

No. 715,601.

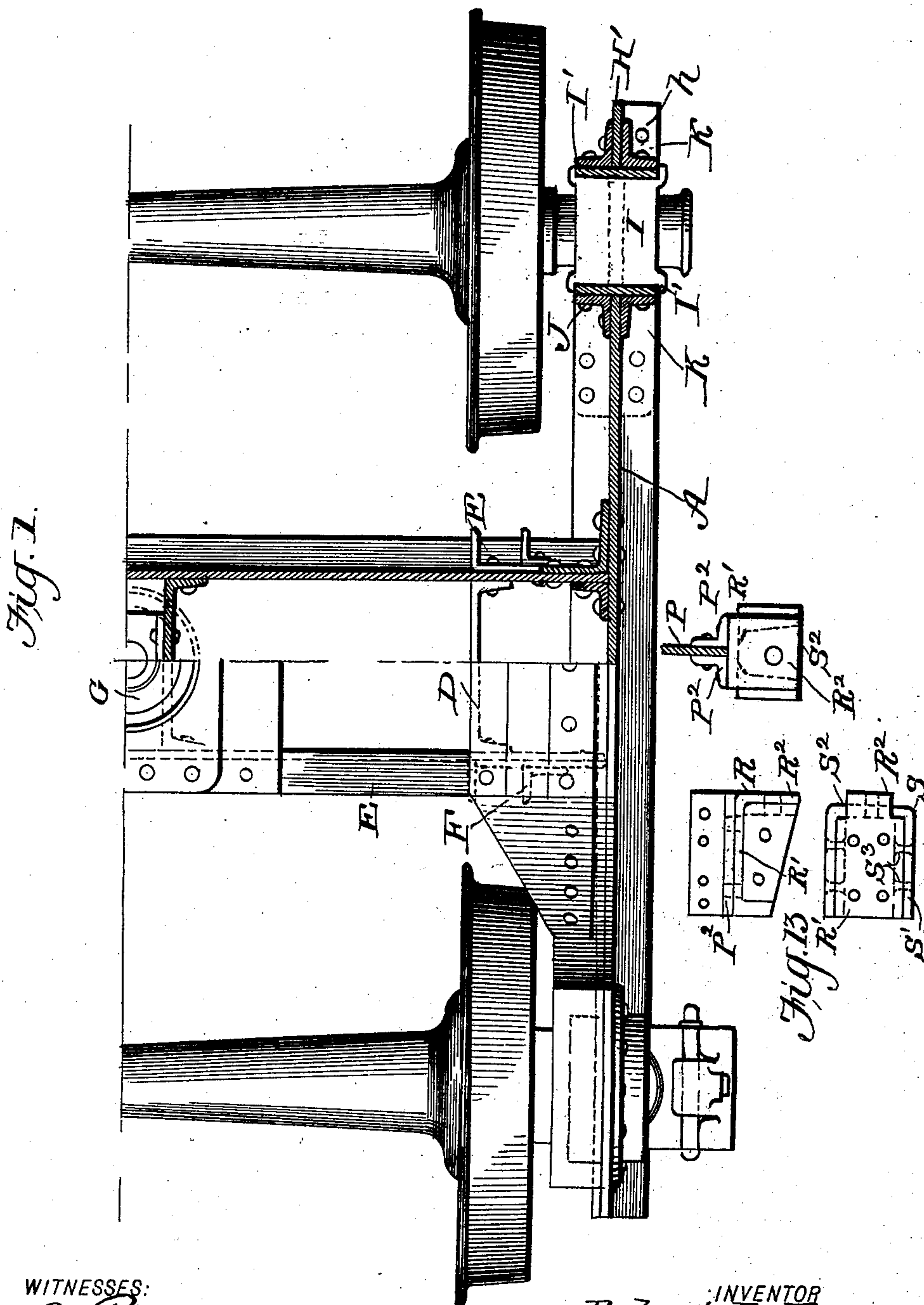
Patented Dec. 9, 1902.

R. E. POWERS.
CAR TRUCK.

(Application filed July 5, 1902.)

(No Model.)

3 Sheets—Sheet 1.



WITNESSES:

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Perry B. Turpin

INVENTOR

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Robert E. Powers

BY *Munn & Co.*

ATTORNEYS.

