

(No Model.)

J. BLAIS.
CARRIAGE AXLE.

No. 412,453.

Patented Oct. 8, 1889.

Fig. 1.

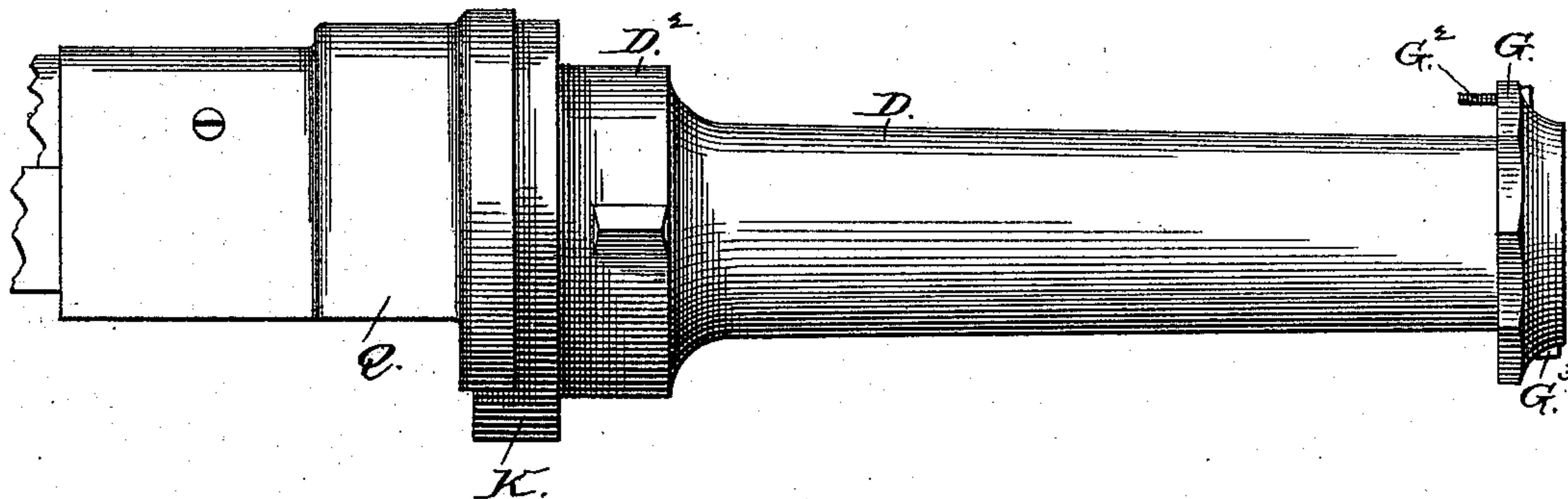


Fig. 2.

