

No. 826,653.

PATENTED JULY 24, 1906.

E. I. DODDS.
SPRING BEAM FOR CAR TRUCKS.
APPLICATION FILED SEPT. 11, 1905.

2 SHEETS—SHEET 1.

Fig. 1.

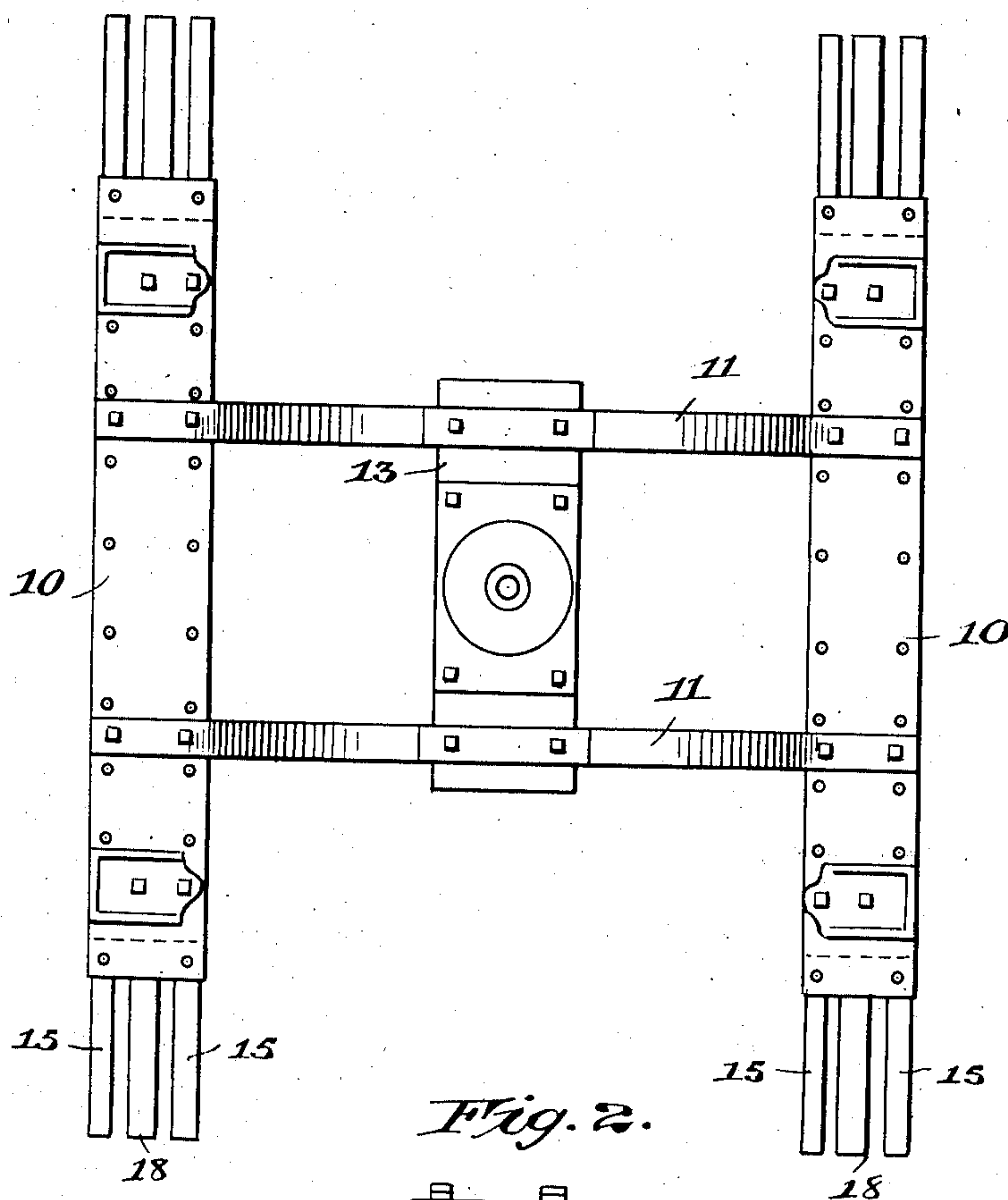
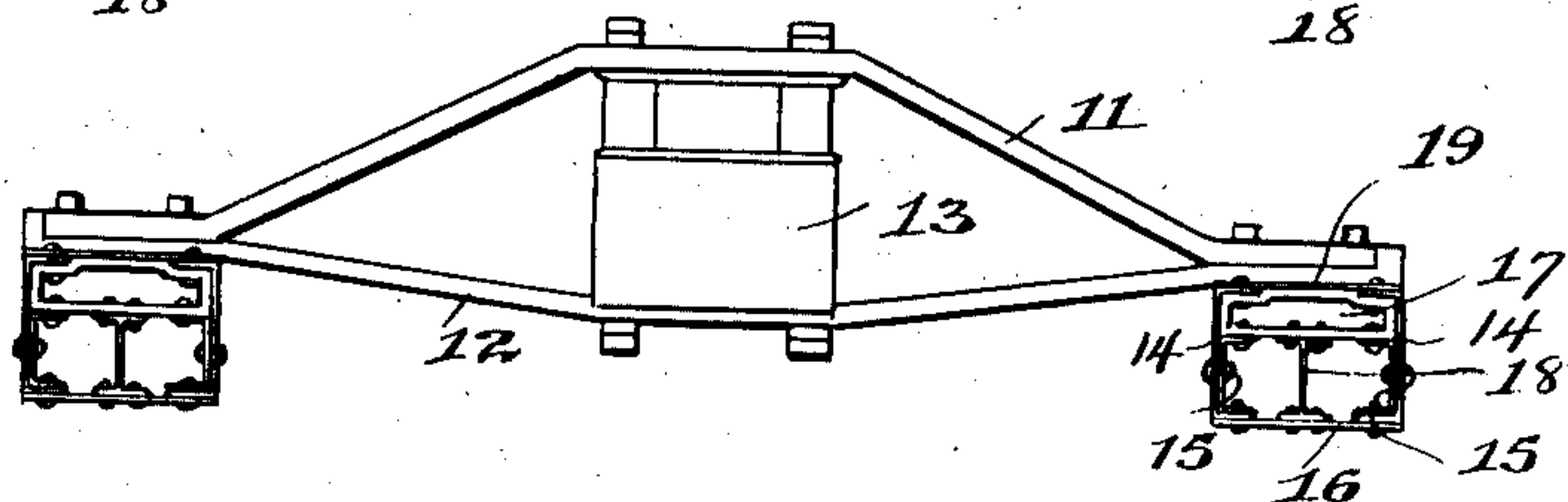


