

(No Model.)

2 Sheets—Sheet 1.

B. W. TUCKER.
CAR TRUCK.

No. 599,882.

Patented Mar. 1, 1898.

Fig. 1.

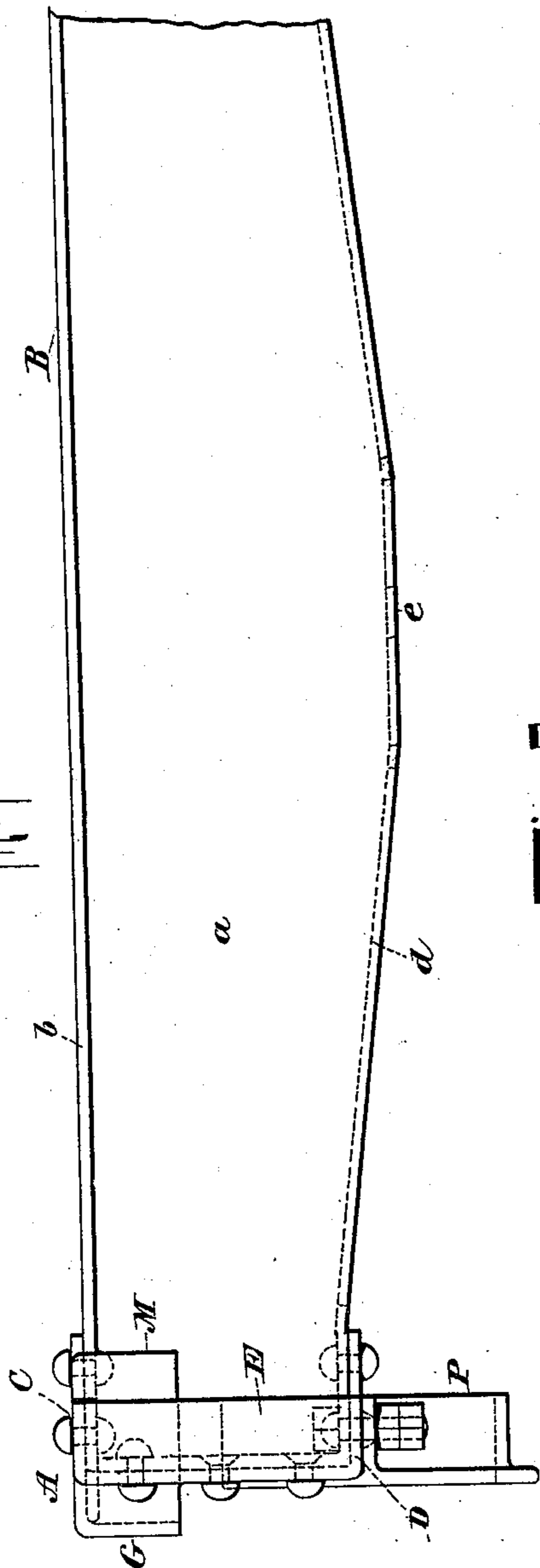
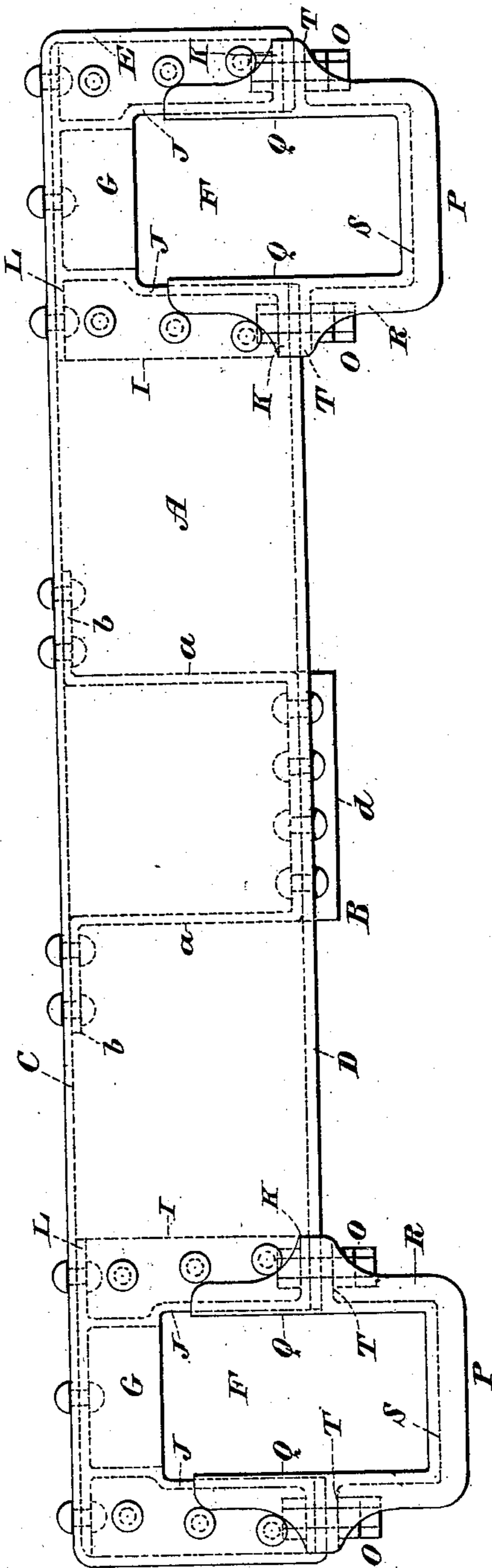


