

No. 696,288.

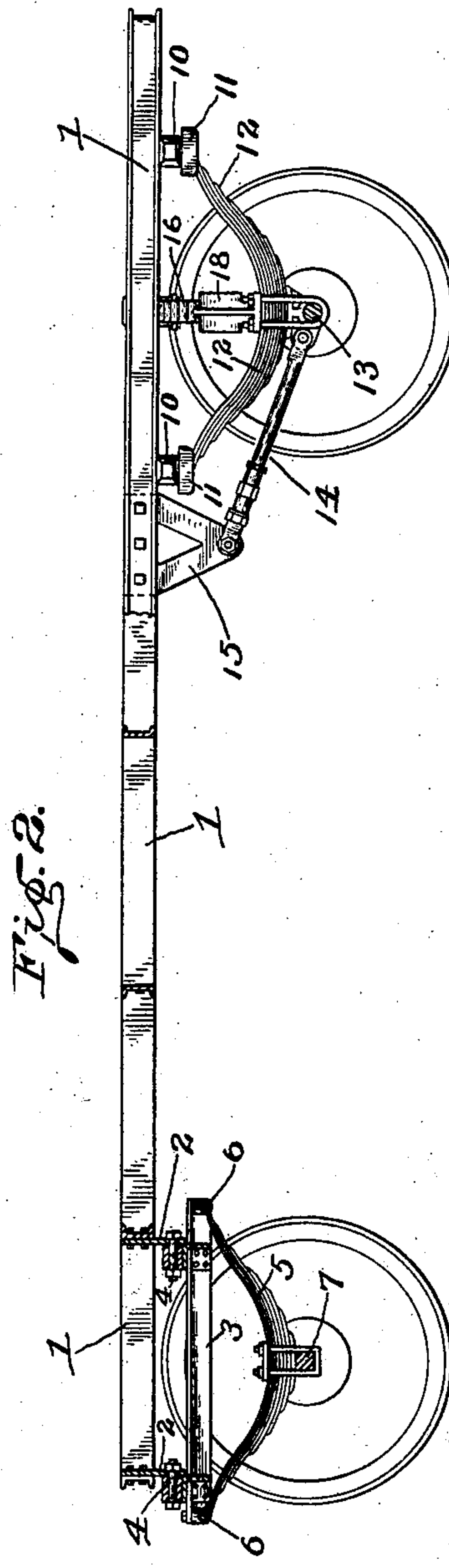
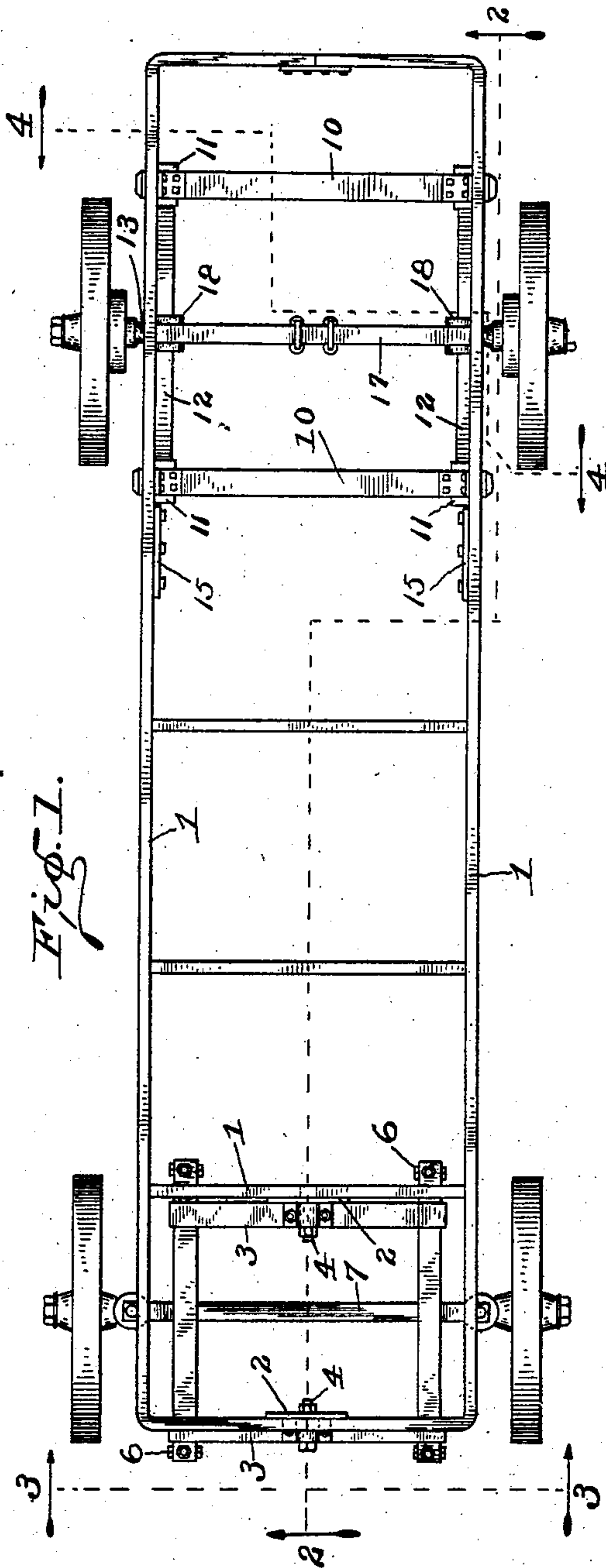
Patented Mar. 25, 1902.