Fig. 2.



Witnesses,
J. S. Mann
Walter M. Fuller

Inventor,
Ethan I. Dodds
By *Alfield, Towle & Linticum*
Attys.

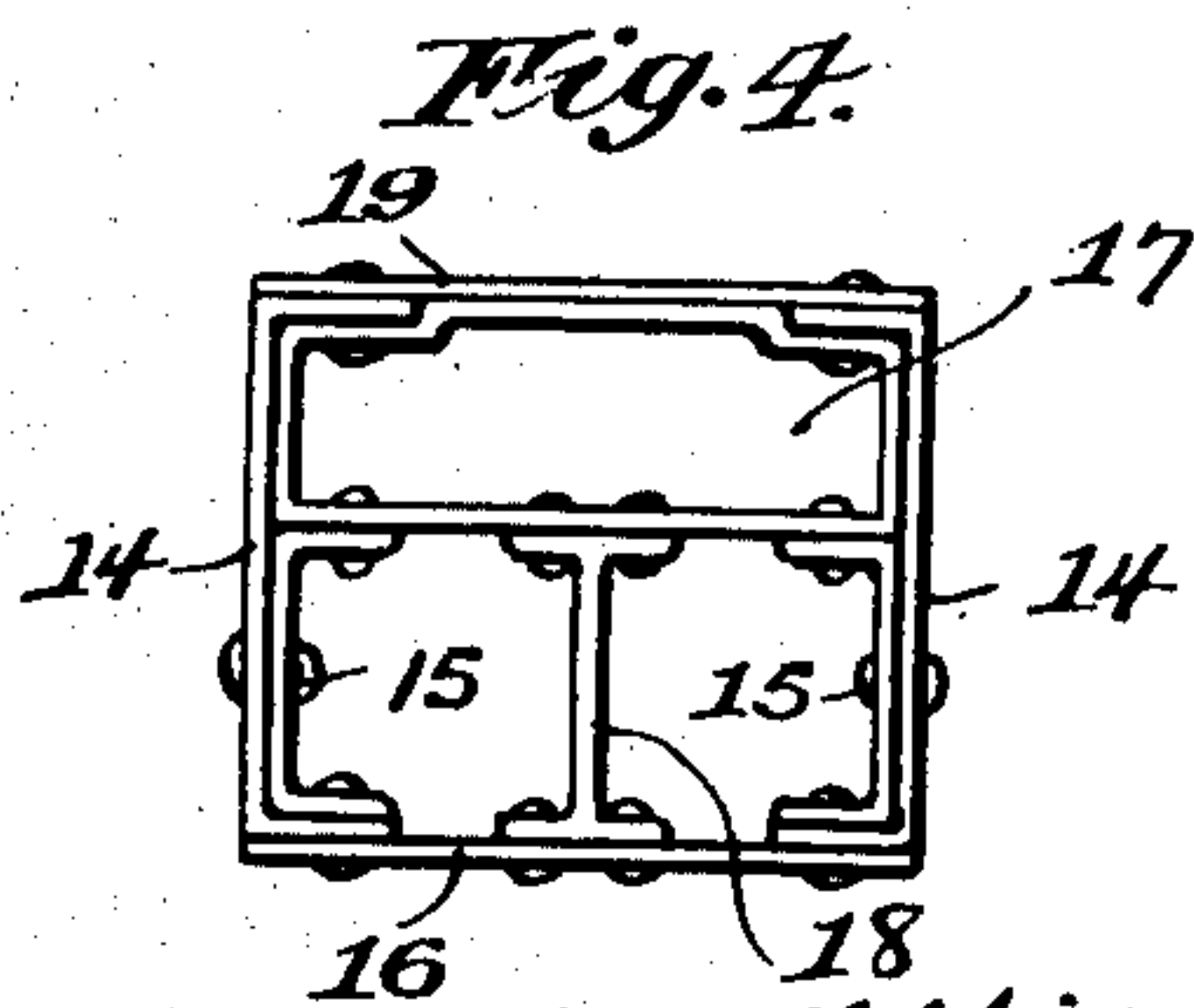