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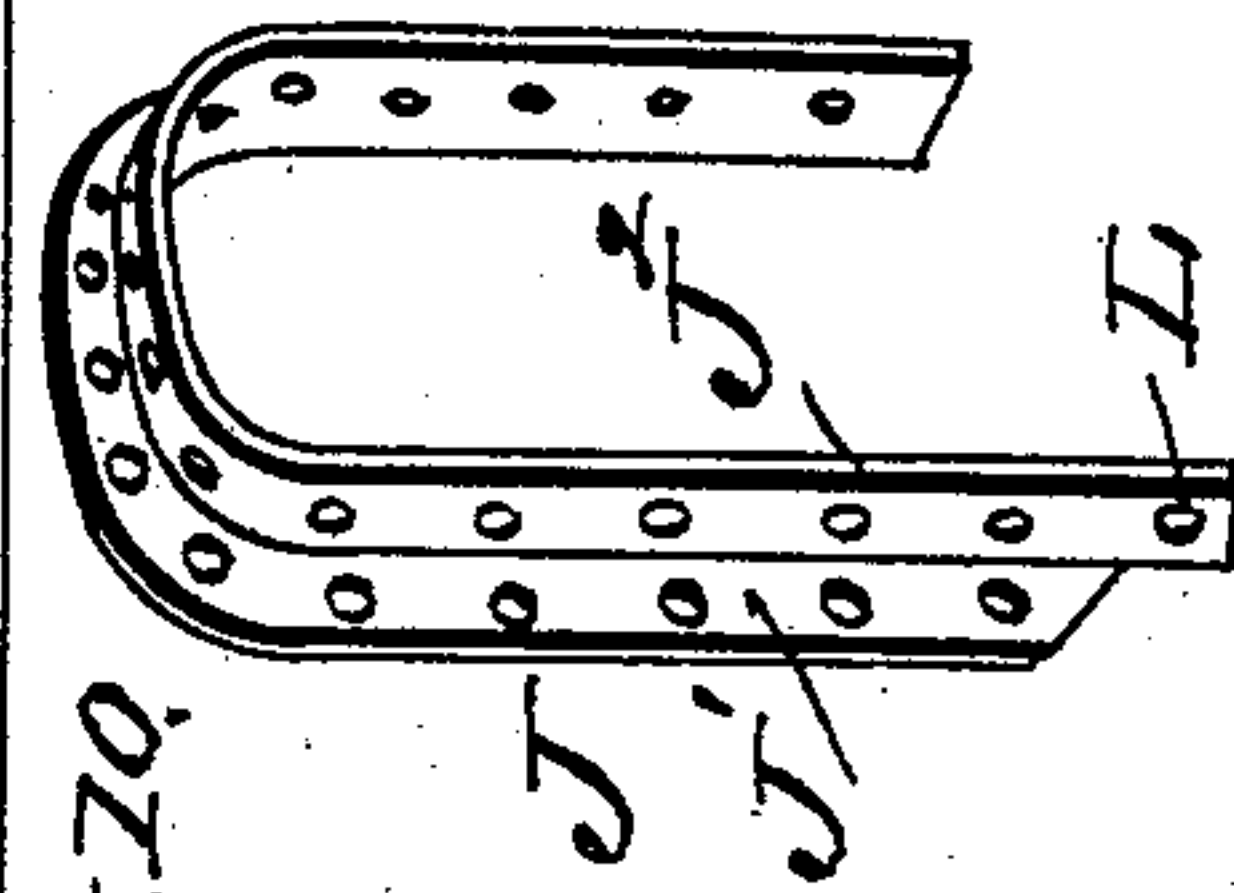
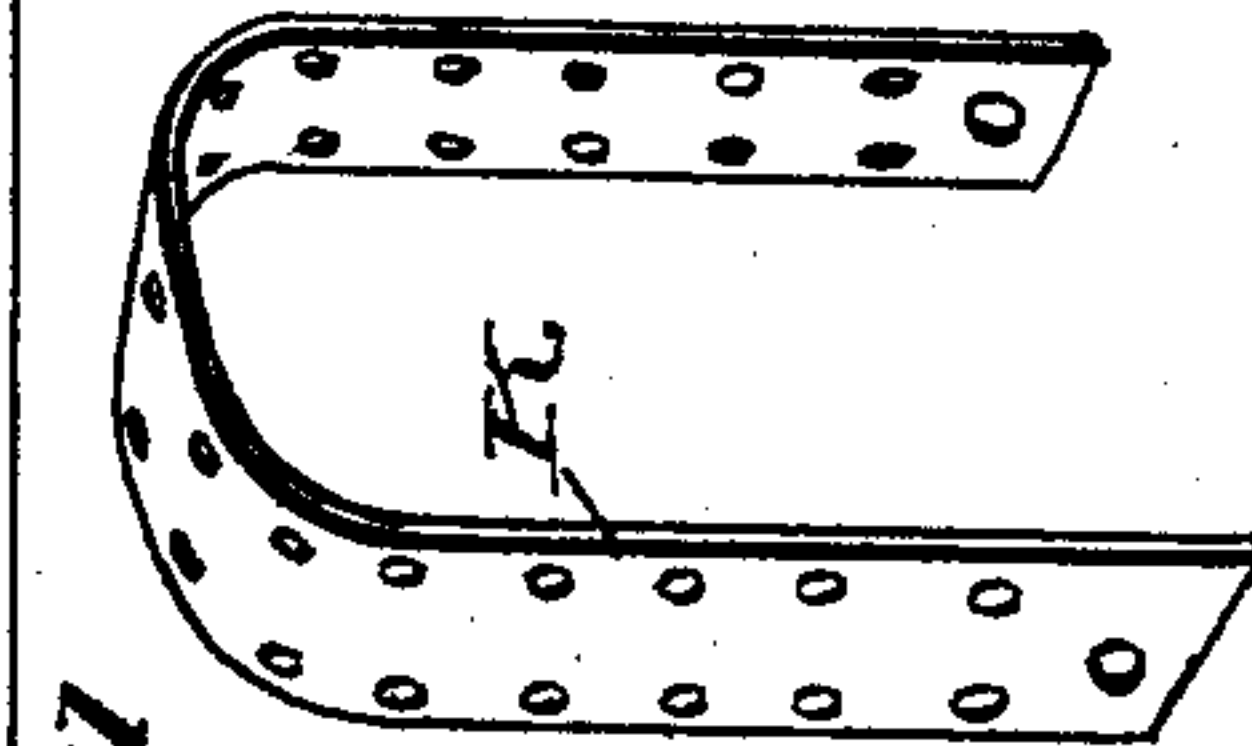