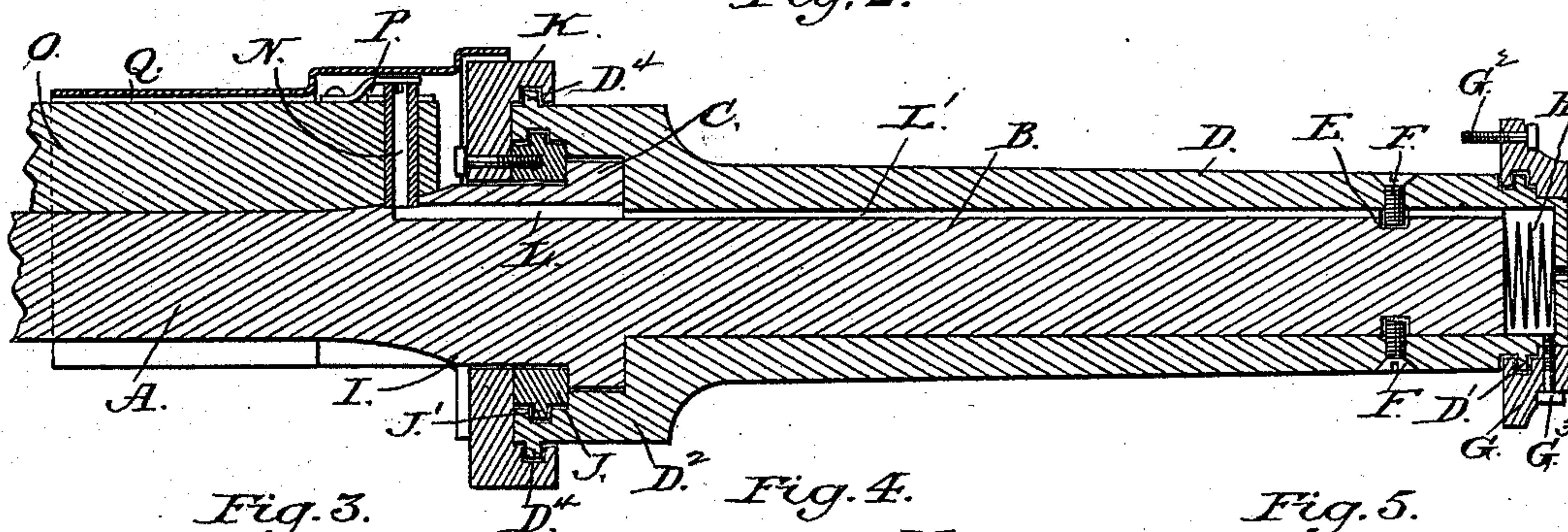


Fig. 3.