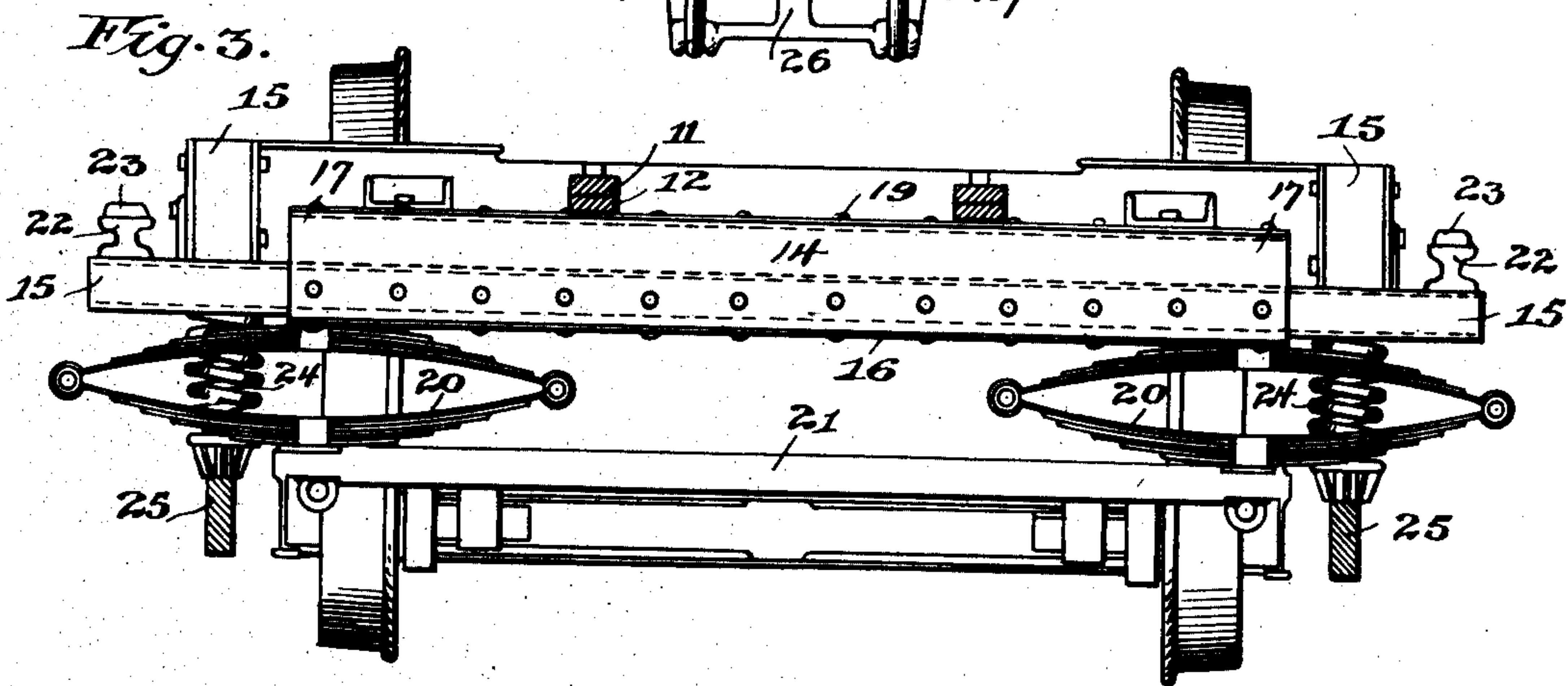
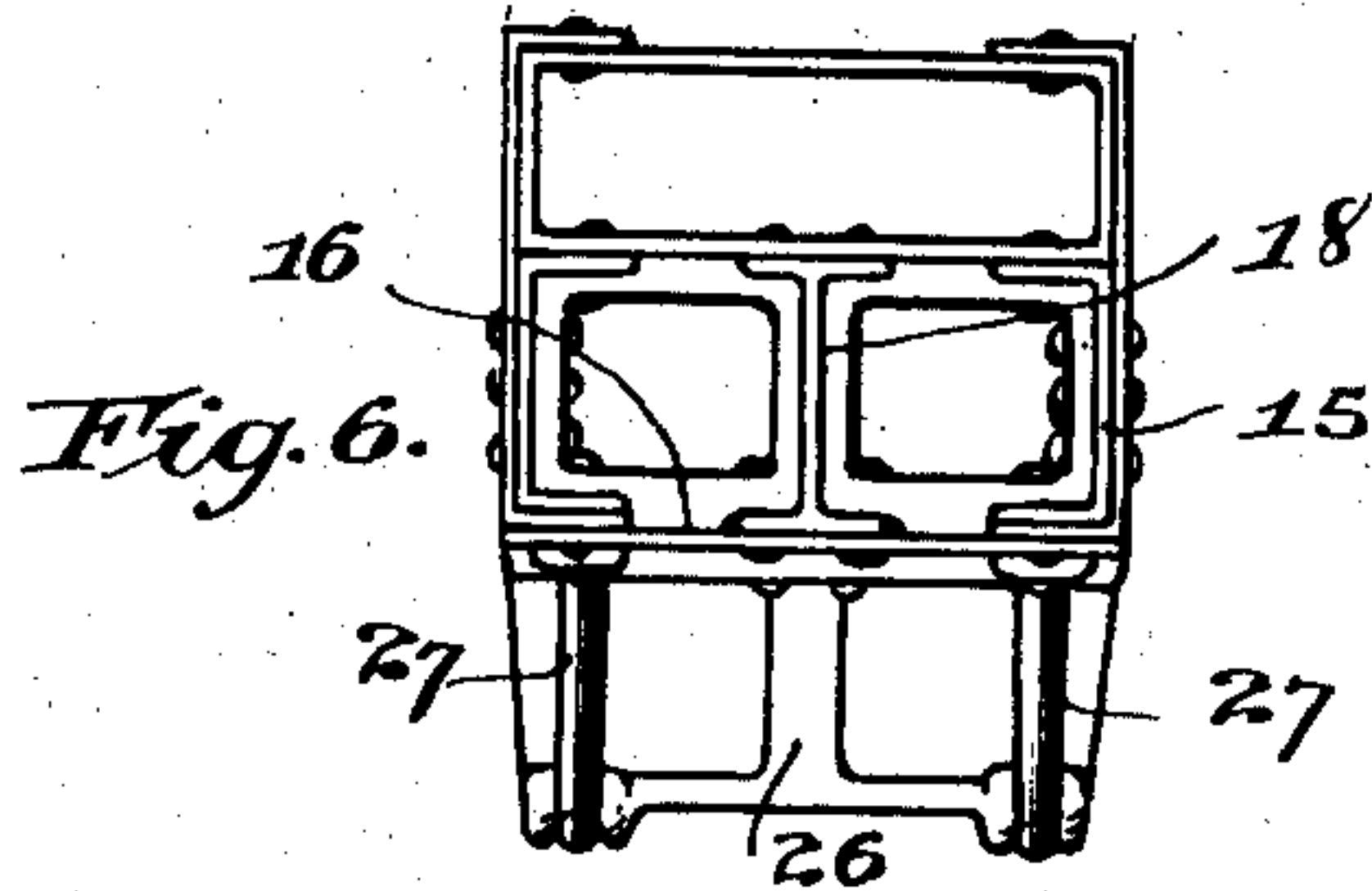
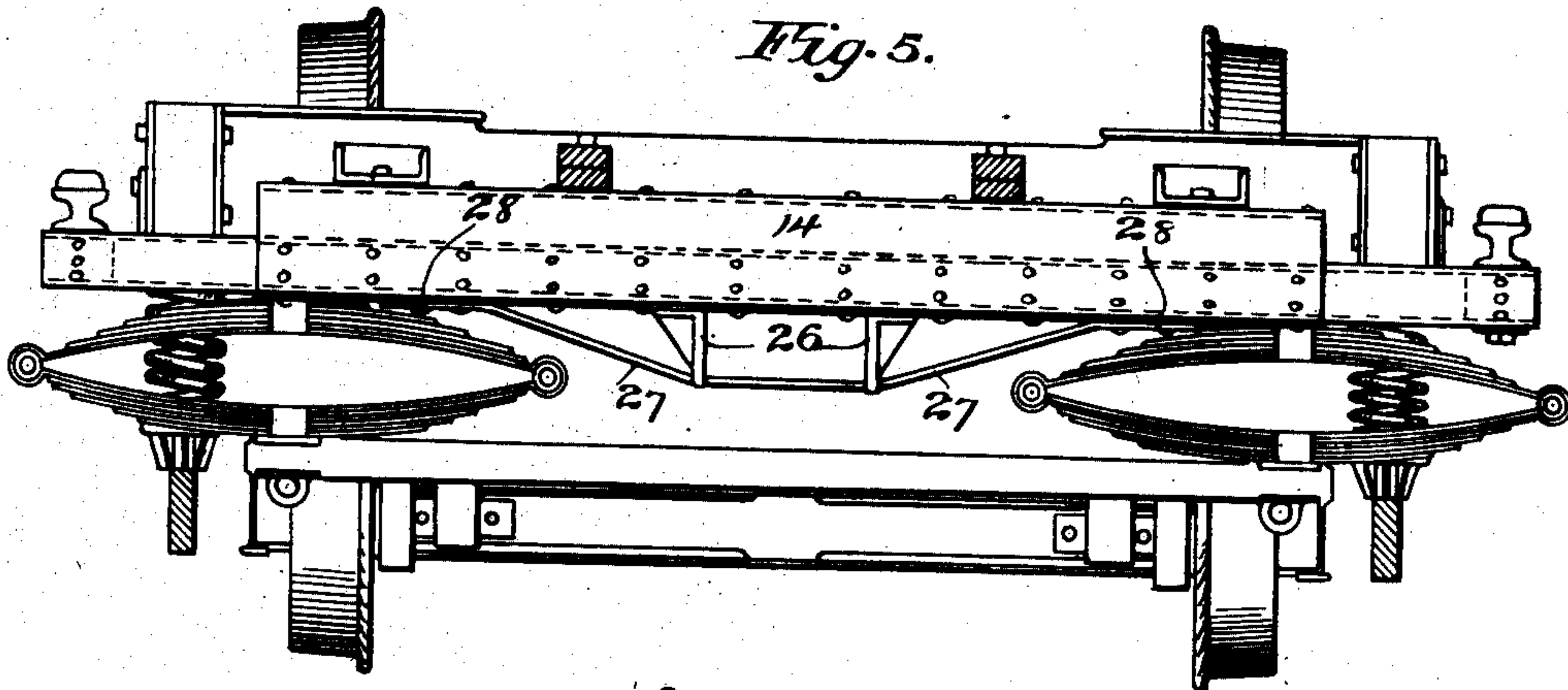
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2 SHEETS—SHEET 2.