P. H. WHITE.
FRAME FOR VEHICLES.

(Application filed May 2, 1901.)

(No Model.)

2 Sheets—Sheet 1.



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2 Sheets—Sheet 2.

Fig. 3.

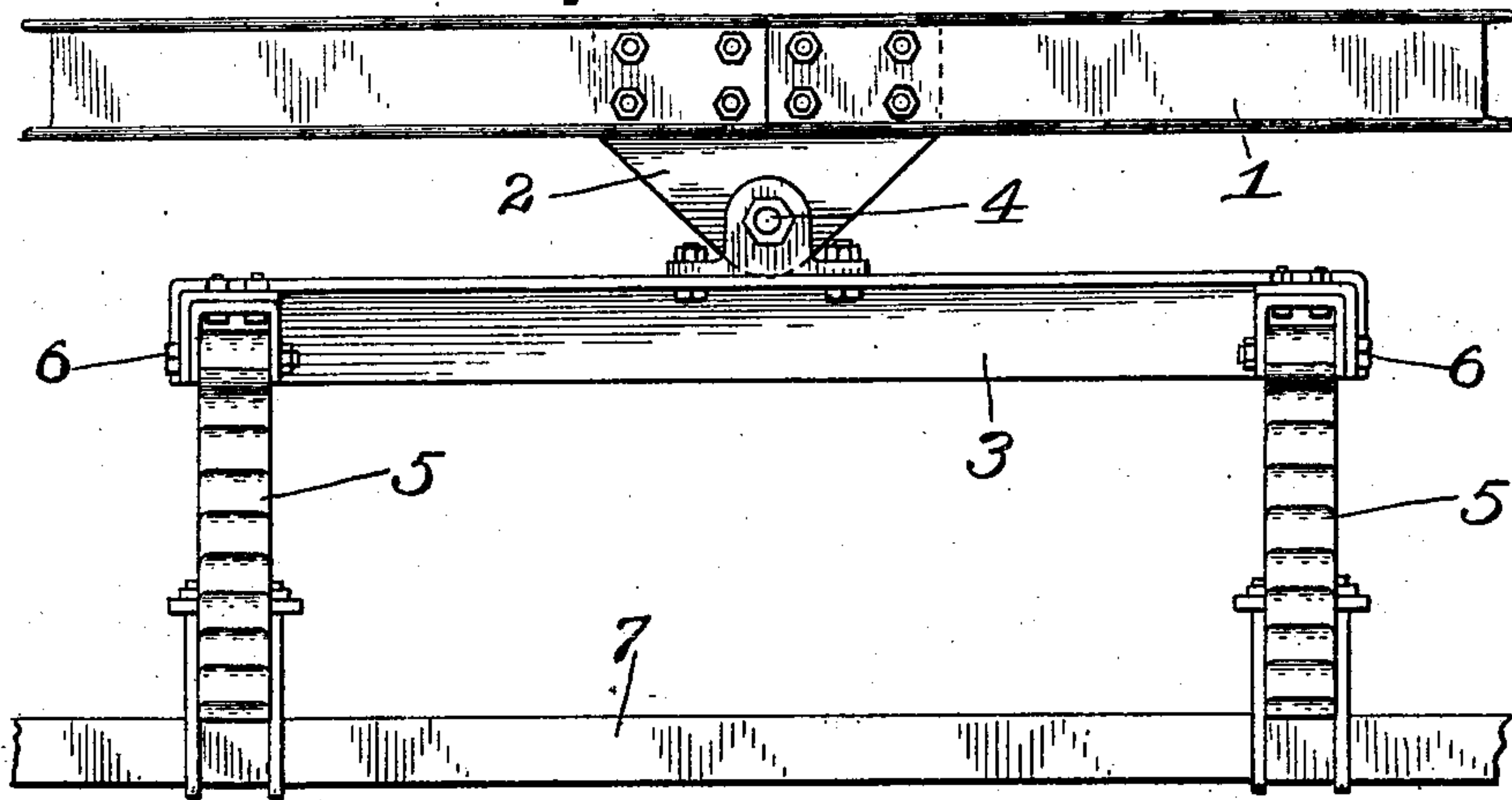


Fig. 4.