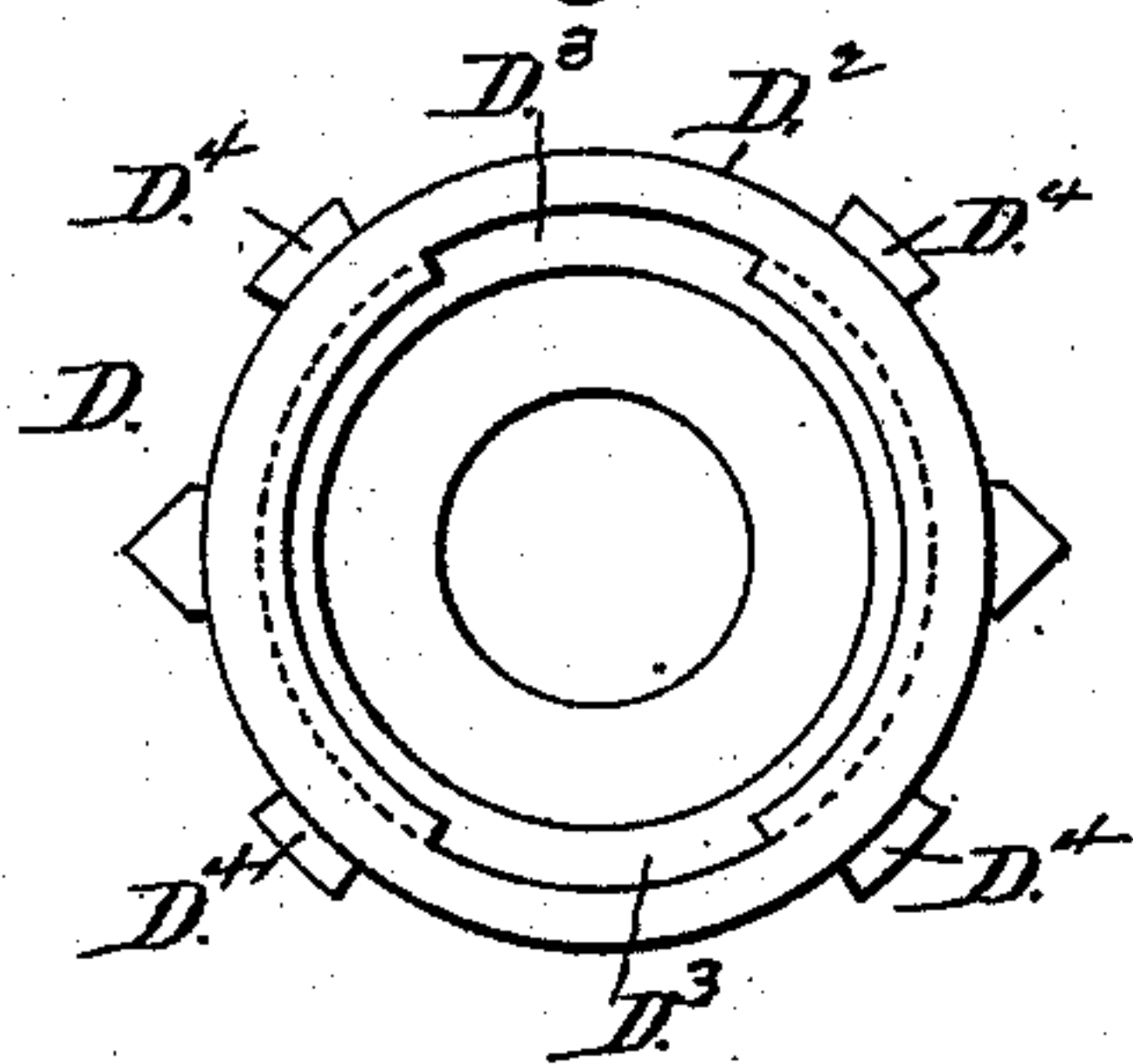


Fig. 4.