Fig. 2.



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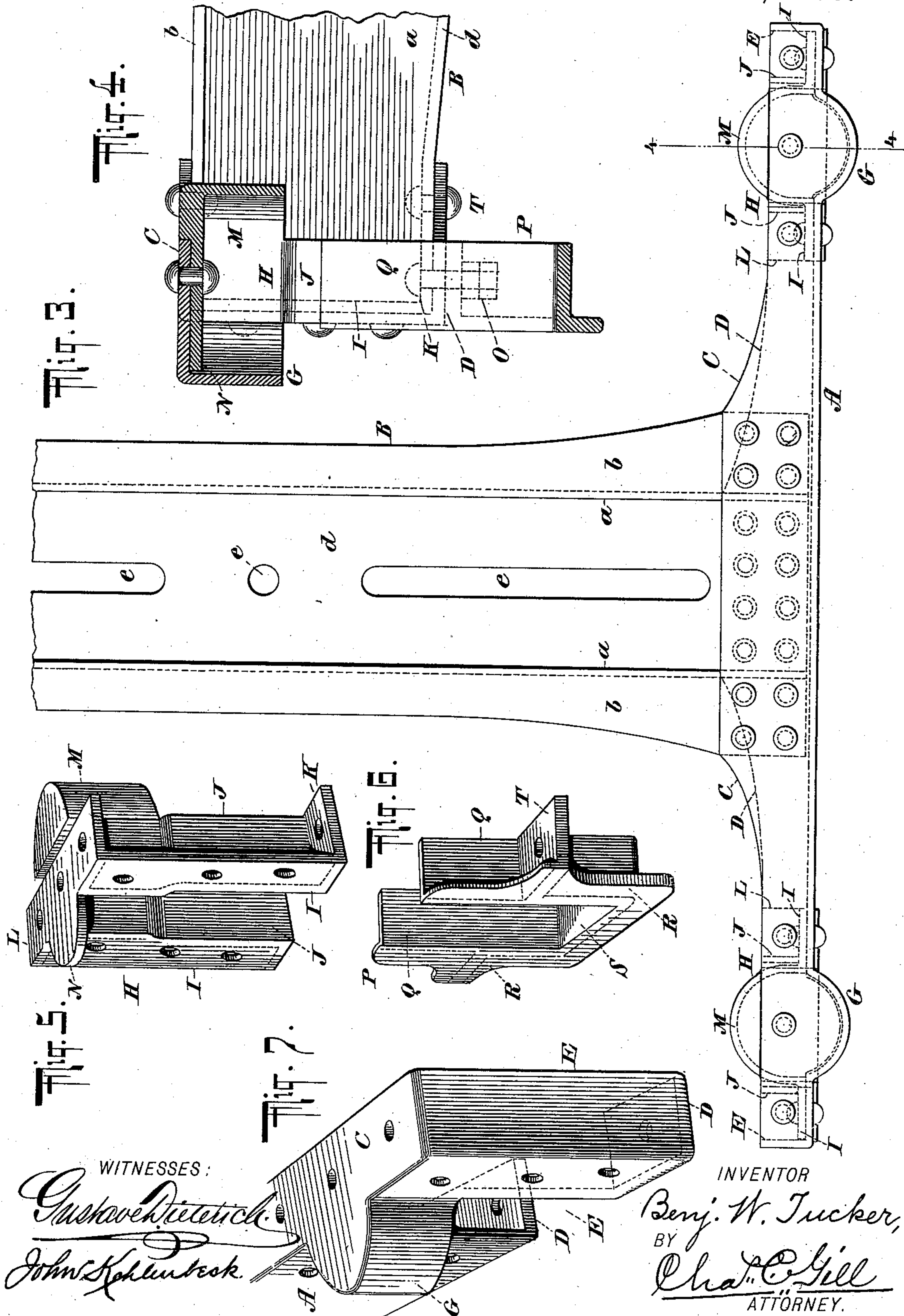
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UNITED STATES PATENT OFFICE.