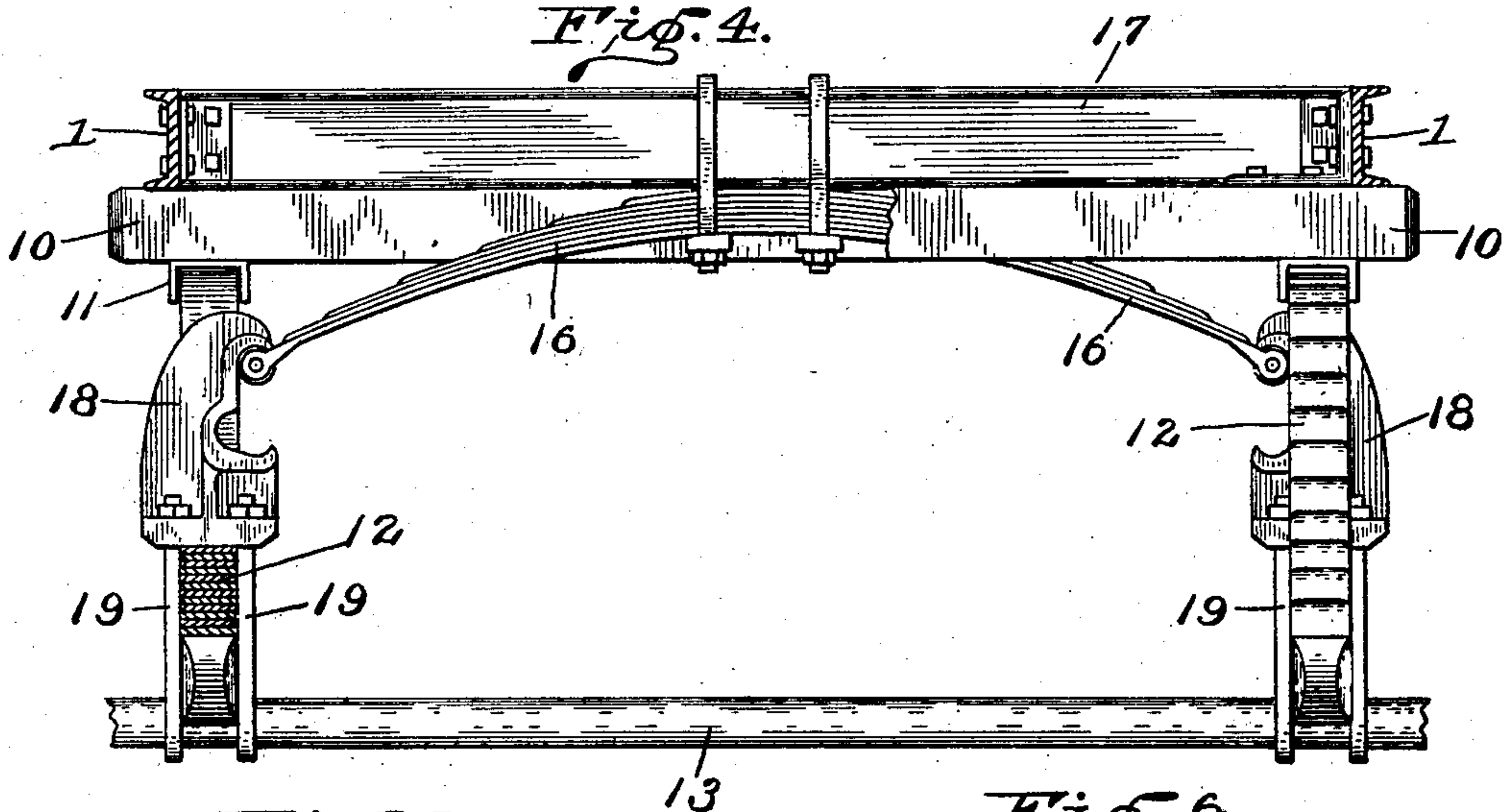


Fig. 5.