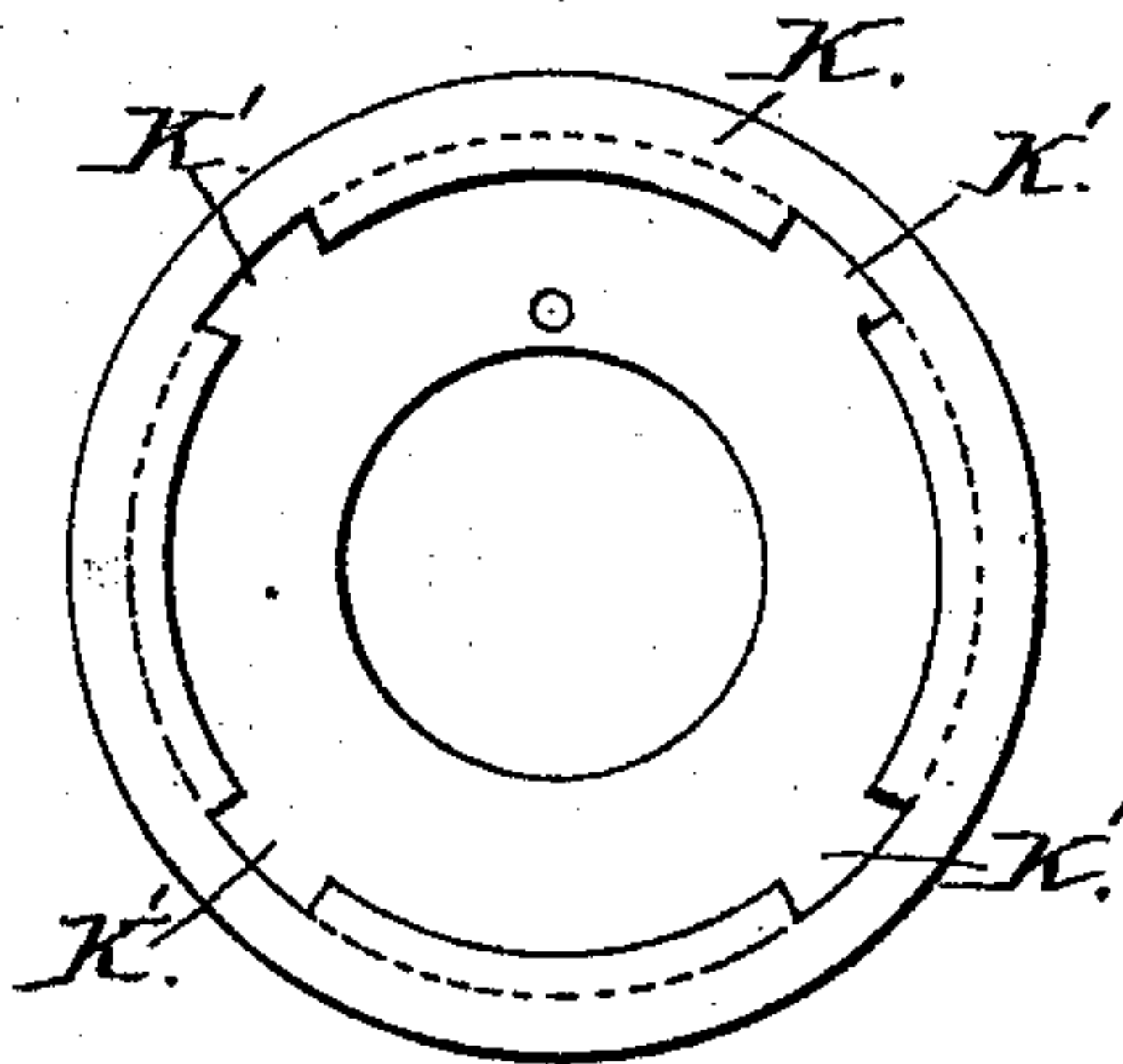


Fig. 5.