Witnesses,
J. S. Mann,
Walter M. Fuller

Inventor,
Ethan I. Dodds

By *Offield, Towle & Lenthicum*
Attys.

UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF PULLMAN, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

SPRING-BEAM FOR CAR-TRUCKS.

No. 826,653.

Specification of Letters Patent.

Patented July 24, 1906.

Application filed September 11, 1905. Serial No. 277,930.

To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Spring-Beams for Car-Trucks, of which the following is a specification.

My invention involves the employment of hollow metallic spring beams or bolsters in railway-car trucks, the same being built up of standard rolled or pressed bars properly spaced apart and secured together.

In the accompanying drawings I have illustrated two embodiments of my invention, like reference characters in all the views applying to the same parts.

Figure 1 is a plan view of two spring-beams joined together by the center-bearing arch-bars. Fig. 2 is an end elevation of the structure illustrated in Fig. 1. Fig. 3 is a vertical cross-section of a truck, showing my improved spring-beam in elevation. Fig. 4 is an end view of the spring-beam shown in Fig. 3; and Figs. 5 and 6 are similar to Figs. 3 and 4, but include some modifications in the spring-beam.

Referring first to Fig. 1, two spring beams or bolsters 10 10 are tied together near their central portions by center-bearing arch-bars 11 11 and center-bearing inverted arch-bars 12; the two pairs of bars supporting a center-bearing beam 13. Each spring-beam comprises two outside spaced channel-bars 14 14, which are disposed with their flanges extended toward each other, the bars being of such a length that they will fit between the usual wheel-pieces 15, as shown in Fig. 3. Within the trough of each channel-bar 14 is a smaller longitudinally-disposed channel-bar 15, whose ends project beyond those of the bars 14, as is illustrated in Figs. 1 and 3, the webs of bars 15 being riveted to the webs of bars 14, and the lower flanges of bars 15 being secured to the lower flanges of bars 14 and to a bottom tension-plate 16. To space apart the upper portions of the bars 14, I provide two dish-shaped spacing members 17, and between the lower surfaces of these spacing members and the upper surface of the tension-bar 16 I provide a central longitudinal I-beam 18, which projects beyond the channels 14 and is of the same length as bars 15. The flanges of the spacing mem-

bers 17 are riveted to the upper flanges of the bars 15 and 18 and to the upper flanges of bars 14 and to a top compression-plate 19. Elliptic bolster-springs 20 are interposed between the outer ends of bars 14 and the usual spring-plank 21, and to the outer ends of bars 15 and 18 are secured side bearing-blocks 22, to whose upper surfaces are attached side bearing-bridges 23. It will thus be apparent that the weight of the car is transmitted through the members 11 and 12 and under some circumstances through parts 23 and 22 to the spring beams or bolsters 10 10, being thence transmitted through springs 20 and spring-plank 21, which latter depends in the usual manner from the truck-frame, while the weight of the truck-frame and the pressure transmitted to it is sustained by spiral springs 24, resting upon the usual equalizing-bars 25, whereby the weight of the car and truck-frame is equally distributed on the journal-boxes. (Not shown.)

