

(No Model.)

W. G. RICHARDS.
RAILROAD CAR.

3 Sheets—Sheet 1.

No. 555,971.

Patented Mar. 10, 1896.

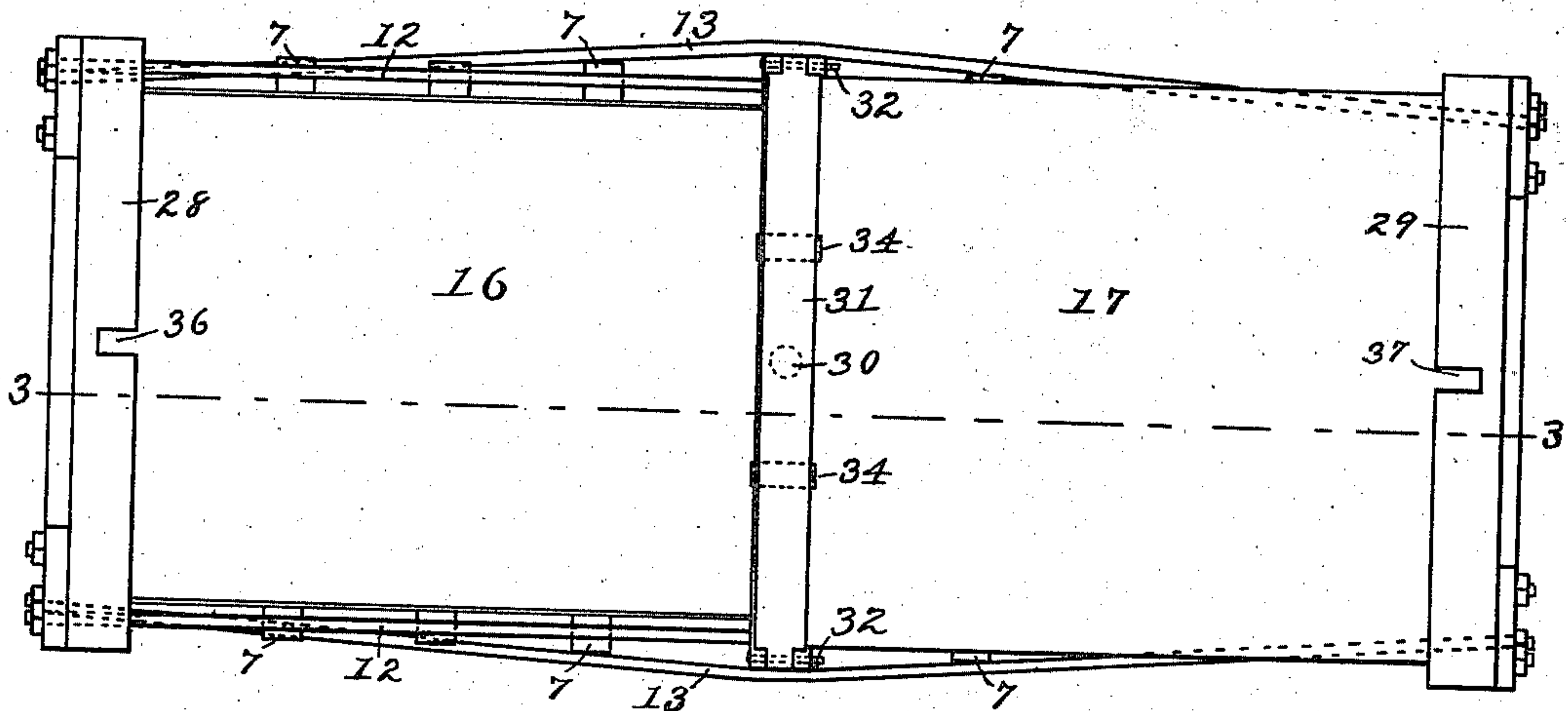


Fig. 1.