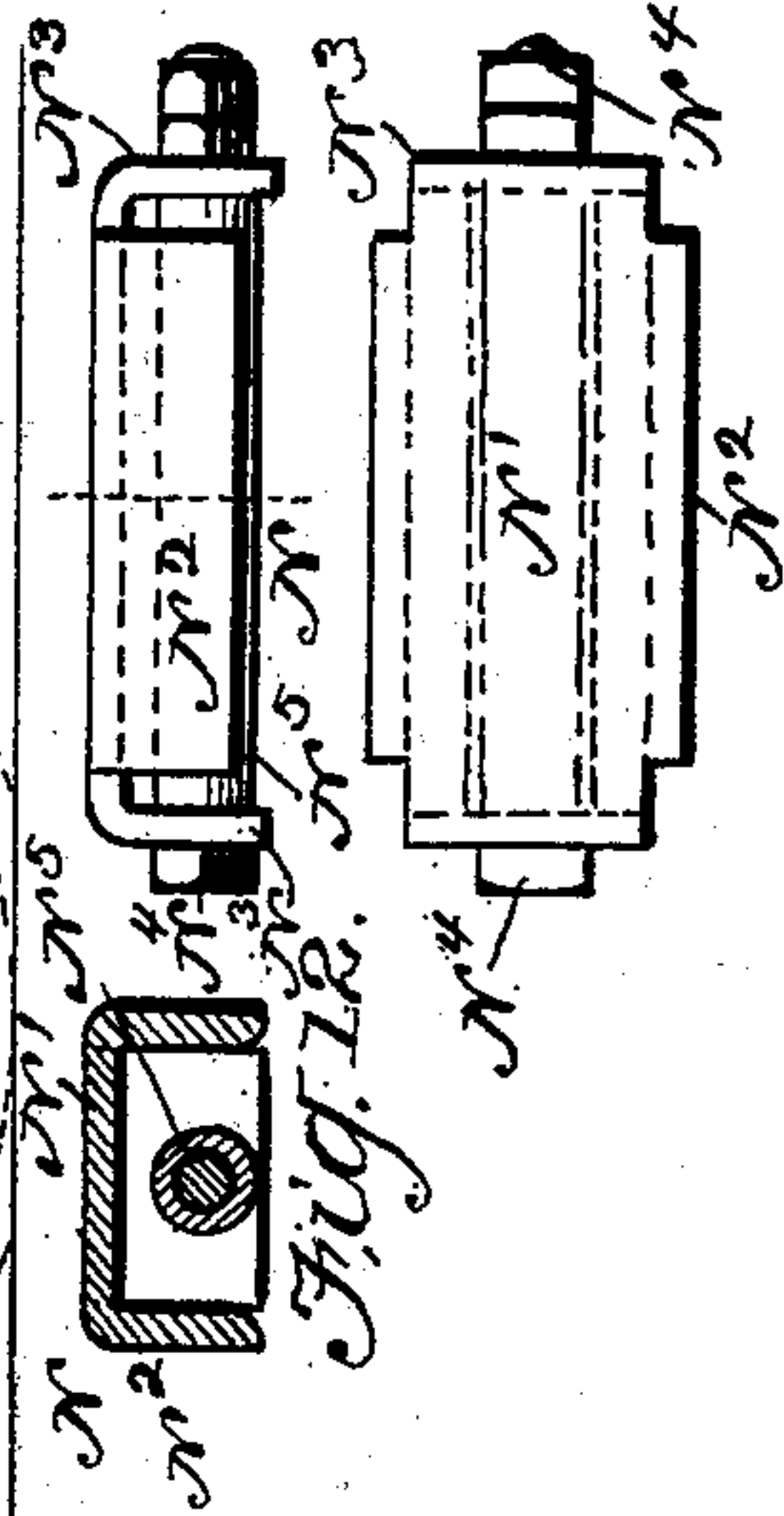
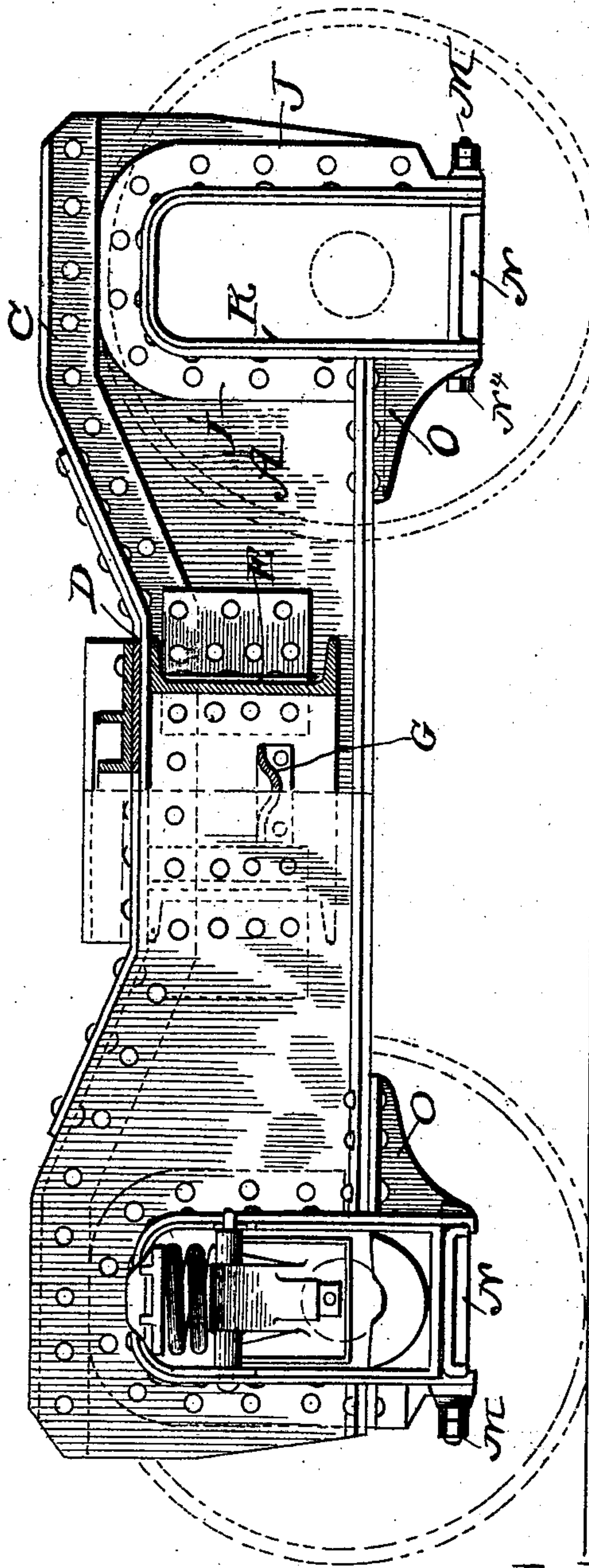
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Fig. 2.