In the modification illustrated in Figs. 5 and 6 I dispense with the top compression-plate 19, and on the lower side of the beam I provide in addition to the tension-plate 16 castings 26, which act as struts for tension-rods 27, secured at their ends 28 to the under side of the beam or bolster. I also employ additional spacing members 29 between I-beam 18 and the channels 15, these spacing members being placed at the outer ends of beams 15 and 18 and having their flanges riveted to these beams, as illustrated in Fig. 6.

It will be apparent that my improved spring-beam is proportioned to most successfully withstand the strains to which it may be subjected with the employment of a minimum of metal. The central part of the beam on which the whole weight of the car is ordinarily thrust is composed of heavy beams, while the ends which only carry a comparatively small part of the weight of the car when the body thereof is tipped, so as to rest on one of the side bearing-bridges, are made up of small beams or bars.

To those skilled in the art various mechanical changes in my construction will suggest themselves, and it should be understood that my invention is not limited to the details shown and described, except to the extent to which they are made the subject-matter of specific claims.

This patent is intended to embrace only

so much of the disclosure made herein as is covered by the claims.

I claim—

1. A spring-beam for a railway-car truck
5 having longitudinal standard beams, and a top compression member secured thereto, substantially as described.
2. A spring-beam for a railway-car truck having longitudinal standard beams, and a
10 bottom tension member secured thereto, substantially as described.
3. A spring-beam for a railway-car truck having longitudinal standard beams, one or more struts fastened to said beams, and one
15 or more tension-bars fastened to said beams and coöperating with said struts, substantially as described.
4. In a spring-beam for railway-car trucks, the combination of longitudinal beams
20 spaced apart, and longer longitudinal beams secured to said first-mentioned beams, the ends of said longer beams extending beyond the ends of the shorter beams, substantially as described.
- 25 5. In a spring-beam for railway-car trucks, the combination of parallel standard beams, one or more spacers for said beams, longer standard beams secured to and projecting beyond the ends of said beams, and one or
30 more spacers for said longer beams, substantially as described.
6. In a spring-beam for railway-car trucks, the combination of longitudinal spaced channel-beams, and longer longitudinal channel-
35 beams secured thereto and projecting beyond the ends thereof, substantially as described.
7. In a spring-beam for railway-car trucks, the combination of parallel channel-beams,
40 one or more spacers for said beams, longer channel-beams secured to said parallel channel-beams and projecting beyond the ends thereof, and one or more spacers for said longer beams, substantially as described.
- 45 8. In a spring-beam for railway-car trucks,

the combination of longitudinal standard beams spaced apart, longer standard beams secured thereto and projecting beyond the ends thereof, a central longitudinal standard beam, and means to tie said beams together, 50 substantially as described.

9. In a spring-beam for railway-car trucks, the combination of spaced standard beams, three standard beams smaller in cross-section than the first-mentioned beams and disposed between the latter, one or more spacers to hold said smaller beams in place, and a bottom plate secured to all of said beams, substantially as described. 55

10. In a spring-beam for railway-car 60 trucks, the combination of spaced channel-beams, longer channel-beams secured to said spaced channel-beams and projecting beyond the ends thereof, a center I-beam, and a bottom plate secured to said I-beam and to 65 said channel-beams, substantially as described.

11. In a spring-beam for railway-car trucks, the combination of spaced channel-beams disposed with their flanges toward 70 each other, one or more spacers for said channels, longer channels fastened to said first-named channels and projecting beyond the ends thereof with their flanges disposed toward each other, a center I-beam, and 75 one or more spacers for said I-beam and longer channels, substantially as described.

12. In a construction of the character described, the combination of a plurality of standard beams, longer standard beams secured thereto and projecting beyond the 80 ends thereof, one or more center-bearing arch-bars secured to said first-mentioned standard beams, and side bearing-bridges secured to the projecting ends of said longer 85 standard beams, substantially as described.

ETHAN I. DODDS.

Witnesses:

FREDERICK C. GOODWIN,
WALTER M. FULLER.