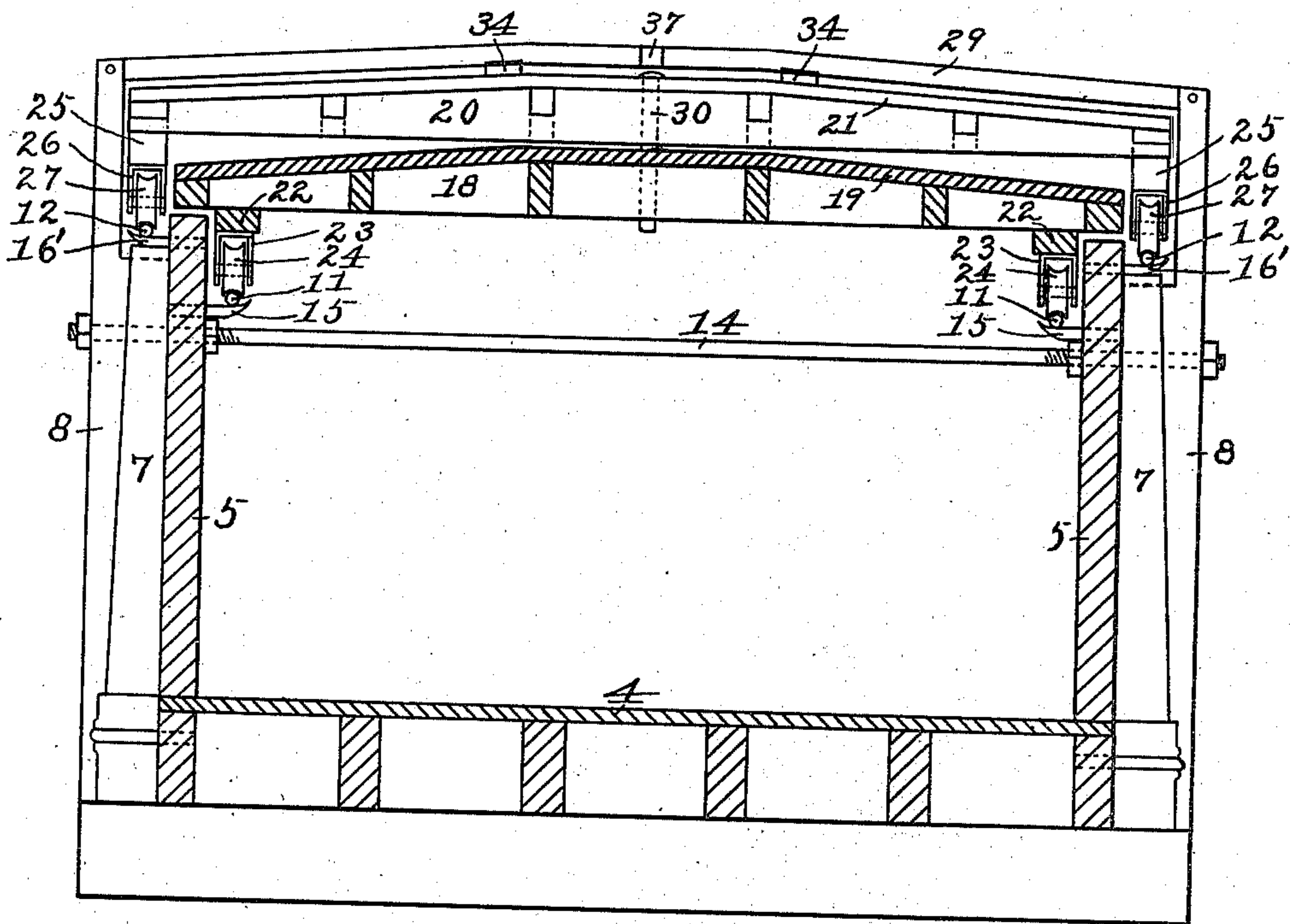


Fig. 2.

WITNESSES:

B. A. Duncan
J. S. Smith

INVENTOR:

William G. Richards,
BY
Eugene L. Annoth,
ATTORNEY.

(No Model.)

3 Sheets—Sheet 2.

W. G. RICHARDS.
RAILROAD CAR.

No. 555,971.

Patented Mar. 10, 1896.