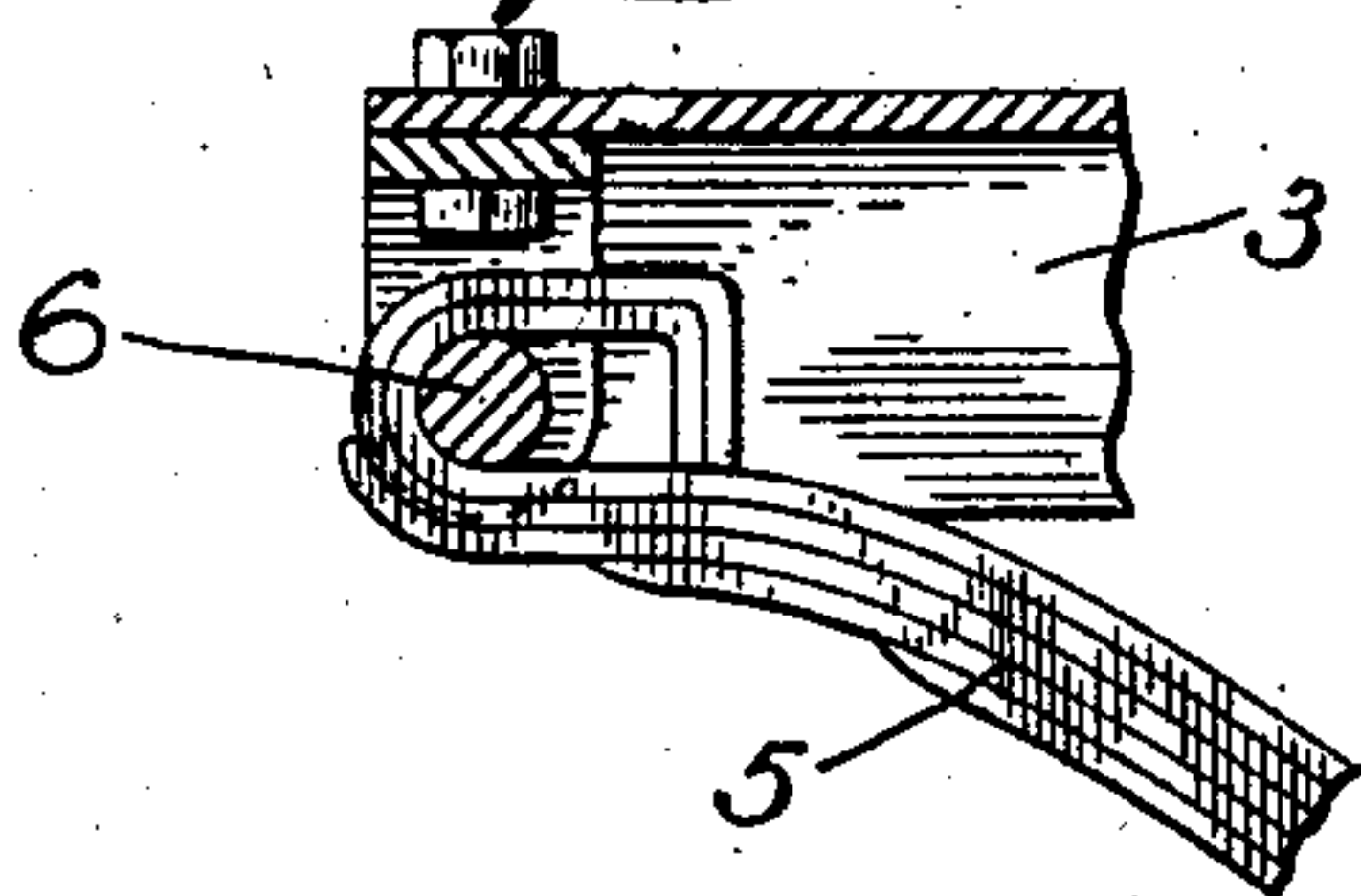
