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 SIDE FRAME FOR CAR TRUCKS.  
 APPLICATION FILED MAY 23, 1908.

994,053.

Patented May 30, 1911.

2 SHEETS—SHEET 1.

Fig. 1.

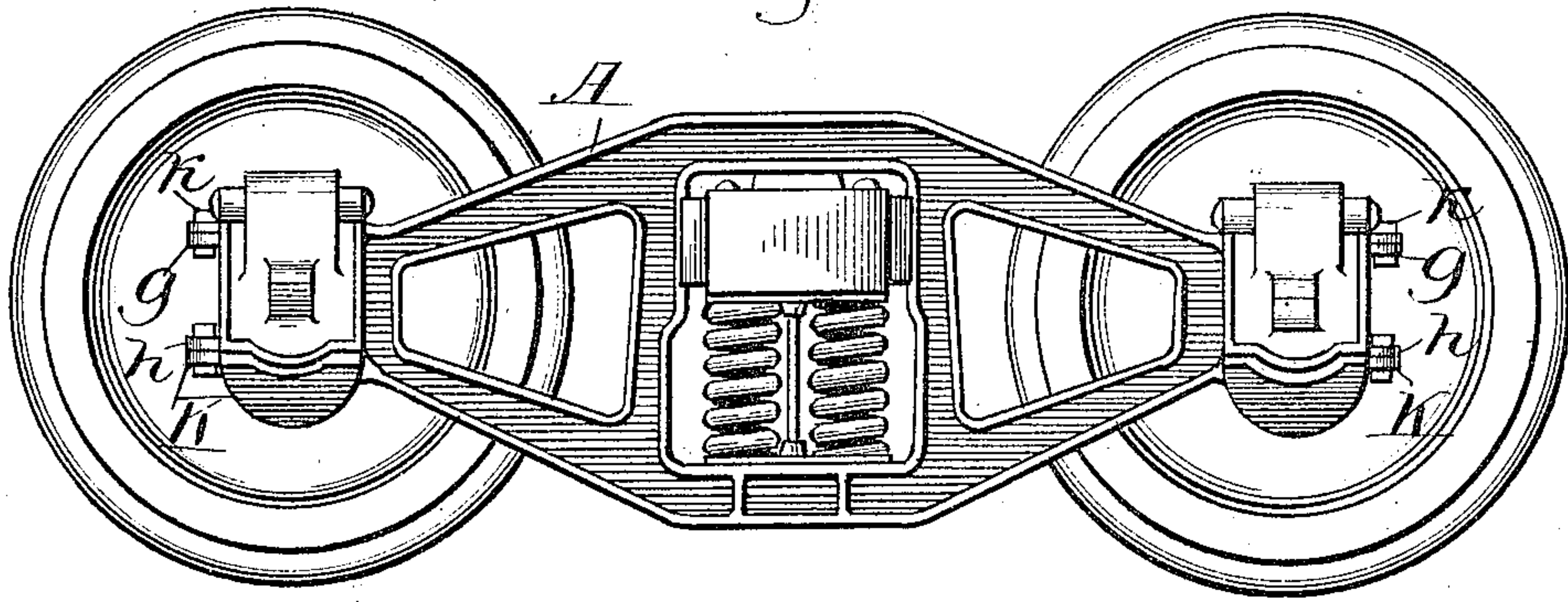


Fig. 2.