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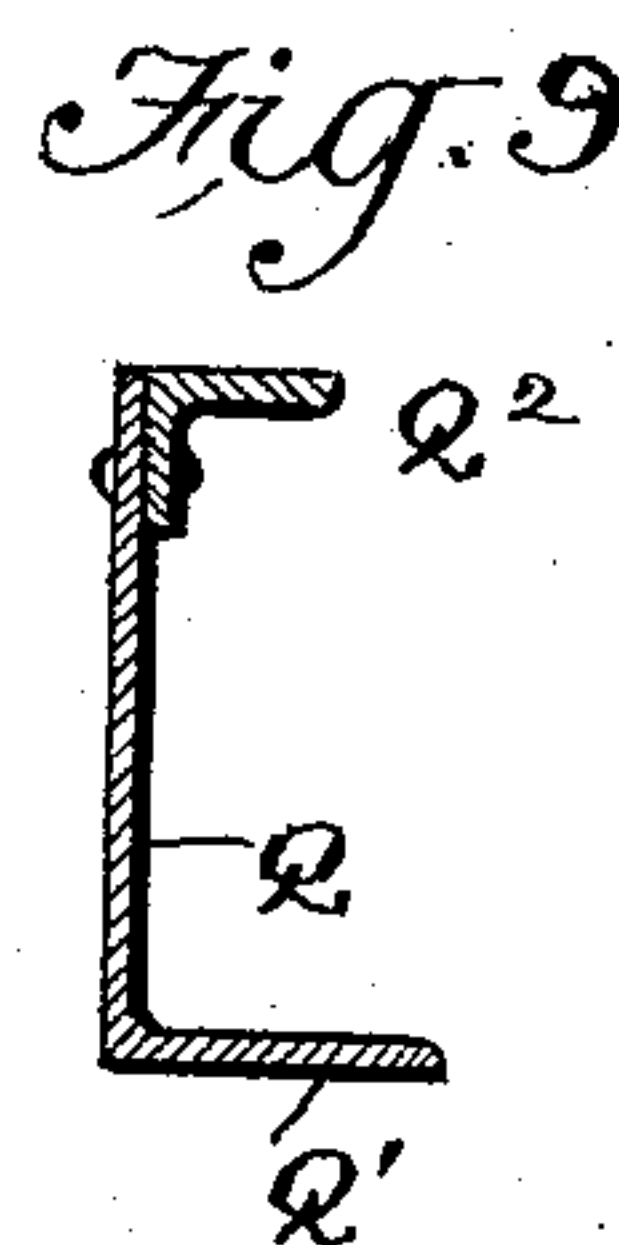
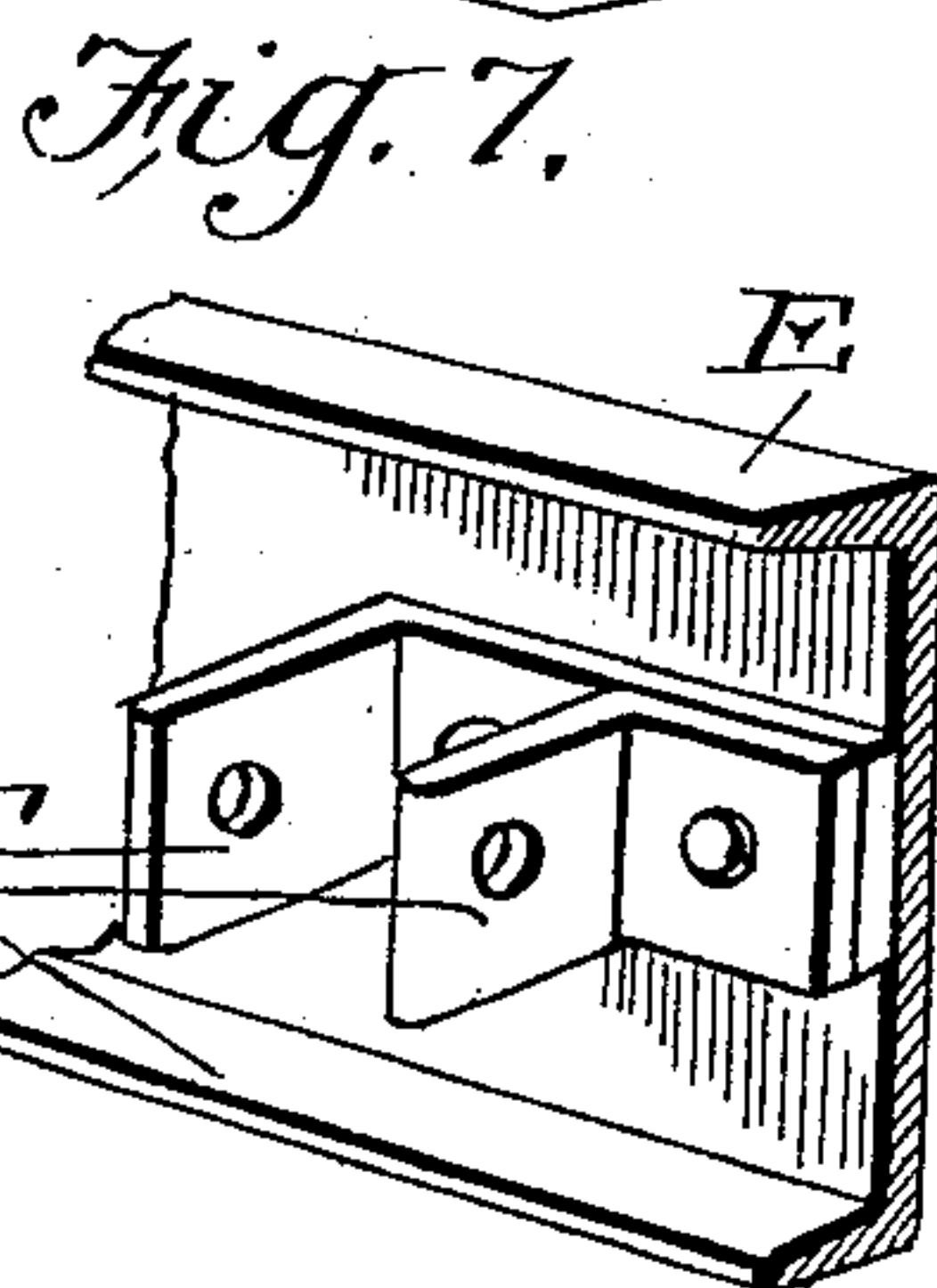