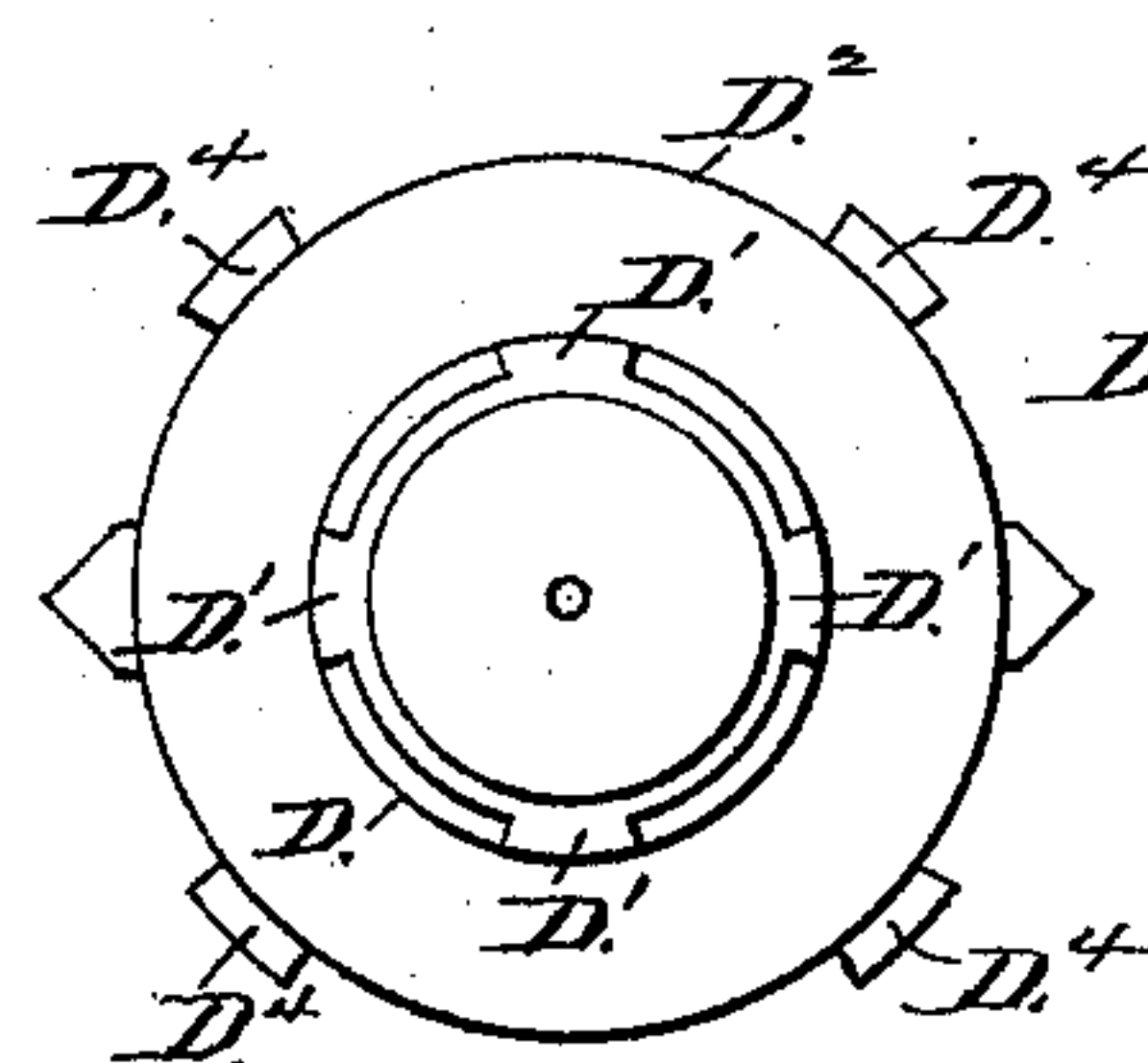


Fig. 6.