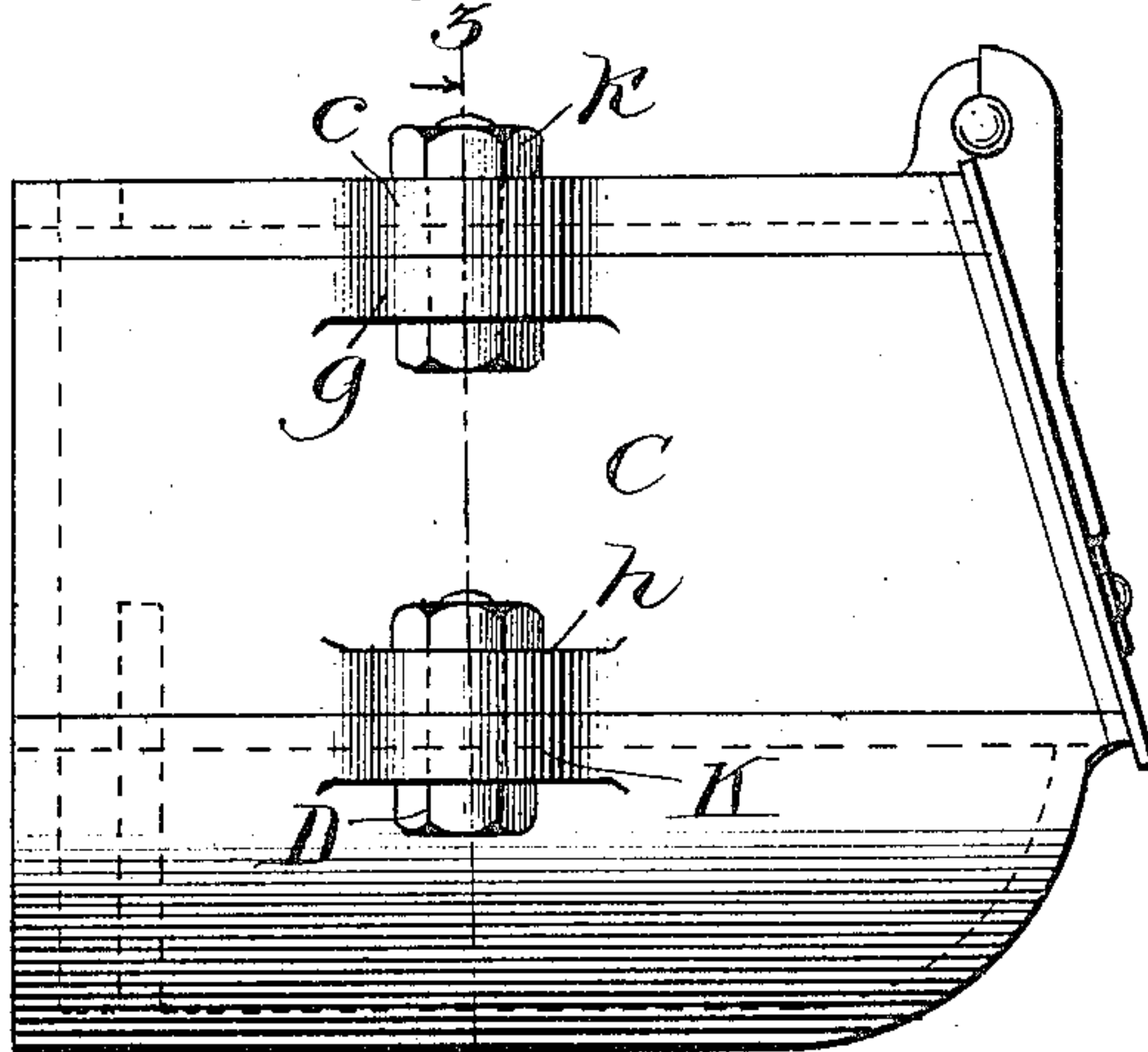