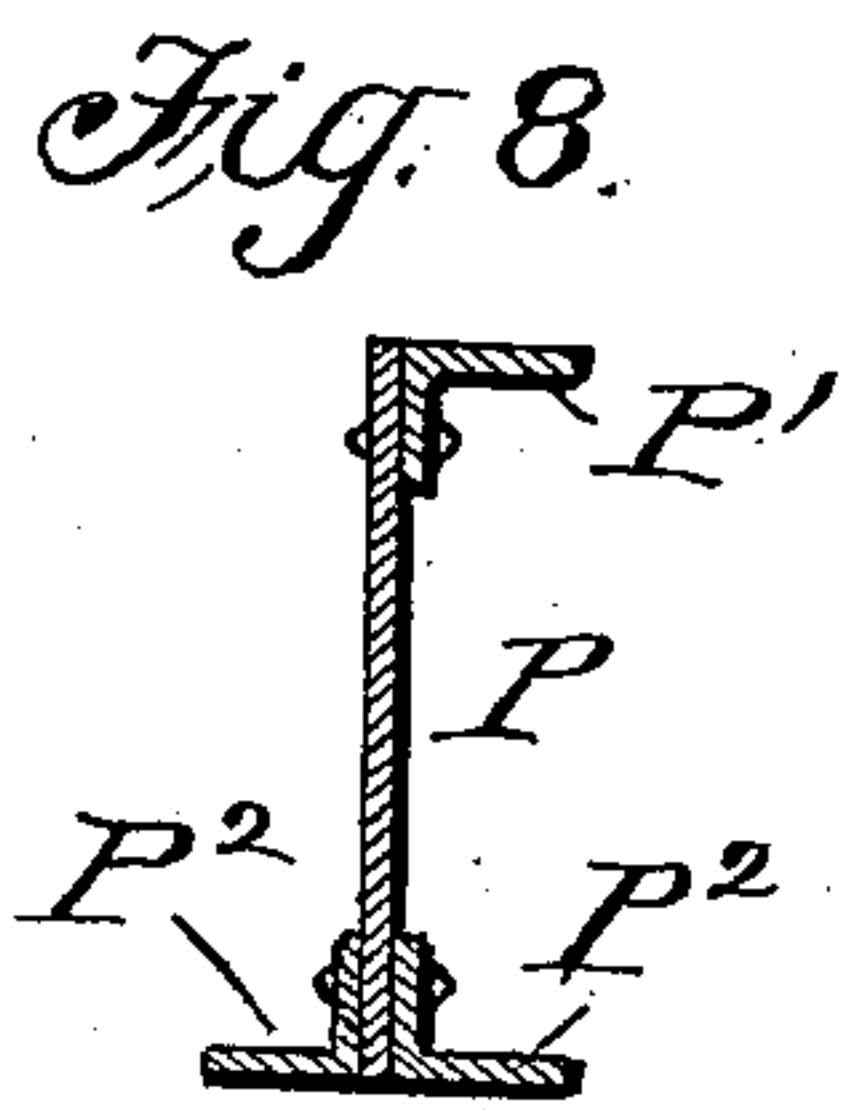
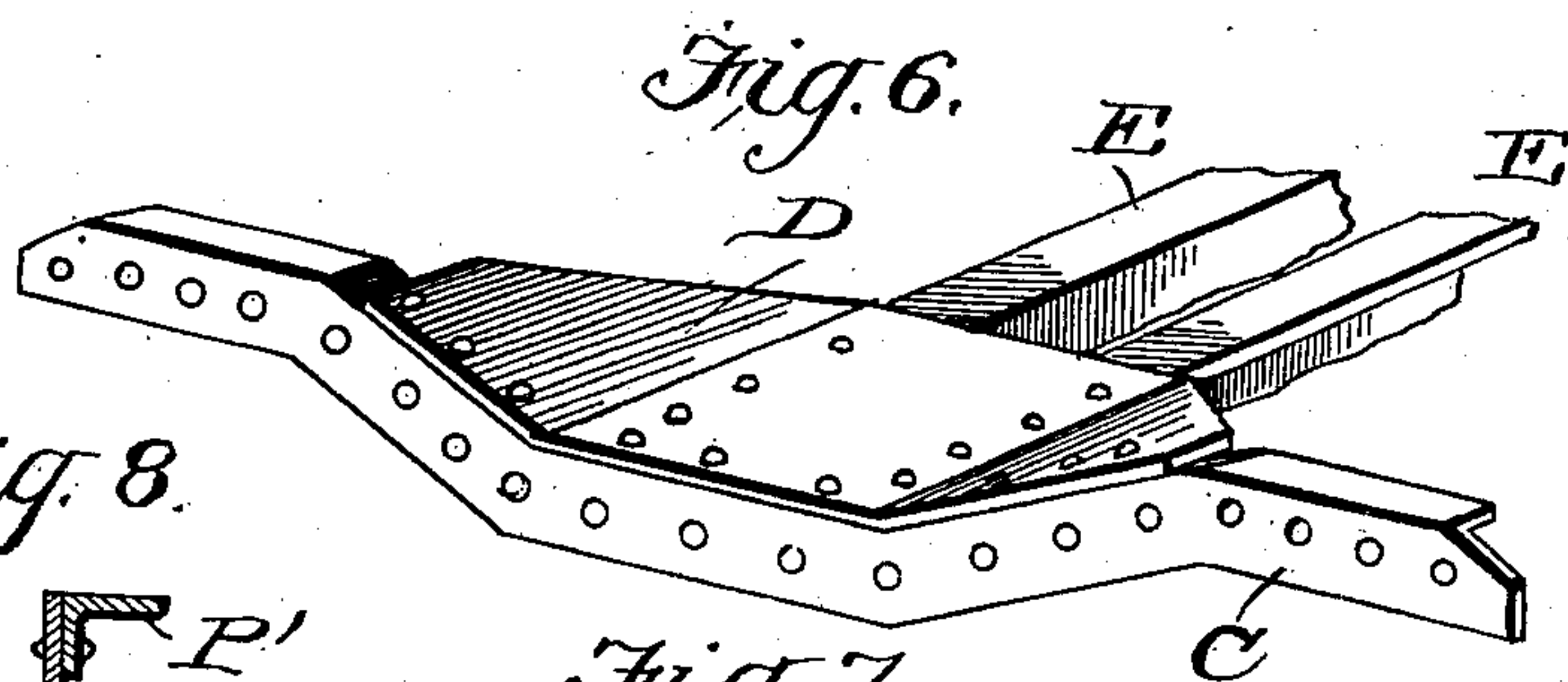
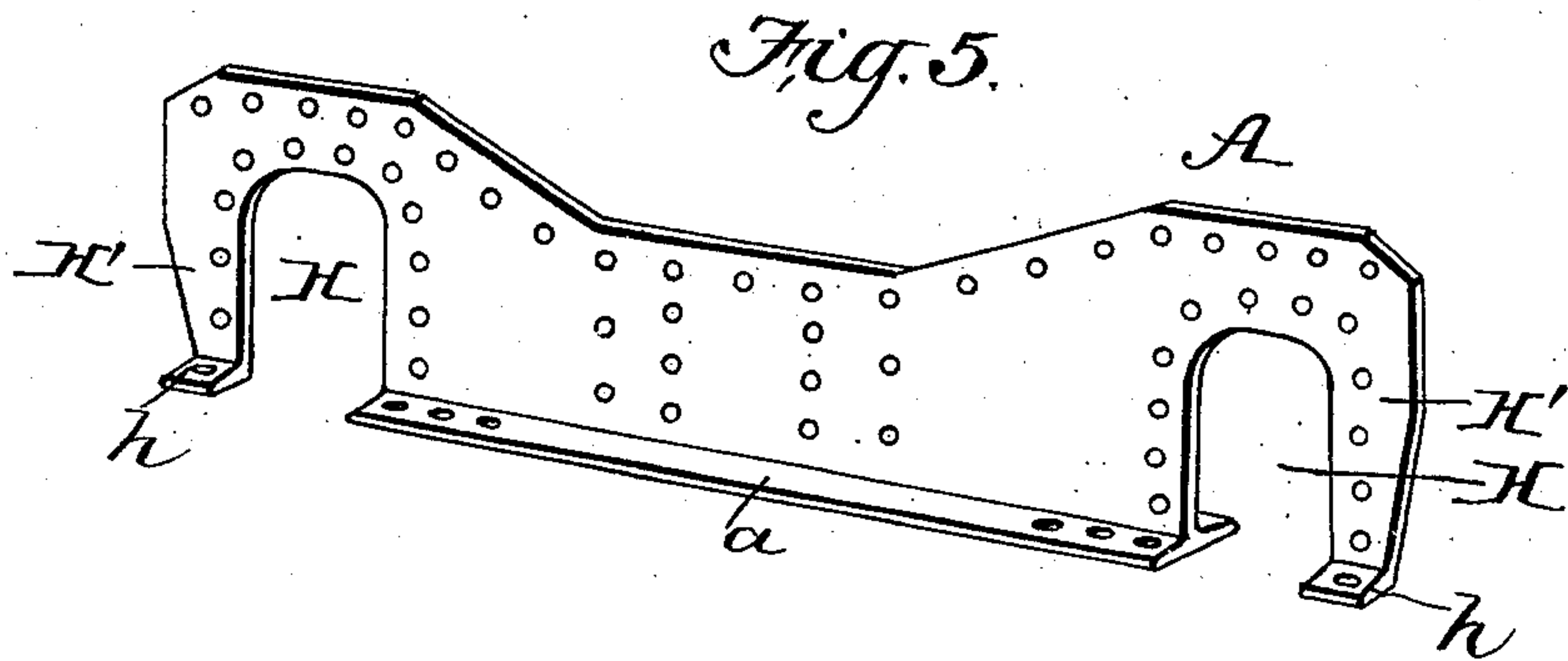