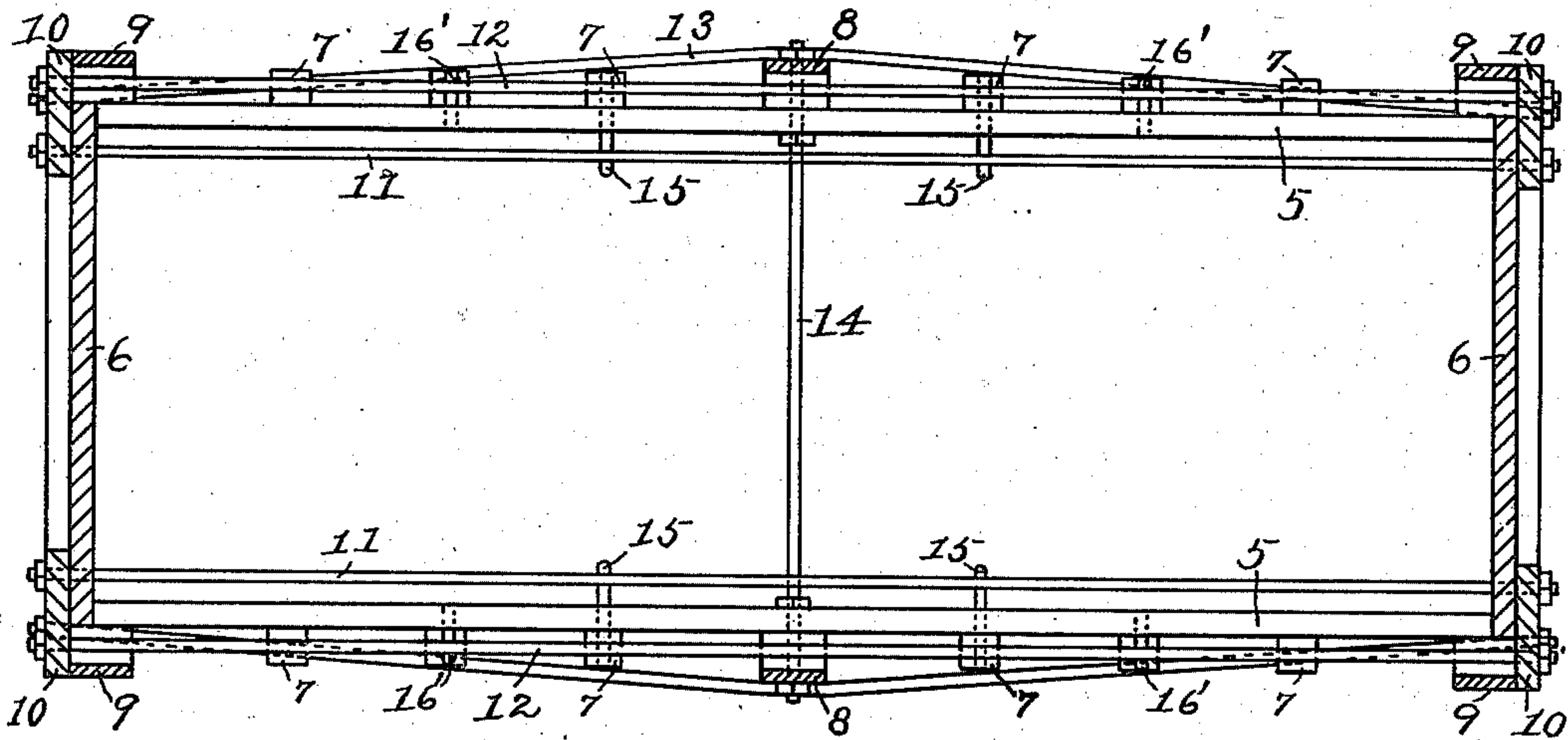


Fig. 3.

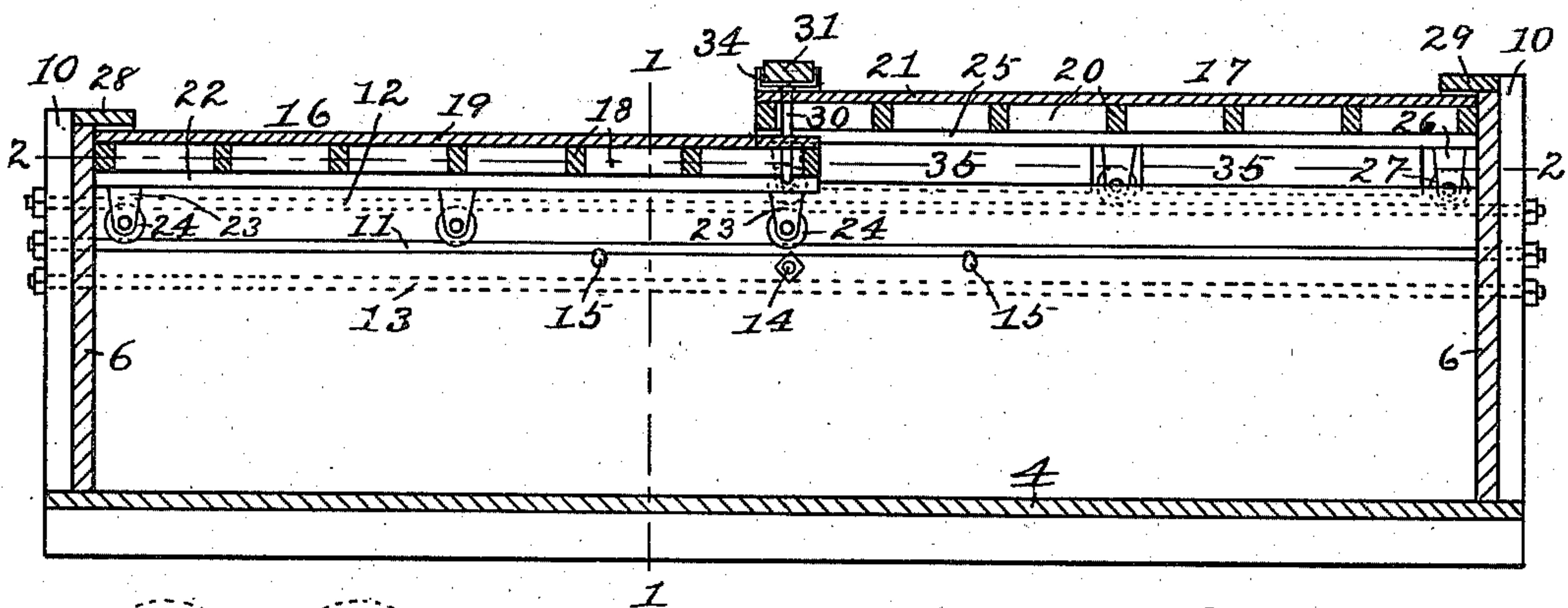


Fig. 4.

WITNESSES:

B. Q. Duncan
J. E. Arnott

INVENTOR:

William G. Richards,
BY
Eugene L. Arnott,
ATTORNEY.

(No Model.)

3 Sheets—Sheet 3.

W. G. RICHARDS.
RAILROAD CAR.

No. 555,971.

Patented Mar. 10, 1896.

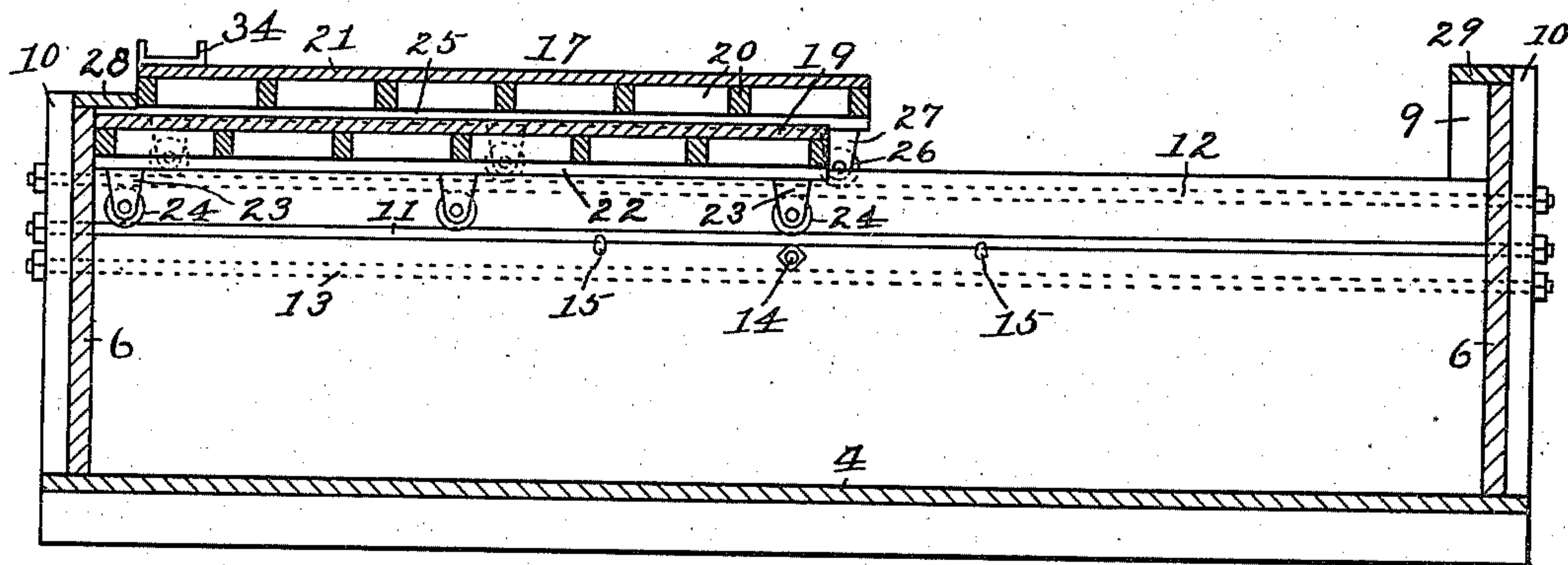


Fig. 5.

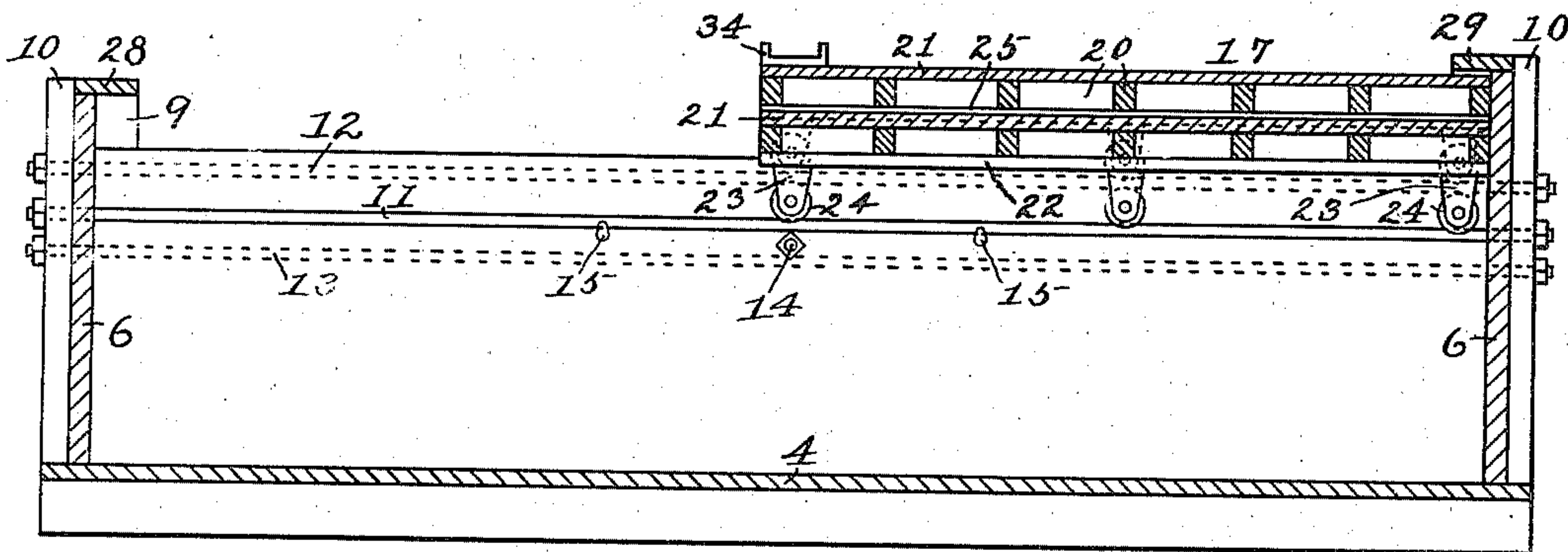


Fig. 6.

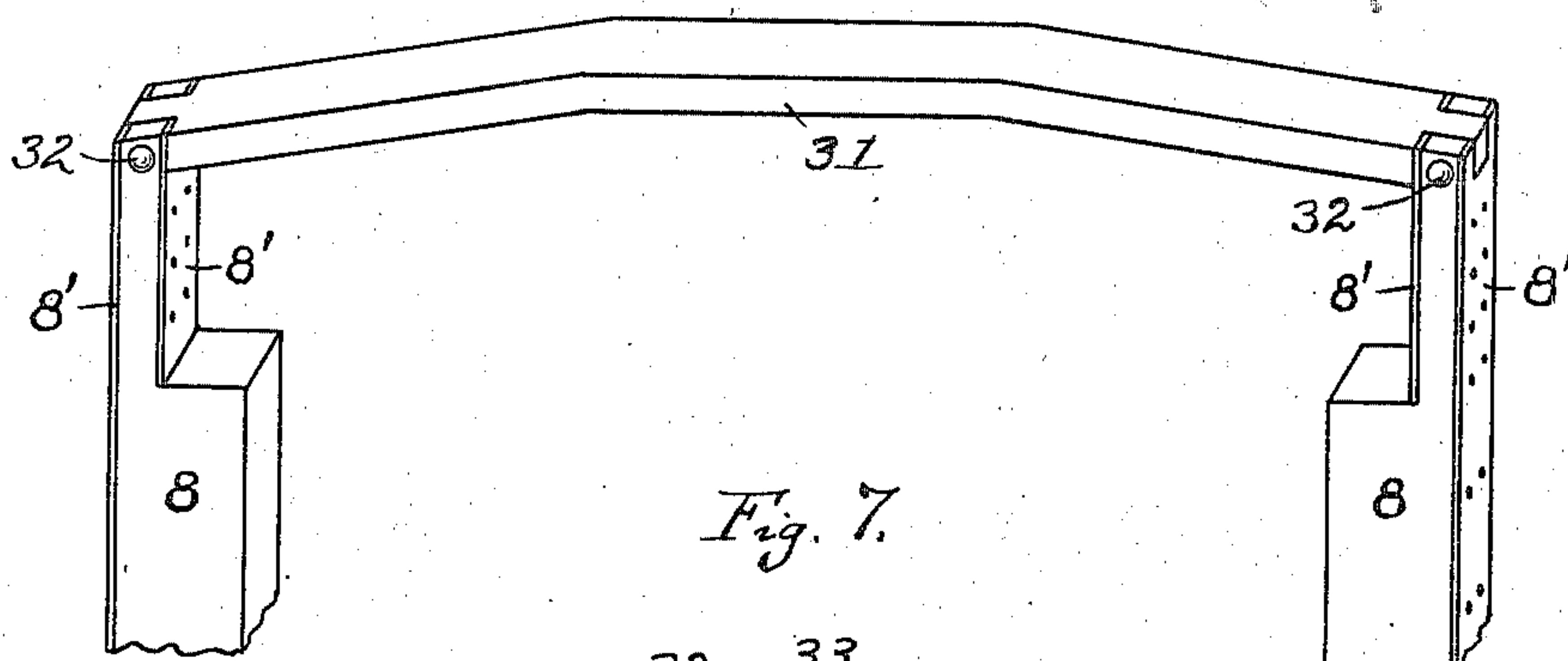


Fig. 7.

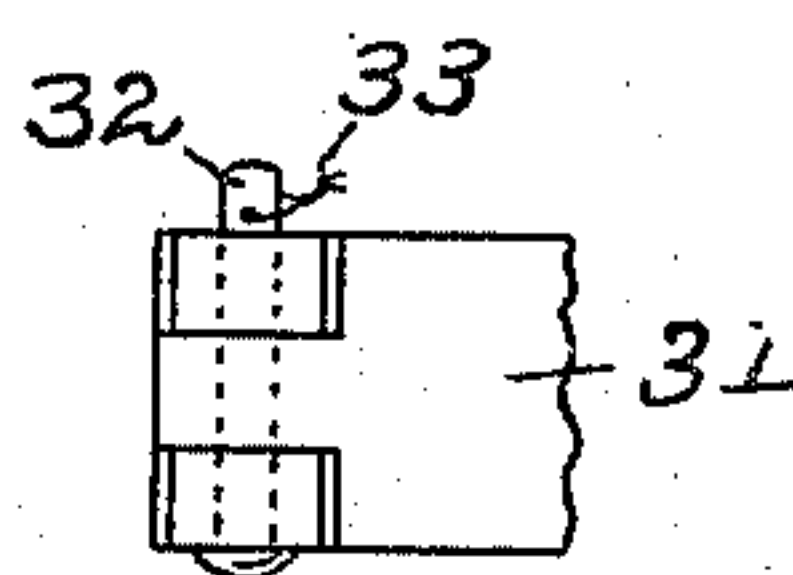


Fig. 8.

WITNESSES;

S. A. Duncan
J. S. Arnold

INVENTOR:

William G. Richards,
BY
Eugene L. Arnoth,
ATTORNEY.

UNITED STATES PATENT OFFICE.

WILLIAM G. RICHARDS, OF HILLSBOROUGH, OHIO.

RAILROAD-CAR.

SPECIFICATION forming part of Letters Patent No. 555,971, dated March 10, 1896.

Application filed March 13, 1895. Serial No. 541,543. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM G. RICHARDS, a citizen of the United States, residing at Hillsborough, in the county of Highland and State of Ohio, have invented certain new and useful Improvements in Railroad-Cars, of which the following is a specification, reference being had to the accompanying drawings.

My invention relates more especially to that class of cars commonly used for hauling coal, but it may also be used on cars used for other purposes, and it may also in some cases be used to advantage on coal-barges or on vehicles.

The object of the invention is to provide certain new and useful improvements in cars of the character described.

The novelty of the invention will be hereinafter fully set forth, and specifically pointed out in the claims.