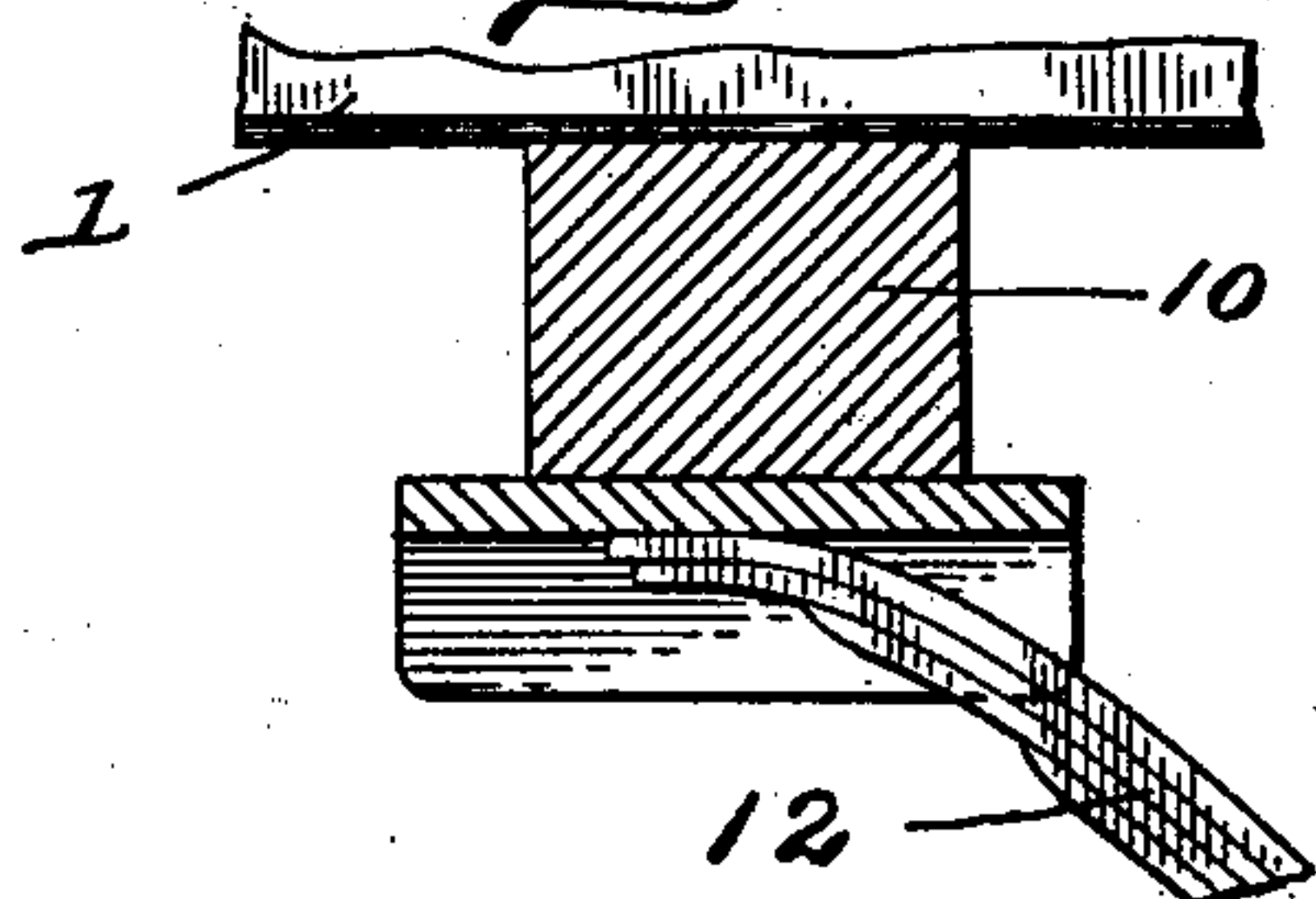