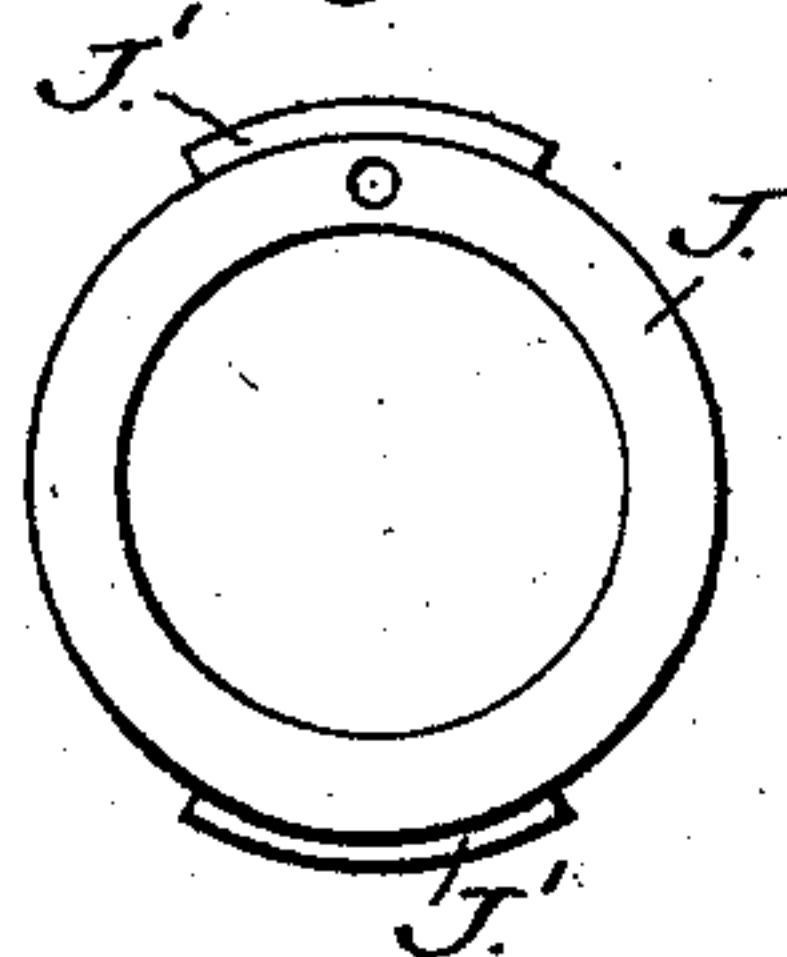
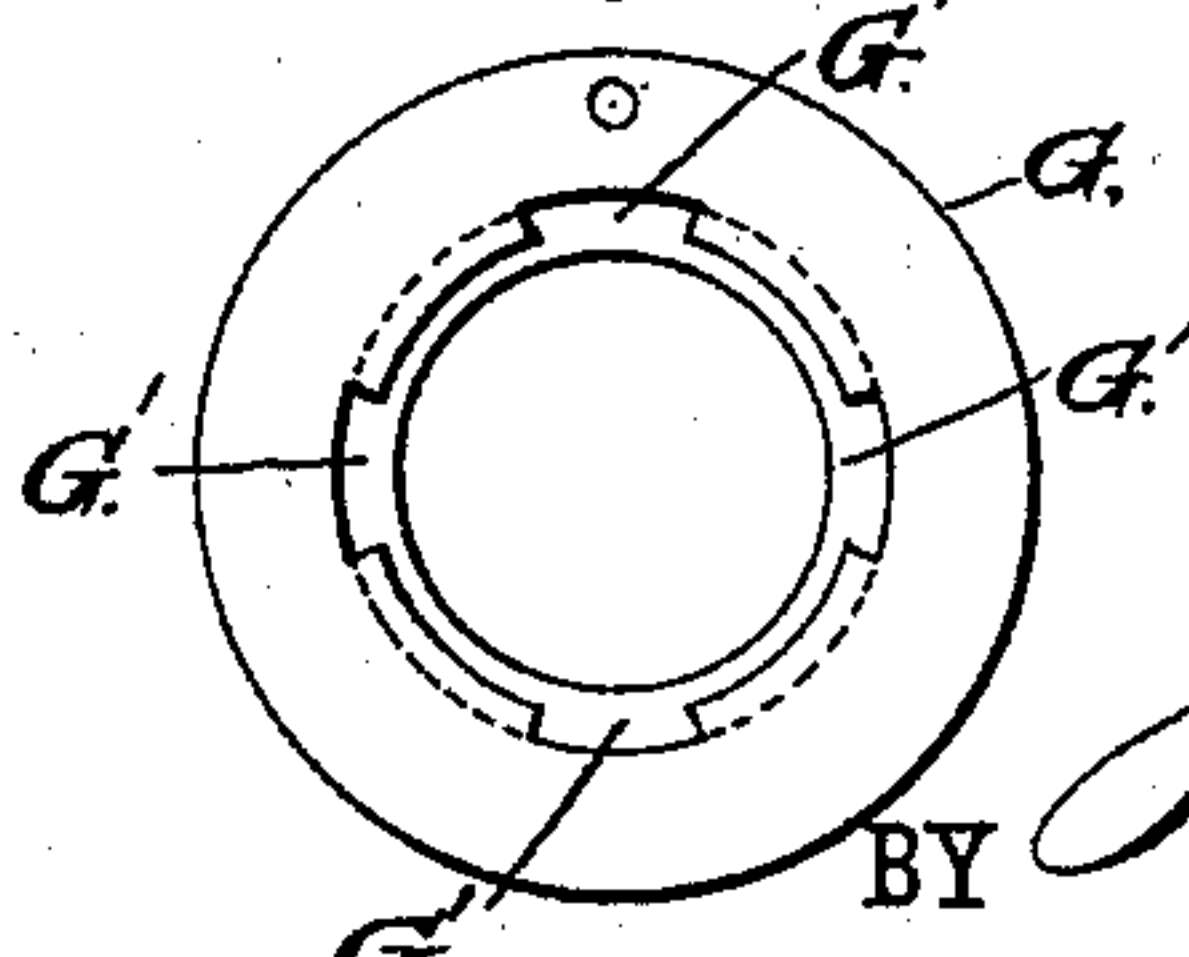