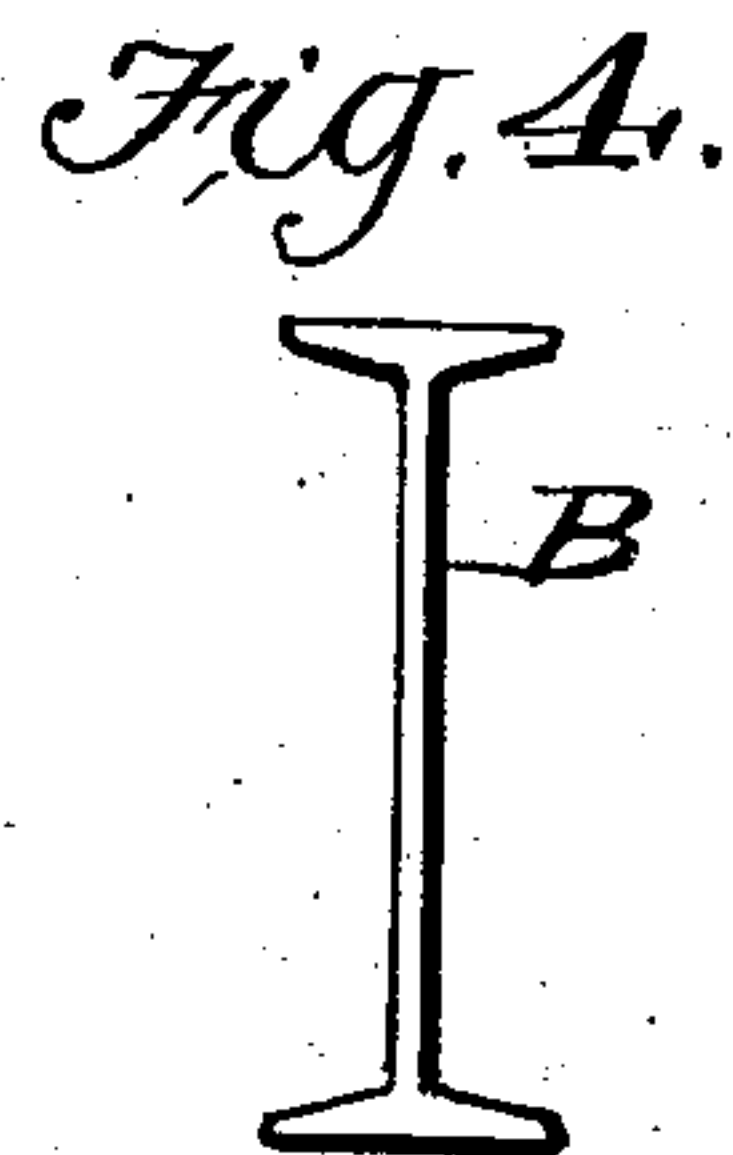
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UNITED STATES PATENT OFFICE.