BENJAMIN W. TUCKER, OF NEWARK, NEW JERSEY.

CAR-TRUCK.

SPECIFICATION forming part of Letters Patent No. 599,882, dated March 1, 1898.

Application filed November 13, 1897. Serial No. 658,388. (No model.)

To all whom it may concern:

Be it known that I, BENJAMIN W. TUCKER, a citizen of the United States, and a resident of Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Car-Trucks, of which the following is a specification.

The invention relates to improvements in car-trucks, and pertains particularly to the side frames of the truck, the transom connecting the side frames, and the pedestals at the ends of the side frames to receive the axle-boxes and admit of the latter having a vertical reciprocating movement, as hereinafter described and claimed.

In the embodiment of the invention illustrated in the accompanying drawings the side frames and transom are shown as having been made of pressed steel and the pedestal-frame sections as having been formed of cast metal. The side frames have upper and lower inwardly-extending horizontal flanges and vertical end flanges which close the ends of the side frames and connect the said upper and lower flanges. Within the web portions of the side frames are vertical pedestal-spaces, and to these spaces are applied pedestal-frames of special character, both of said pedestal-frames being preferably of cast metal. The pedestal-frames furnish the rubbing-surfaces for the axle-boxes, so that no wear from the action of the boxes comes upon the side frames of the truck.

The axle-boxes used in this truck are of the usual character, and above them will be arranged suitable springs, whose upper ends will be housed in suitable sockets formed, as hereinafter described, to receive them.

The invention will be fully understood from the detailed description hereinafter presented, reference being had to the accompanying drawings, in which—

Figure 1 is an end view, partly broken away, of a car-truck constructed in accordance with and embodying the invention. Fig. 2 is a side elevation of same. Fig. 3 is a top view, partly broken away, of same. Fig. 4 is a vertical section of same on the dotted line 4 4 of Fig. 3. Fig. 5 is a detached perspective view of one of the pedestal-frame sections. Fig. 6 is a like view of the lower pedestal-frame sec-

tion, and Fig. 7 is a like view of a portion of the side frame of the truck.

In the drawings, A designates the side frame or beam of the car-truck, and B the transom connecting the side frames, which are duplicates of one another and only one of which is therefore illustrated.

The side frames or beams A are formed by preference of pressed steel, and each side frame A is formed with the upper inwardly-extending horizontal flange C, the lower inwardly-extending flange D, and the end vertical flanges E, the latter, as clearly illustrated in Fig. 7, connecting and being integral with the upper and lower flanges C D and forming a box-like section at each end of each side frame A. The form of the upper and lower flanges C D is more clearly illustrated in Fig. 3, in which the outline of the lower flange D is indicated by dotted lines.

Adjacent to the ends of each side frame A is formed the pedestal-spaces F F to receive the axle-boxes, springs, and pedestal-frames. The pedestal-spaces F extend upward into the web of the side frame A, but do not reach the upper flanges C of said side frame, and said pedestal-spaces F break the continuity of the lower flange D of said frame, but leave a portion of said flange at the outer side of each pedestal-space. Above the pedestal-spaces F the side frames A extend outward, as clearly illustrated in Figs. 4 and 7, to form a portion of the socket for the usual coiled springs, which in use are located over the axle-boxes, and this outwardly-extending portion of said frames A is lettered G. The upper flange C of the side frame and the outwardly-extending portions G of said side frame are integral with one another.