Fig. 7.



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JOSEPH BLAIS, OF ST. CHARLES, QUEBEC, CANADA.

CARRIAGE-AXLE.

SPECIFICATION forming part of Letters Patent No. 412,453, dated October 8, 1889.

Application filed March 15, 1887. Serial No. 231,011. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH BLAIS, of St. Charles, in the county of Bellachasa, in the Province of Quebec, and in the Dominion of Canada, have invented a new and Improved Carriage-Axle, of which the following is a full, clear, and exact description.

The object of my invention is to provide a new and improved carriage-axle which permits of lubricating the axle-spindle without removing the carriage-wheel.

The invention consists in the construction and arrangement of parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar letters of reference indicate corresponding parts of all the figures.

Figure 1 is a side elevation of my improvement. Fig. 2 is a longitudinal central section of the same. Fig. 3 is an end view of the inner end of the axle-bearing. Fig. 4 is a face view of a collar for holding the bearing on the axle. Fig. 5 is an end view of the outer end of the axle-bearing. Fig. 6 is a face view of the collar for holding the bearing on the axle, and Fig. 7 is a face view of a collar held on the outer end of the bearing.

The carriage-axle A is provided with a spindle B, having on its inner end a fixed collar C, against which abuts the recessed end of the axle-bearing D, secured in any suitable manner to the hub of the carriage-wheel. Near the outer end of the spindle B is formed an annular groove E, in which project the ends of the set-screws F, screwing in the bearing D. The screws serve auxiliary retaining devices for the bearing D. The outer closed end of the latter is provided with the segmental projections D', (see Fig. 5,) which fit into corresponding grooves formed on the inside of the collar G, (see Fig. 7,) provided with recesses G' for the passage of the projections D'.

The collar G is fastened by set-screws G² to the hub of the wheel, and another set-screw G³ fastens the collar G to the bearing D. Between the outer closed end of the bearing D and the outer end of the spindle B is placed a coiled spring H, and in the middle of the

closed end of the bearing D is a lubricating-hole. Behind the collar C is formed on the axle A an annular offset I, on which fits loosely the collar J, abutting against the collar C, and provided with segmental projections J', adapted to engage a corresponding groove formed on the inside of the annular flange D², extending from the inner end of the bearing D. This flange D² is provided with slots D³ for the passage of the segmental projections J'. (See Figs. 3 and 6.)

On the outside, near the inner end of the flange D², are formed the segmental projections D⁴, (see Fig. 3,) which fit into a corresponding groove formed on the inside of the collar K, (see Fig. 4,) fitting over the offset I on the axle A, and provided with slots K' for the passage of the said segmental projections D⁴. The collar K abuts against the inner face of the collar J, and is secured thereto by set-screws or other means.

In the offset I and the collar C of the axle A is formed a longitudinal aperture L, which opens at its outer end into the groove L', formed on the spindle B and extending the entire length thereof. The inner end of the aperture L connects with the lubricating-reservoir N, held on the axle-beam O, secured in the usual manner to the axle A. The upper end of the reservoir N is closed by a spring-plate P, pivoted on the axle-beam O. A guard Q, secured to the axle A, covers the top and sides of the outer end of the beam O and the collar K.

It will be seen that the lubricant placed in the reservoir N, which is located beyond the inside of the carriage-wheel hub, passes, by means of the aperture L and the groove L', to the spindle B, between the latter and the bearing D. The latter, with its carriage-wheel, is securely held on the axle by the collar J, held on the inside of the collar C, and also by the collar K, secured to the said collar J. The spring H at the end of the spindle B takes up all lateral motion.

The collar K prevents dust and other impurities from getting onto the spindle B.

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

1. The combination, with a carriage-axle provided with an annular offset I and a col-

lar C on the inner end of the axle B, of a bearing D, fitting on the said axle-spindle and provided with an annular flange at its inner end having grooves and slots on the inside 5 and segmental offsets on the outside, and a collar fitting on the annular offset of the axle and having segmental projections engaging the said groove of the flange, and a collar also fitting on the annular offset I of 10 the axle and having grooves into which fit the external segmental projections on the flange of the bearing D, substantially as shown and described.

2. The combination, with the axle A, the 15 spindle B, formed thereon and grooved on its upper side, the collar C on the inner end of the spindle and the offset I in rear of the collar, an aperture L, extending through the offset and collar, the bolster or beam O on top 20 of the axle and having a vertical reservoir N leading into the aperture L, and the cover P therefor, of the bearing D, fitting on the spindle and having a securing-collar at its inner end in rear of the collar C, and the guard Q, 25 secured to the axle and covering the oil-reservoir and joint between the said securing-collar, substantially as set forth.

3. The combination, with the spindle B, having an annular groove near its outer end and a collar C near its inner end, of the bearing D, 30 having inner and outer securing-collars J K at its rear end, the said collars and bearing having interlocking recesses and projections, and the projections D' on the outer end of the bearing of the cap or collar G, having re- 35 cesses G' for the passage of the projections D and the securing-screws.

4. The combination, with the spindle, of the bearing D, having a cap G on its outer end, and the spring H between the end of the 40 spindle and the cap, substantially as set forth.

5. The combination, with the spindle B, having the collar C at its inner end and the annular groove E near its outer end, of the bearing D, having securing-collars at its rear end, 45 screws F, passing through it into the groove E, and the collar or cap G on the outer end of the bearing, substantially as set forth.

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