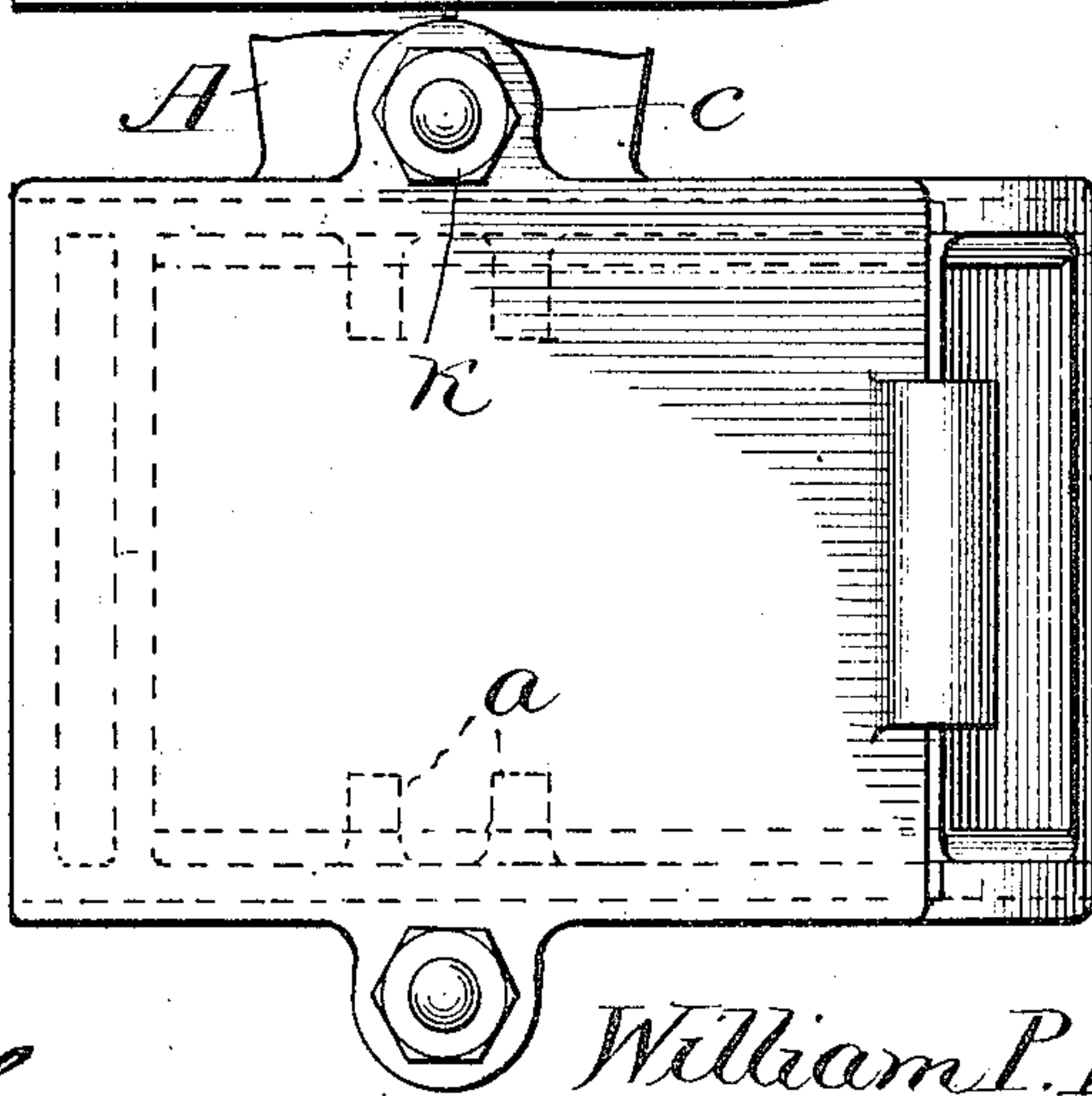