Fig. 6.



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UNITED STATES PATENT OFFICE.

PAUL H. WHITE, OF INDIANAPOLIS, INDIANA, ASSIGNOR TO THE WHITE STEAM WAGON COMPANY, OF INDIANAPOLIS, INDIANA, A CORPORATION OF INDIANA.

FRAME FOR VEHICLES.

SPECIFICATION forming part of Letters Patent No. 696,288, dated March 25, 1902.

Application filed May 2, 1901. Serial No. 58,521. (No model.)

To all whom it may concern:

Be it known that I, PAUL H. WHITE, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Frames for Vehicles, of which the following is a specification.

The object of my said invention is to provide a frame for vehicles which shall have provision for the varying relative positions of the running-gear incident to passing over inequalities of the road or street without becoming strained or racked. This frame is especially adapted for use in vehicles used in heavy transportation, such as large drays and express-wagons.

A vehicle-frame embodying my said invention will be first fully described and the novel features thereof then pointed out in the claims.

Referring to the accompanying drawings, which are made a part hereof and on which similar reference characters indicate similar parts, Figure 1 is a top or plan view of a vehicle-frame and running-gear embodying my said invention; Fig. 2, a longitudinal vertical sectional view as seen when looking in the direction indicated by the arrows from the dotted line 2 2 in Fig. 1; Fig. 3, a front end elevation as seen from the dotted line 3 3 alongside Fig. 1; Fig. 4, a transverse vertical sectional view as seen when looking in the direction indicated by the arrows from the dotted line 4 4 in Fig. 1; Fig. 5, a detail sectional view showing how the springs 5 are connected to the bolster-frame 3, and Fig. 6 a detail sectional view showing how the springs 12 rest in the bearing-plates 11 on the beams 10.