ROBERT EDWIN POWERS, OF JOHNSTOWN, PENNSYLVANIA.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 715,601, dated December 9, 1902.

Application filed July 5, 1902. Serial No. 114,501. (No model.)

To all whom it may concern:

Be it known that I, ROBERT EDWIN POWERS, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have made certain new and useful Improvements in Car-Trucks, of which the following is a specification.

My invention is an improvement in truck-frames for railroad-cars; and it consists of certain novel constructions and combinations of parts, as will be hereinafter described and claimed.

In the drawings, Figure 1 is a sectional top plan view, partly broken away, of a truck embodying my invention. Fig. 2 is an elevation, partly in section, of my improved truck-frame. Fig. 3 is a side view, and Fig. 4 an end view, of the beam from which the side plates of the truck are made, the outline of the side-plate blank being indicated in dotted lines in Fig. 3. Fig. 5 is a detail perspective view showing the side-plate blank ready for the bracing devices. Fig. 6 is a detail perspective view showing the upper edge binder for the side plate and the cross-beam and gusset-plate applied thereto. Fig. 7 is a detail perspective view showing the brackets riveted to the cross-beam for the purpose of carrying the brake-beam hanger. Figs. 8 and 9 illustrate somewhat different constructions within the broad principles of the invention. Figs. 10 and 11 illustrate the bracing-yoke and a guide-yoke for supporting the car-axle boxes. Fig. 12 illustrates in detail the bracing devices at the lower end of the box-guide, and Fig. 13 shows in detail one of the knee-brackets.

By my invention I provide the side plates of the truck with the central depressions between their ends and reinforce the upper depressed edge of the said plates by means of binder-strips of angle metal, such as shown in Fig. 6.

In carrying out my invention it is preferred to form the blank A for the side plate of the truck-frame from an I-beam B, such as shown in Figs. 3 and 4. This I-beam, it will be noticed, is flanged at both edges, and in cutting it to produce the blank or form shown in

Fig. 5 the beam B is cut on substantially the dotted lines of Fig. 3, which will result in producing the form of blank shown in Fig. 5. In this construction the upper flange of the I-beam has been cut away. To compensate for this loss of strength and to also provide sufficient strength in the upper centrally-depressed edge of the blank A, I provide a binder-strip C, of angle metal, such as shown in Fig. 6, and rivet the same securely to the upper depressed edge of the blank A, as shown in Fig. 2, thus reinforcing the upper edge of the side plate of the truck-frame and affording midway between the ends of such side plates depressed seats for the gusset-plates D, which are riveted to the horizontal flange of the binding-strip C, while the vertical flange of said binding-strip is riveted to the body A of the side plate, as will be understood from Figs. 2 and 5, it being noticed from Figs. 5 and 6 that the binding-strip C coincides with the contour of the upper edge of the body or blank A of the side plate. The cross or channel beams E are secured to the gusset-plates at the opposite sides of the truck-frames, and to these channel-plates are secured the lugs or brackets F for the purpose of carrying the brake-beam hangers. The cross-beams E operate to carry the center-pin support G. (See Fig. 1.)