At the inner side of each end of the side frame A is applied an inner section or pedestal-frame section H, which will preferably be of cast metal and in one integral piece, as illustrated in Fig. 5. The inner pedestal-frame section H is formed with the vertical flanges I I, which fit against the vertical web of said frame A, as shown in Fig. 2, the vertical transverse parallel flanges J J, the lower horizontal flanges K, which fit upon the lower flange D of the side frame A, the upper flange L, which engages the lower surface of the up-

per flange C of the side frame, and the vertical portion M, connecting the flanges J J at their upper ends and with the forwardly-projecting portions G of the side frames forming substantially circular sockets or receptacles for the usual springs, which in use are located over the axle-boxes. The upper flange L of the inner pedestal-frame section H is formed with the outwardly-extending portion N, which, as illustrated in Fig. 4, extends outward below the top of the outwardly-projecting portions G of the side frame A. The vertical portions M of the pedestal-frame sections H project inward in a direction from the side frame A, and that portion of the same which is inward beyond the line of the upper flange C of said frame extends upward above the flange L a distance equal to the thickness of the said flange C, as illustrated in Fig. 4, in order that the upper surface of said portion M and the upper surface of the said flange C may be on the same horizontal plane, whereby the side frame A from end to end is enabled to have a horizontal upper surface. The inner pedestal-frame sections H are secured to the side frames A by means of rivets passing through the said side frames and the flanges I L of said pedestal-frames, and said pedestal-frames H are further secured to the side frame A by means of the bolts O, passing vertically through the flanges K of said pedestal-frame sections, the lower flange D of the side frame, and the flanges of the lower pedestal-frame section P, as illustrated in Fig. 2. The inner pedestal-frame sections H are further strengthened in their connection with the side frame A from the fact that the outwardly-projecting portion N of said pedestal-frames enter the socket portions G of the side frames and that the upper portions of the socket-sections M of the said inner pedestal-frame sections H contact with the inner vertical edges of the upper flange C of said side frame. The lower pedestal-frame sections P are each preferably cast in one integral piece, and each is formed with the vertical transverse flanges Q, which form the rubbing-surfaces for the axle-boxes, longitudinal flanges R, which fit against the outer face of the side frame A, the lower horizontal flange S, which connects the lower ends of the vertical flanges Q and closes the lower ends of the pedestal-spaces, and the horizontal flanges T, which fit against the lower surfaces of the lower flange D of said frame and are apertured to receive bolts O, which pass through said flanges T, the lower flange D of the side frame, and the lower horizontal flanges K of the inner pedestal-frame sections H. The lower pedestal-frame section P is substantially of U shape, and its vertical transverse flanges Q extend inward along the sides of the pedestal-spaces F and along the facing surfaces of the lower portions of the flanges J of the inner pedestal-frame section H, and said flanges Q of the lower pedestal-frame sections P furnish the

rubbing-surfaces for the axle-boxes. The longitudinal flange R of the lower pedestal-frame sections P follows the general outline of the vertical flanges Q and horizontal flanges S T of said lower pedestal-frame sections, and thus in every part the said lower pedestal-frame section is of angle-iron shape in section.

The transom-beam B, which connects the side frames or beams A, will be of pressed steel and in one integral piece of the outline shown—that is to say, having the vertical sides *a a*, the horizontal flanges *b b* at the upper edges of said sides *a* and extending from one another, and the bottom *d*, which connects the sides *a a*, and with said sides forms in cross-section a U shape. The bottom *d* of the transom-beam B is preferably formed with openings *e* to permit of the escape of rain or dust which may accumulate between the sides *a a*, and the middle portion of the sides *a a* and bottom *d* of the transom-beam B is of greater depth than the ends of said beam, as illustrated. The ends of the transom-beam B extend outward between the upper and lower flanges C D of the side frames A, and the ends of said transom-beam B are secured to said flanges C D in the manner illustrated in Figs. 2 and 3, in which it will be seen that the upper flanges *b* of the transom-beam B are riveted to the upper flange C of the side frame A and that the bottom *d* of the transom-beam B is at its end riveted to the lower flange D of the side frame A.

The side frame A will preferably be in one integral piece of pressed steel. The transom-beam B will also preferably be in one integral piece of pressed steel. The inner section H applied to each end of the side frame A will preferably be in one integral piece of cast metal, and the lower pedestal-frame P will preferably be in one integral piece of cast metal, although I do not limit the invention to casting the lower pedestal-frame section P in one piece, since it is evident that the flanges Q, R, and S of said section may be in one piece of pressed steel and the flanges T in separate pieces of pressed steel riveted to the other portions of the said pedestal-frame section P.