Fig. 3.



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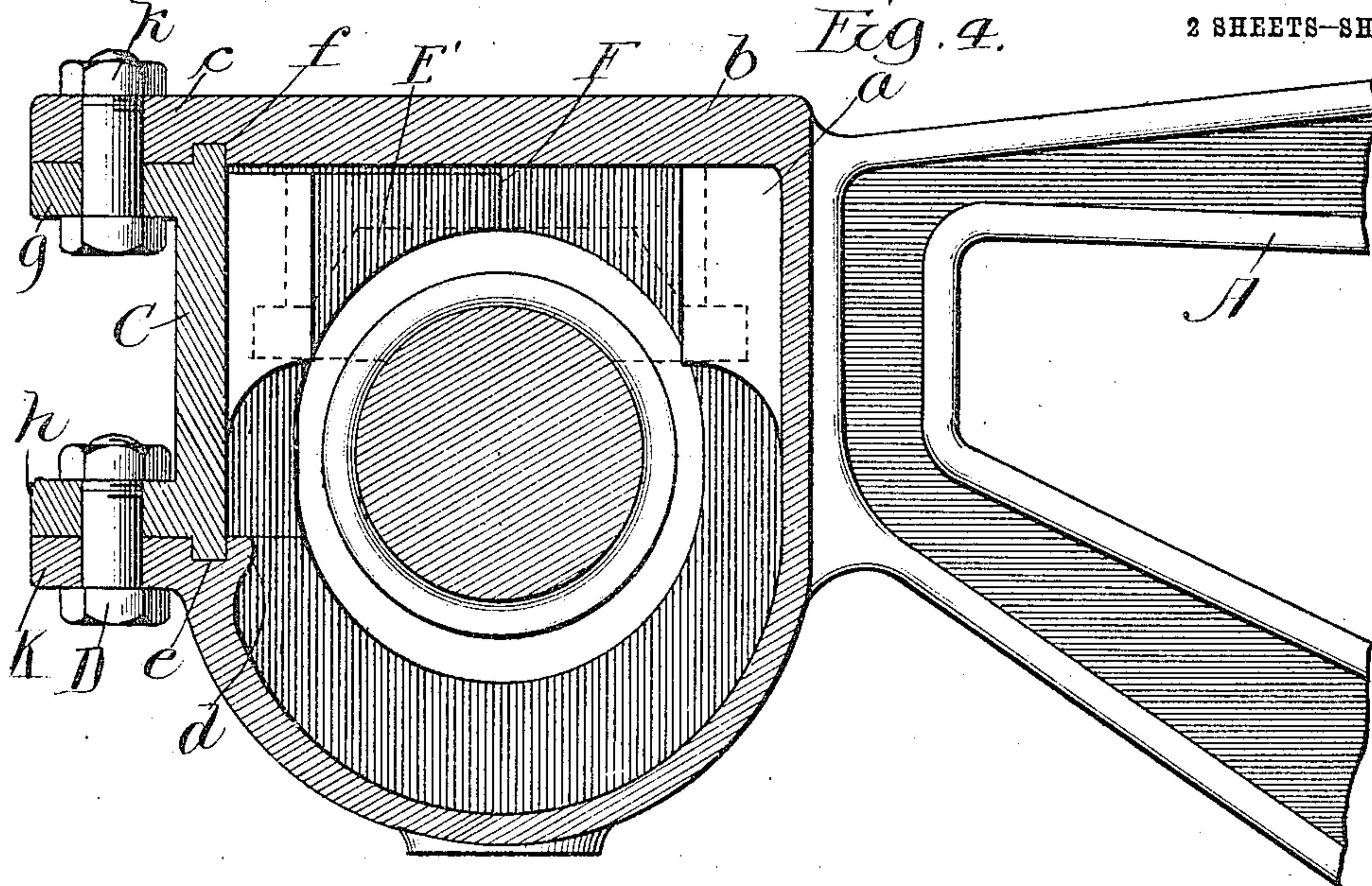
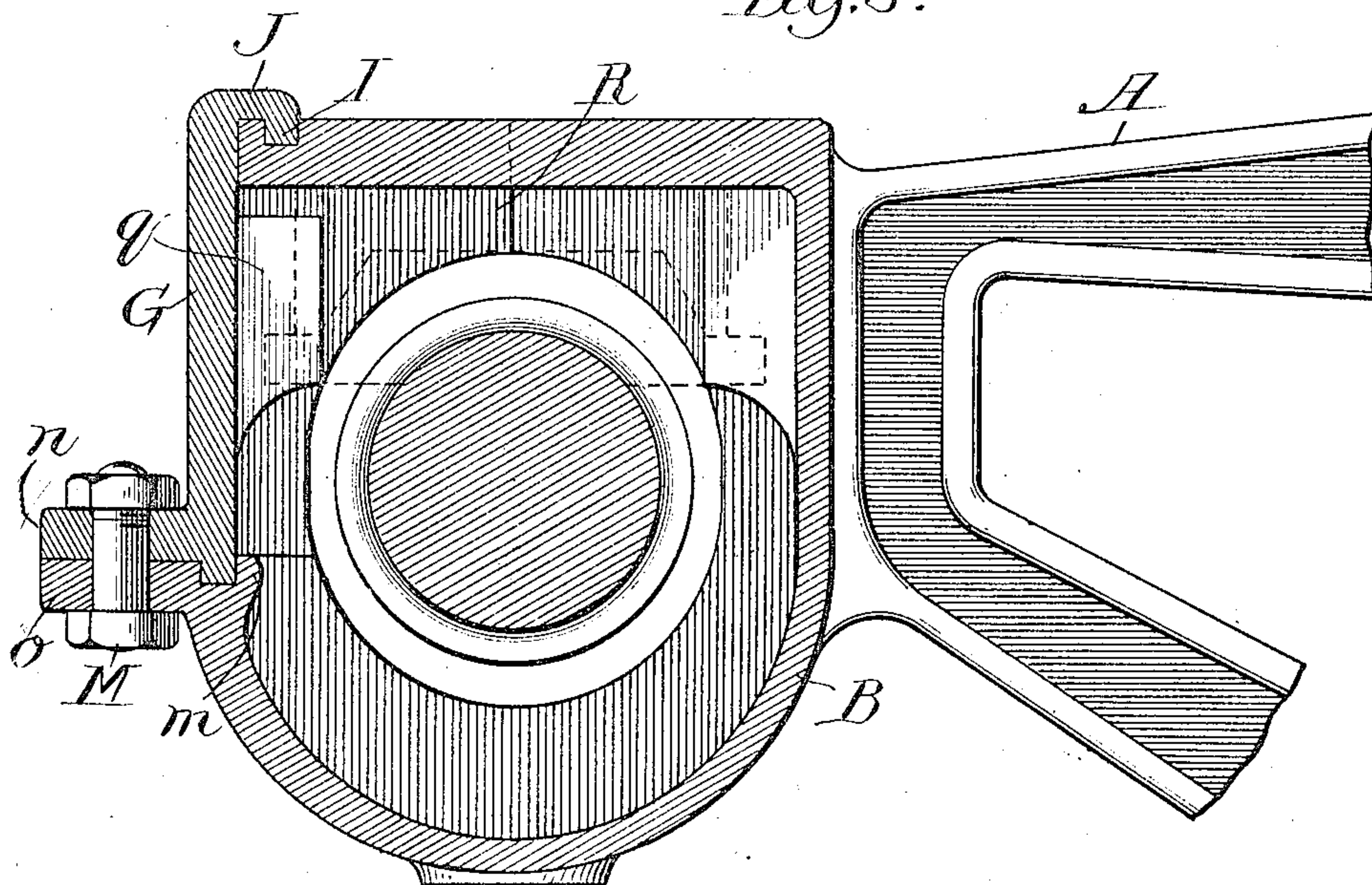


