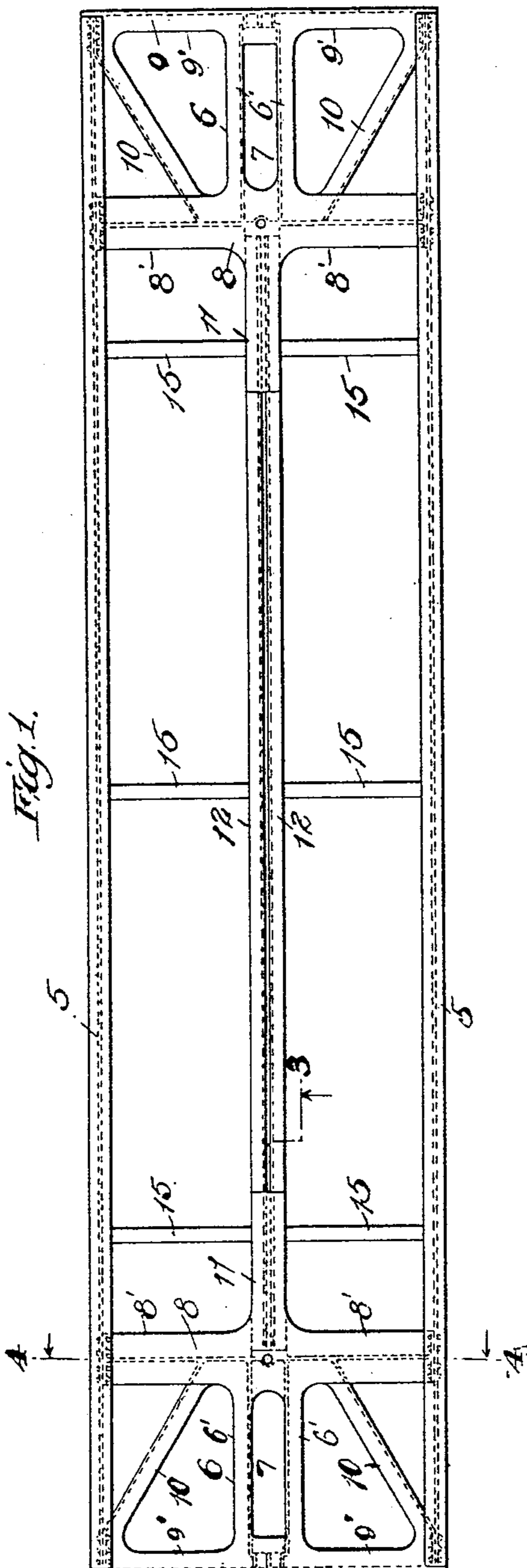


No. 866,997.

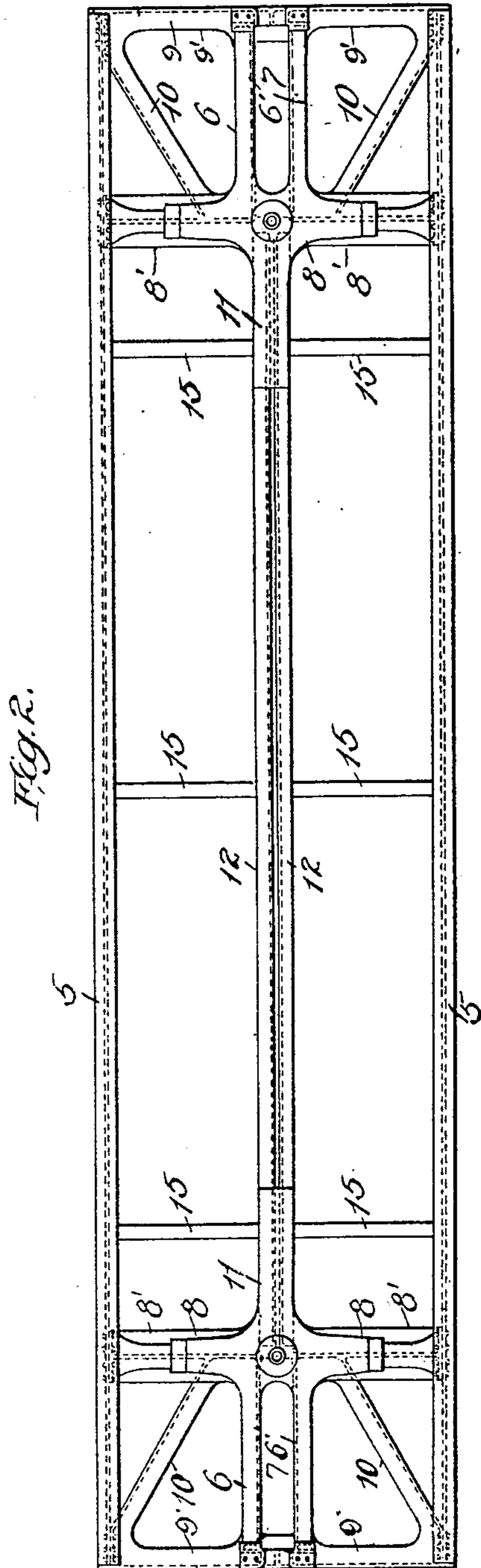
PATENTED SEPT. 24, 1907.