In the accompanying drawings, Figure 1 is a top or plan view of a railroad-car embodying my invention. Fig. 2 is a cross-section taken on line 1 1 of Fig. 4 and drawn to a somewhat larger scale. Fig. 3 is a top or plan view taken in section on line 2 2 of Fig. 4, the roof or cover being removed. Fig. 4 is a longitudinal vertical section taken on line 3 3 of Fig. 1, the car-wheels and track being represented in dotted lines. Figs. 5 and 6 are views similar to Fig. 4, except that Fig. 5 shows part of the roof or cover shifted to the left and Fig. 6 shows another part of the roof or cover shifted to the right. Fig. 7 is an enlarged perspective detail showing the central side standards and the securing cross-piece. Fig. 8 is an enlarged detail showing the manner in which the cross-piece is connected with the standards.

Similar figures of reference indicate similar parts in the different views.

The car-bed has the usual bottom or floor 4, the sides 5 5, and the ends 6 6, of any ordinary construction. The sides are braced or reinforced by the usual upright posts or standards 7 7. Larger posts or standards 8 8 are also used at the middle of the car, one at the center of each side. Similar standards 9 9 and 10 10 are placed at the corners of the car, the standards 9 9 being bolted to the sides and the standards 10 10 being bolted to the ends of the car. Iron bars 11 11 are

placed inside the car-bed, one at each side and near the top, and they extend longitudinally with the car, passing through the ends 6 6 and the standards 10 10, and being secured by nuts, as shown. Similar bars 12 12, parallel to 11 11, are placed just outside the sides 5 5, one at each side and a little higher than 11 11, and these bars also pass through standards 10 10 and are secured by nuts. Bars 13 13 also pass through standards 10 10 and are secured by nuts. These bars 13 13 are arched or bowed out at their centers to pass around the standards 8 8, and they press against or pass through the standards 7 7. The purpose in bars 13 13 is to keep the sides of the car from spreading, or, if they should be spread, to bring them back to their proper positions by tightening the nuts, as will be readily understood. A cross-bar 14 is also provided to keep the sides from spreading. This bar passes through the sides and the standards 8 8, and is secured by nuts both inside the car and outside the standards 8 8, as shown.

Pins or studs 15 15 are projected inwardly from the sides of the car, and the bars 11 11 rest upon these studs. Similar pins or studs 16' 16' are projected outwardly from the sides, and the bars 12 12 rest upon these studs. Stud 16' 16' may rest upon the tops of standards 7 7.

The roof or cover of the car consists of two parts or sections, designated by 16 and 17, respectively. Section 16 has a framework of longitudinal and cross pieces 18, bolted together, upon which are secured the top boards 19. Section 17 has a similar framework 20, upon which are secured the top boards 21. The outer portions of tops 19 and 21 may be made of corrugated or plain sheet metal, if desired. To the under side of framework 18 are secured longitudinal pieces 22, one at each side. Housings 23 23 are secured to the under sides of pieces 22, and wheels 24 24 are mounted in these housings. Wheels 24 24 rest upon bars 11 and have concave or centrally-grooved tires or peripheries in order to prevent their slipping laterally from said bars. To the under side of framework 20 are secured similar longitudinal pieces 25, one at each side. Housings 26 26 are secured to the under sides of pieces 25, and wheels 27 27 are

mounted in these housings. Wheels 27 27 rest upon bars 12 and have concave or centrally-grooved tires or peripheries in order to prevent their slipping laterally from said bars.

The roof-sections 16 and 17 rest normally with their ends against the ends 6 6, respectively, of the car-bed, while their inner ends slightly overlap or pass each other. Section 17 is a little higher than section 16, so that the framework 20 of section 17 comes just over the top boards 19 of section 16. Section 17 is also broader than section 16, so that the wheels 27 come just outside section 16.

The ends 6 6 of the bed extend up higher than the sides 5 5, and cross-pieces 28 and 29 rest upon these ends 6 6, respectively. The ends of these cross-pieces rest upon standards 9 9. The outer ends of roof-sections 16 and 17 come just under cross-pieces 28 and 29, respectively, as shown. A bolt 30 passes down through the inner ends of roof-sections 16 and 17, thus locking them together and securing them in position. A securing cross-piece 31 is placed across the inner end of roof-section 17, over bolt 30, and has its ends shouldered or reduced to fit in slots in the upper ends of standards 8 8. Bolts 32 pass through holes in the upper ends of standards 8 8 and the ends of cross-piece 31, thus securing the latter in position. The ends of these bolts preferably have holes, as shown, and may be secured by means of common car-seals 33 passing therethrough, Fig. 8, or by padlock and chain or other suitable device. One of the bolts may be secured by means of a nut. Clips 34 are secured upon the top of roof-section 17, and these clips embrace cross-piece 31, thus holding roof-section 17 in position. Cross-piece 31 is omitted in Fig. 2.