Fig. 5.



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# UNITED STATES PATENT OFFICE.

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OF SAID WILLIAM P. BETTENDORF, DECEASED.

## SIDE FRAME FOR CAR-TRUCKS.

994,053.

Specification of Letters Patent.

Patented May 30, 1911.

Application filed May 23, 1903. Serial No. 434,668.

*To all whom it may concern:*

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Side Frames for Car-Trucks, of which the following is a clear, full, and exact description.

My invention relates to cast metal side-frames for car-trucks, and particularly to the journal-boxes thereof, and its object is to permit access to the interior of said journal-boxes from a point alongside of the journals of the car-axle, either to permit the removal of the journal-boxes (or endwise of the side-frames) easily and quickly during the operation of "knocking down" or taking the truck to pieces, or replacing when assembling the parts thereof. This I accomplish by the means hereinafter described and as particularly pointed out in the claims.

In the drawings:—Figure 1 is a side view of the side-frame of a car-truck showing my improved journal-boxes. Fig. 2 is a side view of said journal box drawn to a larger scale. Fig. 3 is a plan view thereof. Fig. 4 is a transverse vertical section taken on dotted line 3—3, Fig. 2. Fig. 5 is a similar view of a modified form of my invention.

Referring to Fig. 3 of the drawings it will be noticed that my improved journal-boxes are cast in one piece with the side-frame A, in substantially the same manner as the journal-box of the side-frame for which Letters Patent of the United States were granted to me October 6, 1903, No. 740,617. While I prefer to so cast the journal-boxes and side-frame in one piece, it is not absolutely necessary. The shape of these journal-boxes correspond with that of the standard journal-box now in extensive use, and comprises a journal-box having its ends closed except for the opening in its front end closed by the conventional lid, and the axle opening in its rear end. Its side-wall next the end of the side-frame A is made integral or cast in one piece with the same, and extends to and merges into the top or roof for said journal-box. This roof has the longitudinal side edge opposite the side-frame terminating in the same vertical plane as the adjacent side superimposed wall of the box, and about midway its length is provided with a lug c. Opposite the side-frame the bottom or trough of the box terminates a

distance below the top B thereof, slightly exceeding the diameter of the journal of the car axle, and in the upper surface of this thickened edge d a longitudinal groove e is made for the reception of the lower edge of a plate C, which latter is rectangular in shape and has its upper edge seated in a groove f, cut in the under surface of the top of the box: About midway its length this plate C is provided with outwardly projecting lugs g, h, the former of which projects from near its upper edge and the latter from its lower edge. When the parts of the journal-box are properly assembled, lug g comes immediately under lug e of the top B, and is secured thereto by means of a bolt nut k, and lug h lies flat upon and comes immediately over a lug K projecting from the center of length of the edge d of the bottom of the journal-box, and is secured thereto by a bolt and nut D, substantially as shown in the drawings. This plate, C, is provided mediate its ends with vertical guide-lugs E projecting from its inner surface, for the retention of the usual shaped journal, bearings (not shown), and at its rear end is provided with a laterally projecting webbing, F, that corresponds to and forms a part of the rear wall of the journal-box, covering an area above the plane of the edge d of the trough or bottom thereof, and projecting above the axle opening as far as the vertical plane of the center of the same. When it is desired to gain access to the interior of the box, the bolts D and k are removed; the lid of the box raised to or above the plane of the top thereof, and the plate C is removed by sliding it forward out of grooves e and f, after the journal-bearings have been removed. Plate C can be just as conveniently returned to the position from which it was withdrawn by sliding it back into the grooves e and f, and clamping the lugs C and K and h and k, together, by the bolts and nuts, substantially as shown.

In Fig. 5 of the drawings I show a modified construction of my invention, in which the journal-box is constructed substantially the same as in Fig. 3, with the exception that the side of the top of the box, farthest from the side-frame, terminates in the vertical plane of the inner surface of the adjacent side of the same, and with the exception that the upper edge J of the side-wall G extends up past the adjacent longitu-



dinal edge of the top to the upper surface thereof, whereupon it is flanged inward and downward and has its downturned extremity, I, serve as a tenon that enters a longitudinal groove in the top, substantially as shown. The lower edge of the side-wall G enters a longitudinal groove in the edge *m* of the bottom or trough of the box, and is provided, mediate its ends, with an outwardly projecting lug *n*, which, when the parts of the box are properly assembled, laps over the corresponding lug *o* projecting outward from the edge *m*, and are secured together by a suitable bolt M, substantially as shown. In this modified construction, upon removing the bolt M, the side-wall can be lifted vertically from its seat, and access be had to the interior of the same. This side-wall G, has guide-lugs *q* for the journal-bearings, and also has a webbing R projecting laterally from its rear edge in a direction opposite lug *n*, whose shape and contour conform to the area of the rear of the box, above the plane of the edge *m* on the adjacent side of the vertical plane intersecting the center of the axle opening, the same as side-wall G shown in Fig. 3. The only differences in the construction of the guide-lugs *q* and the webbing R, from the equivalent features of plate C, is that the upper edges of the guide-lugs *q* terminate a distance below the under surface of the top of the box, corresponding to that which it would be necessary to lift side-wall G, in order to unseat its edges from the grooves in which they are firmly seated, and the upper edge of the webbing R extends up through a suitable transverse groove in the top of the box, near the rear end thereof, in order to permit of the side-wall being removed by first raising it slightly and then moving it a little away from the journal-box.