J. S. ANDREWS.
UNDERFRAME FOR CARS.
APPLICATION FILED JUNE 15, 1907.

2 SHEETS—SHEET 1.



Witnesses
Harry R. L. White
M. A. Kiddie



Inventor
James S. Andrews
By J. M. Belk atty.

105 RAILWAY ROLLING STOCK

DRAFTSMAN

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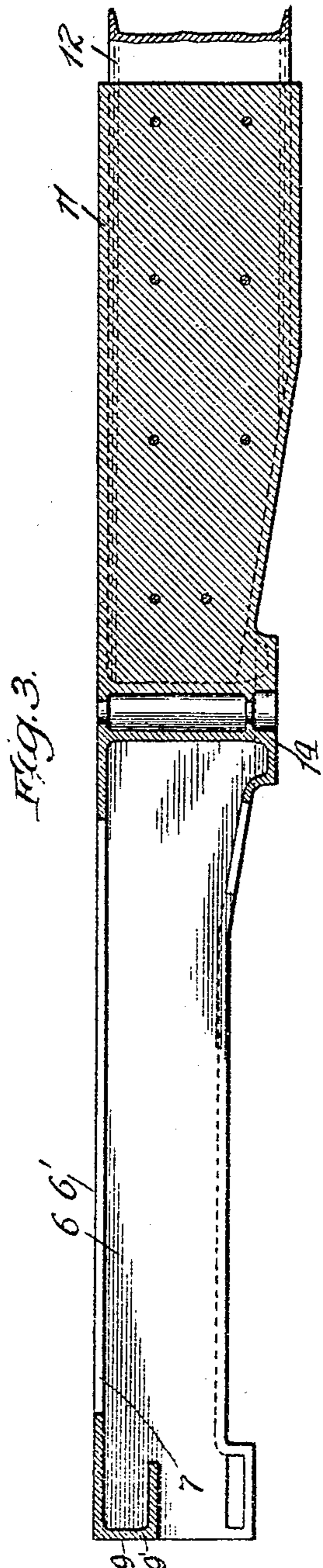
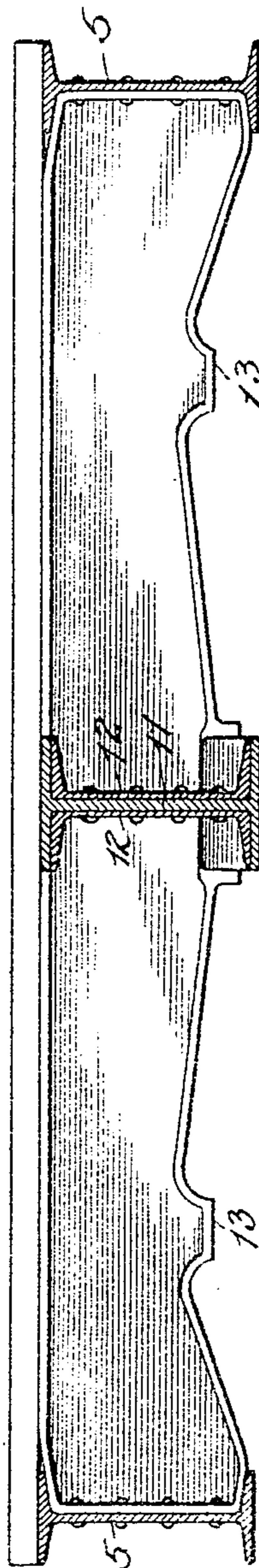


Fig. 2.



Witnesses
Harry R. L. White
M. A. Kiddie

Inventor
James S. