brass can be used, which is properly supported at the upper part.

The accompanying drawings represent the parts as follows:

Figure 1 is a sectional side elevation of the improvement. Fig. 2 is a sectional end view of the same on the line xx of Fig. 1. Fig. 3 is a sectional plan view of the same on the line yy of Fig. 1. Fig. 4 is a plan view of the keeper. Fig. 5 is a side elevation of the same. Fig. 6 is a sectional side elevation of the same. Fig. 7 is an inverted plan view of the same. Fig. 8 is a plan view of the axle-brass, and Fig. 9 is a side elevation of the same.

The car-axle A projects with its journaled ends A' into the car-axle box B, which box is of the usual standard type. The box B is provided on the under side of the stop with stops D and on the inner circle of its side with stops E. In between the stops is fitted a flat key F, abutting at its front end against the stops D, and provided on each side with a lug F', abutting against the front of the outermost stops E, as is shown in Fig. 3. In the center of the key F is formed an aperture F², into which is fitted a hub or boss G', projecting from the top of the intermediate plate G. The intermediate plate G, besides being provided with a hub G', is also provided with two downwardly-extending side flanges G² G², and between these flanges, and parallel with the line of the axle, is formed a semi-cylindrical recess, as is shown in Fig. 1. This semi-cylindrical recess is a part of the cylinder, the axis of which lies at right angles with the journal of the axle. This curved recess is indicated in the drawings by the letter G³. The axle-brass H is provided on the lower side

with a suitable semi-cylindrical recess to fit the axle, and on its upper side it is provided with a semi-cylindrical convex projection that fits the curved recess in the intermediate plate G. In this way, when the axle moves so as to change its angle vertically in the box, the brass H can turn on the plate G, the two semi-cylindrical surfaces permitting this movement, and when the axle moves in the box and its angle horizontally is changed the intermediate plate G can turn in the key which is fastened and held in the top of the box. I purposely make the brass H narrow and provide two downwardly-projecting side flanges G² G², which hold the brass and force it in turning horizontally to carry with it the plate G. In this way I can make a narrow brass and support it firmly by the plate G.

In the middle of the axle-brass H is formed vertically a conical aperture H³, which permits the oil to pass from the journal A' to the bearing-surfaces G³ and H' of the keeper G and the axle-brass H, respectively. A small cylindrical aperture G⁴ is formed in the middle of the keeper G, passing through the center of the offset G', and serving to deliver oil from the aperture H³ to the offset G' and its seat in the key F.

I am aware of the patent granted to Baker, No. 370,034, also patent of B. A. Hopkins, No. 216,517. In the patent of Baker a hemispherical projection is made from the brass, which slips into a like indentation in an intermediate plate, while in the patent of Hopkins a short semi-cylindrical bearing is formed. Now my invention resides in forming on the upper part of the intermediate plate G a hub which penetrates the key, so that the movement of the axle in horizontal angles may be allowed for, and in providing said intermediate plate with flanges, as before described, so that the narrow brasses which are used will be held firmly within the flanges and be caused to move in horizontal angles with the plate as a single piece, while at the same time any movement in vertical angle will be allowed for by reason of the semi-cylindrical bearing formed between the brass and intermediate plate. In the earlier patents this arrangement is not found, for in Hopkins and Baker the brass is practically the full width of the box, and in cases where a narrow brass has been employed the

brass has not been held between downwardly-projecting flanges forming part of and intermediate plate placed between the key and the brass. It will be seen that the horizontal
5 movements are all allowed for by the movement of the intermediate plate, while all vertical movements are allowed for between the brass and the intermediate plate.

10 I have found from the particular construction of my bearing that I get as much surface from two-thirds of the brass as can be obtained from the bearings of either of before-mentioned patents.

Having thus described my invention, I claim
15 as new and desire to secure by Letters Patent—

1. In a car-axle bearing, the combination, with the flat key fitting into the casing provided with a central aperture, of an intermediate plate held on the under side of the
20 said key and the circular offset fitting into the aperture formed in the said key, substantially as described.

2. In a car-axle bearing, the combination of a flat key fitting into the casing, a central aperture formed therein, an intermediate plate on
25 the under side of the said flat key and with a semi-cylindrical concave bearing on the under side, and downwardly-extending flanges formed on the side of said plate, and an axle-
30 brass fitted between said flanges and provided with a semi-cylindrical convex bearing on its upper side, substantially as described.

3. In a car-axle bearing, the combination of a flat key fitted in the casing, a central aperture formed therein, an intermediate
35 plate bearing against the under side of the key and provided with a circular offset fitting into the opening in the key, having on its under side a semi-cylindrical concave recess, downwardly-extending flanges, and an axle-
40 brass having its bearing on the bottom of the intermediate plate and provided on its upper side with a semi-cylindrical convex surface and arranged within the downwardly-extending flanges, substantially as described. 45

4. In a car-axle bearing, the combination, with the box or casing, of a key fitted in the casing and provided with a central opening, an intermediate plate bearing against the bottom
50 of the key and having a circular hub fitting within the aperture formed in the key, the said intermediate plate being provided with an oil-hole and the semi-cylindrical concave under surface, and an axle-brass fitted to bear against the under side of the intermediate
55 plate and provided with a central conical oil-aperture, substantially as described.

EDWARD LESLIE.

Witnesses:

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