The frame proper, 1, is a rigidly-built structure and is shown as formed of channel and I beams. In use this frame receives the floor and upper bed structure of the vehicle upon or within which the load is carried. Near the front end centrally in the direction of its width this frame has two downwardly-extending members 2, and to these the bolster-frame 3 is secured by pivots 4, and said bolster is thus adapted to rock sidewise to any extent desired without affecting the position of the frame 1, while the same is held strongly and

rigidly in line with said frame in the other direction or longitudinally. Thus when one of the front wheels drops into a hole or passes over an obstruction in the roadway there is no rocking effect upon the frame 1, while at the same time the bolster-frame is held strongly by the two pivots to its proper relative position to said main frame. Heavy springs 5 are connected to the bolster-frame 3 by means of bolts or pins 6 in the manner best shown in Fig. 5, and these springs are rigidly secured to and carried upon the front axle 7 at suitable points near its ends. This is a rigid axle, and the ordinary vehicle-wheels thereon are carried by means of pivoted wheel-spindles, the construction and arrangement being in this particular a variety of what is known as "Ackermann" system.

At the rear end the frame 1 is provided with transverse beams 10, having bearing-plates 11, in which the ends of the springs 12, carried from the hind axle 13, rest. Adjustable draft-bars 14 extend from the axle 13 to suitable projections 15 on the frame 1, and the proper relation of the axle to the vehicle-bed is thus easily secured and maintained.

In a vehicle of the character in question the rear axle should carry the greater portion of the load, and therefore additional spring strength is required at this point. It is desirable in order to secure the best performance under light and medium loads that the springs 12 shall not greatly exceed in stiffness the springs 5. In order to provide effectively for heavy loads, therefore, an additional spring at the rear end, which shall only come into use after the springs 12 have become considerably compressed, should be provided. In my improved construction this spring 16 is secured to the under side of the transverse beam 17 of the frame 1, and its ends extend out and bear against bearing-blocks 18, which are secured to the axle 13 by stirrups 19, which embrace the springs 12 at their middle and unite the several parts strongly and firmly together. The bearing-blocks 18, as best shown in Fig. 4, are of a peculiar form, and the ends of the springs 16 are suitably formed to bear against their operative surfaces. The upper portion of these

surfaces are vertical and the arrangement is such that until the springs 12 have been considerably compressed the springs 16 act only as thrust-bars, holding the vehicle-frame against any sidewise movement, which might otherwise take place. When, however, the springs 12 have been so far compressed as that the ends of the springs 16 have passed below the vertical portions of the operative surfaces on the bearing-blocks 18, said ends will come against and rest upon the lower portions of these operative surfaces, which may be horizontal, but are preferably inclined somewhat, as best shown at the left in Fig. 4. When the structure has reached this position, the spring 16 begins to carry a portion of the load, and where the operative surfaces of the bearing-blocks are inclined, as shown, it will still in large measure continue to perform its office of thrust-bar, preventing sidewise movement or swaying of the frame 1.

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

1. The combination, in a vehicle, of the frame 1 having the rigid downwardly-extending bearing members 2 at its front end arranged centrally in the direction of its width, a bolster-frame 3 connected to said rigid bearing members, two pivots 4 one at the back and the other at the front of the bolster-frame forming the connection, side springs 5 supporting said bolster-frame at the ends, and the axle 7 to which said springs are se-

cured at the middle, said several parts being arranged and operating substantially as shown and described.

2. The combination, in a vehicle, of the frame 1, the axles 13, springs 12 supporting said frame from said axles, bearing-blocks 18 also carried from said axle, and a spring 16 secured to said frame at its middle and extending out against said bearing-blocks, said bearing-blocks having portions of their inner surfaces vertical and portions thereof adapted to receive the spring when the vehicle is heavily loaded, said spring being thus adapted to serve as thrust-bars when the vehicle is lightly loaded and to aid in carrying the load when the vehicle is heavily loaded, substantially as set forth.

3. The combination, in a vehicle, of the frame, the axles, the ordinary spring 12, the supplemental spring 16 adapted also to serve as a thrust-bar preventing sidewise swaying of the vehicle-frame, and bearing-blocks having their upper portions of their inner surfaces vertical and the lower portions inclined, substantially as and for the purposes set forth.

In witness whereof I have hereunto set my hand and seal, at Indianapolis, Indiana, this 30th day of April, A. D. 1901.

PAUL H. WHITE. [L. S.]

Witnesses:

C. S. FRYE,
S. H. COLVIN.