For convenience the inner sections H are termed herein "pedestal-frame" sections, but it will be apparent from an inspection of the drawings that the frames P are the pedestals proper, since they receive and furnish the rubbing and guiding surfaces for the axle-boxes. The pedestals P are removable at will.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. In a car-truck, the side frames or beams having the upper and lower inwardly-extending flanges, vertical pedestal-spaces and outwardly-projecting socket-sections above said spaces and integral with said side frames and closed at their upper ends by the upper horizontal portions of said side frames, combined with pedestals applied to said spaces, and the inner sections having the inwardly-projecting

socket-sections which, with said outwardly-projecting socket-sections constitute the sockets for the springs, said inwardly-projected socket-sections being also closed at their upper ends; substantially as set forth.

2. In a car-truck, the side frames or beams having the upper and lower inwardly-extending horizontal flanges, vertical pedestal-spaces and outwardly-projecting socket-sections above said spaces and integral with said side frames and extending from said spaces upward to a level with the upper surface of said upper flanges and being closed at their upper ends by said upper flanges, combined with pedestals applied to said spaces and the inner sections applied to said side frames and having the inwardly-projected socket-sections, which with said outwardly-projected socket-sections constitute the sockets for the springs, said inwardly-projected socket-sections being closed at their upper ends; substantially as set forth.

3. In a car-truck, the side frames or beams having the upper and lower flanges, vertical pedestal-spaces, and outwardly-projected socket-sections above said spaces and integral with said side frames and extending from said spaces upward to a level with the upper surface of said upper flange, combined with pedestals applied to said spaces, and the inner sections applied to said side frames and having the inwardly-projected socket-sections and the outwardly-projected flanges at the top of said socket-sections and entering the top of said outwardly-projected socket-sections; substantially as set forth.

4. In a car-truck, the side frames or beams having the upper and lower flanges, vertical pedestal-spaces, and outwardly-projected socket-sections above said spaces and integral with said side frames and extending from said spaces upward to a level with the upper surface of said upper flanges, combined with pedestals applied to said spaces, and the inner sections applied to said side frames and having the inwardly-projected socket-sections M, and flanges N and abutting against the inner edges of said upper flanges; substantially as set forth.

5. In a car-truck, the side frames having the upper and lower inwardly-projecting flanges, combined with the transom in one integral piece and secured at its ends to said side frames, said transom being of pressed steel and of substantially U shape in cross-section and snugly fitting between said upper and lower inwardly-projecting flanges to

which through its upper outwardly-turned flanges and bottom it is riveted; substantially as set forth.

6. In a car-truck, the side frames having the inwardly-projecting flanges, and the transom connecting said side frames and of a height adapting its ends to fit snugly between said inwardly-projecting flanges, said transom being in one integral piece and having the vertical sides, horizontal bottom and outwardly-turned upper flanges; substantially as set forth.

7. In a car-truck, the side frames having the inwardly-projecting flanges and the transom connecting said side frames and of a height adapting its ends to fit snugly between said inwardly-projecting flanges, said transom being in one integral piece and having the vertical sides, horizontal bottom and outwardly-turned upper flanges, said bottom and sides at their middle portions being extended downward below their end portions; substantially as set forth.

8. In a car-truck, the side frames having the vertical pedestal-spaces, combined with the inner frames applied to said side frames and having the vertical transverse flanges in line with the edges of said spaces, and the U-shaped pedestals removably secured to said side frames and entering and extending below said spaces; substantially as set forth.

9. In a car-truck, the side frames having the vertical pedestal-spaces, combined with the inner frames applied to said side frames and having the vertical transverse flanges in line with the edges of said spaces, and the U-shaped pedestals applied to said side frames and having the vertical transverse flanges Q, longitudinal flanges R and horizontal flanges S; substantially as set forth.

10. In a car-truck, the side frames having the vertical pedestal-spaces, combined with the inner frames applied to said side frames and having the vertical transverse flanges in line with the edges of said spaces, and the flanges I, K, L, and the U-shaped pedestals applied to said side frames and having the vertical transverse flanges Q, longitudinal flanges R and horizontal flanges S; substantially as set forth.

Signed at Newark, in the county of Essex and State of New Jersey, this 12th day of November, A. D. 1897.

BENJAMIN W. TUCKER.

Witnesses:

LEWIS R. COMPTON,
FRANK BARTLETT.