It will, of course, be understood that if desired, plate C, or wall G, may be made greater in height so as to form a greater portion of the side of the journal-box opposite that attached to the side-frame of the truck, than as shown, and I wish, therefore, to be considered as contemplating such changes in their dimensions as coming within the scope of my invention. In fact, I desire to be understood as considering any journal-box divided longitudinally into two parts, one of which forms the greater or less part of the outer side of the box, and is removably secured to the other part, which latter is cast or otherwise made integral with the end of the side-frame, as coming within the scope of my invention.

What I claim as new is:—

1. A railway truck comprising side-frames and journal-boxes, which latter are partly cast in one piece with said side-frames and have the side-wall thereof opposite said side-

frame made separate and removably secured thereto.

2. A railway truck comprising side-frames and journal-boxes which latter are partly cast in one piece with said side-frame, and have the side-wall thereof opposite said side-frame made separate and its upper and lower edge removably retained in grooves in the part that is integral with the side-frame.

3. A railway truck comprising side-frames and journal-boxes, the portions of which latter adjacent to the ends of the side-frame and the tops thereof being cast in one piece with said side-frames, and the side portion of said journal-boxes opposite the side-frame being cast separate and removably secured to the remainder.

4. A railway truck comprising side-frames and journal-boxes, the top, bottom, and one side of said journal-boxes being cast in one piece with said side-frames and the side wall opposite said side-frames being made separate and removably secured to the adjacent edges of the top and bottom.

5. A railway truck comprising side-frames and journal-boxes, the top, bottom and one side of said journal-boxes being cast in one piece with said side-frames, and the side wall opposite said side-frames being made separate and having its upper and lower edges removably seated in longitudinal grooves in the adjacent edges of said top and bottom.

6. A railway truck comprising side-frames and journal boxes the top, bottom and one side of said journal-boxes being cast in one piece with said side-frame and the longitudinal edge of the said bottom opposite said side-frames having an integral lug projecting laterally outward therefrom, and the side-wall of said journal-boxes opposite the side-frames having a lug projecting from its lower edge and means for securing the same to the lug projecting from the adjacent bottom edge.

7. A railway truck comprising side-frames and journal boxes the top, bottom, and one side of said journal-boxes being cast in one piece with said side-frame and the longitudinal edges of the said top and bottom opposite said side-frames having integral lugs projecting laterally outward therefrom, and the side-wall of the said journal-boxes opposite the side-frame having lugs projecting from its upper and lower edges, and means for securing the same to the lugs projecting from the adjacent top and bottom edges.

8. A railway truck comprising side-frames and journal-boxes the top, bottom and one side-wall of said journal boxes being cast in one piece with said side-frame and the longitudinal edges of said top and bottom opposite the side-frame being provided with



grooves and having lugs projecting laterally outward therefrom, and the side-wall of said boxes opposite the ends of the side-frames being made separate from the remainder thereof and have its upper and lower edges seated in said grooves, and has lugs projecting laterally outward from its said edges, and means for connecting the lugs of said removable wall to the lugs projecting from the said edges of the top and bottom of the remaining portion of the wall.

9. A railway truck comprising side-frames and journal-boxes, which latter are partly cast in one piece with said side-frames and

have removable side-walls opposite said side-frames that are made separate and the rear edges thereof provided with webbing projecting transversely inward toward the center of the box and forming a part of the rear-wall of the same.

In testimony whereof I have hereunto set my hand and seal this 3d day of April, A. D., 1908

WILLIAM P. BETTENDORF.

Witnesses:

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E. R. LUNDY.