In producing the blank or body A (shown in Fig. 5) it will be noticed the lower flange of the I-beam is left intact at *a* between the openings H, formed from the lower edge of the body A, near the opposite ends thereof, and flange-sections *h* are left intact at the lower ends of the wings H', forming the outer walls of the said openings H. These openings H are for the car-axle boxes I, (see Fig. 1,) which boxes I are channeled vertically at I' in their opposite edges and slide in the guide-plates presently described. To reinforce the body-plates A, surrounding the openings H, and to also better support the guide-plates for the car-axle boxes, I provide the angle-yokes J, having wings J', riveted to the body-plate or web A along the sides and crown of the opening H, and right-angle wings J², against which is fitted the yoke-shape guide-

plate K, which is U shape in cross-section and is fitted within the opening H upon the brace-yokes J, and is bolted thereto at L by the bolt M, which carries the spacing devices N, which bridge the lower end of the opening H, as shown in Fig. 2. As shown in Fig. 12, the bracing devices N include a plate N', having depending side flanges N² and end flanges N³, the latter being perforated for the bolt N⁴ and spaced apart by the space-tube N⁵, fitted on the said bolt between the end flanges N³. Angle-brackets O may be provided, as shown in Fig. 2, to brace the lower edge of the guide-yoke and angle-brace where the same project below the lower edge of the body-plate A. The angle brackets or knees O may, if desired, be constructed as shown in Fig. 13, in which the base-flanges P² of the web P are bolted to the crown-plate R' of a forging, which is provided with a depending wing R², secured by the bolt N⁴, and a cross-plate S² of a forging S is also secured by said bolt N⁴ and has side wings S' riveted at S³ in connection with the side plates of the forging R, as will be understood from Fig. 13.

While it is preferred to form the body-plates or blanks A by shearing the same from the I-beam, as illustrated in Figs. 3 and 4, it may be desired in some instances to form the side plate from a flat plate or web P, reinforced at its upper and lower edges by the angle-strips P' and P², as shown in Fig. 8, or from an L-shape body Q, having a base-flange Q' and reinforced at its upper edge by the angle binding-strip Q², as shown in Fig. 9, and it will be understood that in these constructions shown in Figs. 8 and 9 the upper edge of the body-plate or web may have a contour similar to that shown in Figs. 2 and 5 and before described.

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

1. A side frame for car-trucks, comprising a body-plate or blank, having its upper edge depressed between its ends and provided near its opposite ends with openings leading from its lower edge, the angle binding-strip conforming to the upper depressed edge of the body or blank, and secured to the latter, the bracing frames or yokes secured to the body or blank surrounding the openings formed from the lower edges thereof, the guide-yokes fitting and held to said brace-yokes and forming guides for the car-axle boxes, devices bridging the lower ends of the said openings, the gusset-plates secured to the depressed portions of the binding-strips for the upper edges of the body-plates, and the cross-beams secured to the gusset-plates, substantially as set forth.

2. A side frame for car-trucks, comprising the body-plate or blank, having its upper edge cut away forming a recess between its ends and provided in its lower edge near its oppo-

site ends with openings for the car-axle boxes, and the reinforcing-strip of angle metal applied to the depressed edge of the body-plate and secured, substantially as set forth.

3. A side frame for car-trucks comprising the body-plate provided at its lower edge with an angle-wing and having its upper edge cut away forming a recess between its ends, and the binding-strip applied to the upper depressed edge of the body-plate and secured, substantially as set forth.

4. The combination in a side plate for car-trucks, of the body-plate or blank, having its upper edge cut away to form a recess between its ends, the binding-strip applied to the upper depressed edge of the body-plate and secured, and the gusset-plate secured to the central depressed portion of the binding-strip, substantially as set forth.

5. A side frame for car-trucks, comprising a body or blank composed of the upright web, the integral flange at the base edge of said web, the openings formed in the lower edge of the web near its ends, said web being cut away to form a recess in its upper edge midway between its ends, and the reinforcing-strip of angle metal conformed to said depressed edge and secured to the blank, substantially as set forth.

6. The combination in a car-truck, with the body-plate or blank provided with openings for the car-axle boxes, of the brace-yokes L shape in cross-section and secured to the body-plate or blank around the edges of said openings, and the guide-yokes for the car-axle boxes fitted within and secured to the brace-yokes, and forming guides for the car-axle boxes, substantially as set forth.

7. A side frame for car-trucks, comprising the body-plate or blank provided at its lower edge with the bracing-flange and having in said edge the openings for the car-axle boxes, and having its upper edge cut away to form a recess midway between its ends, and the binding-strip conforming to the upper depressed edge of the body-plate, and secured to the said plate, substantially as set forth.

8. The combination in a side frame for car-trucks, of the body-plate or blank, having openings therein for the car-axle boxes, and the bracing devices bridging the lower ends of said openings and comprising the plates having depending end flanges perforated for the passage of the bolts, the bolts passing through said openings and extending between the opposite walls of the opening, and the spacing-tubes on the said bolts between the end flanges of the plate, substantially as set forth.

9. A side frame for car-trucks comprising the body-plate or blank provided in its lower edge with the openings for the car-axle boxes, the guide-yokes fitting in said openings, and the angle brace-plates fitting over said guide-yokes on opposite sides of the body-plate or

blank and having flanges lapping against and secured to the guide-yokes and body-plate or blank, substantially as set forth.

5 10. The combination with a side frame for truck-cars, having its upper edge cut away to form a recess therein between its ends, of the angle binding-strip conforming to the depressed edge of the blank and secured there-

to, the gusset-plate secured to the depressed portion of the binding-strip, and the cross- 10 beam secured to the gusset-plate, substantially as set forth.

ROBERT EDWIN POWERS.

Witnesses:

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JNO. S. TITLE.