Blocks or side pieces 35 35, Fig. 4, are depended to the top of the car-bed from the longitudinal pieces 25 25 to fill the vacant spaces between wheels 27 27 and inclose the car at those points.

Slots or notches 36 and 37 are cut in the end cross-pieces 28 and 29, respectively.

When the car is to be loaded one of the bolts 32 is withdrawn and the cross-piece 31 is raised at one end. The bolt 30 is withdrawn. The roof-section 17 is moved or shifted to the opposite end of the car to the position shown in Fig. 5, the wheels 27 moving upon bars 12 and the roof-section 17 passing or telescoping over the roof-section 16. The right-hand end of the car is then filled in the usual manner. Then the roof-section 17 is returned to its original position. The roof-section 16 is then moved or shifted to the right, passing or telescoping under section 17 to the position shown in Fig. 6, the wheels 24 moving upon bars 11. The left-hand end of the car is then filled in the usual manner. Roof-section 16 is then returned to its first position, as shown in Fig. 4. The bolt 30, cross-piece 31, bolts 32 and seals 33 are then placed in position. The contents of

the car will then be protected from rain and snow, and the car will be as proof against burglary and theft as the ordinary box-car. The end cross-pieces 28 and 29 and the central cross-piece 31 will prevent the roof-sections from being raised or pried up.

It will be observed that standards 8 8 and 9 9 are cut away on their inner sides at their upper ends in order to make room for roof-section 17 to pass. The reduced upper ends of the standards should be reinforced with irons 8' 8' in order to secure sufficient strength, as represented in Fig. 7. The cross-piece 31 may also be ironed for greater strength if desired.

When the car is to be unloaded the roof-section 17 is shifted to the left until the right-hand end of the car is emptied, and the roof-section 16 is shifted to the right until the left-hand end of the car is emptied, as will be readily understood.

A suitable tool may be inserted in slots 36 and 37, if necessary, in order to start the roof-sections from their normal positions.

It will readily be understood that with this form of shifting-roof the contents of the car will be as well protected as with a box-car, while coal, iron, and many other things may be much more readily loaded and unloaded than with a box-car.

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

1. The combination, with the car-bed, of a roof or cover consisting of two sections, one of said sections covering one end of the car and the other section covering the other end of the car, and a bolt passing through the inner ends of said sections, thus securing said sections together, substantially as set forth.

2. The combination, with the car-bed, and two sets of bars secured therein, of a roof or cover consisting of two sections, one of said sections covering one end of the car and the other section covering the other end of the car, wheels secured to said sections, the wheels of one section resting upon one set of bars, and the wheels of the other section resting upon the other set of bars, and a bolt passing through the inner ends of said sections, thus securing said sections together, substantially as set forth.

3. The combination, with the car-bed, of a roof or cover consisting of two sections, clips secured to one of said sections, and a cross-piece fitting in said clips, and thus holding said section in position, substantially as set forth.

4. The combination, with the car-bed, of a roof or cover consisting of two sections, a bolt passing through the inner ends of said sections, clips secured to one of said sections, a cross-piece fitting in said clips and covering said bolt, and means for securing said cross-piece in position, substantially as set forth.

5. The combination, with the car-bed hav-

ing its ends higher than its sides, the end cross-pieces 28 and 29, and the center cross-piece 31, of a roof or cover consisting of two sections, said sections having their outer ends
5 under said end cross-pieces, respectively, and having their inner ends under said center cross-piece, and means for securing said sections in position, substantially as set forth.

6. The combination with a car having the
10 usual side walls 5, of bars extending longitudinally along the inner sides of the walls, bars extending along the outer sides of the walls, a cover for one end of the car, sliding upon and supported by the inner bars, and a
15 cover for the other end of the car, adapted to slide over the first cover and supported by the outer bars.

7. The combination with a car having the usual side walls, of the longitudinally-extending bars at the inner sides of said walls, a cover 20 for one end of the car provided with rollers adapted to travel on said bars, longitudinally-extending bars at the outer sides of the walls, and a cover for the other end of the car provided with rollers adapted to travel on the 25 last-named bars, said cover arranged to be shifted to overlie that first named; whereby, by telescoping the covers, the ends of the car may be exposed and access permitted to its interior.

WILLIAM G. RICHARDS.

Witnesses:

GEO. L. GARRETT,
JAMES H. REECE.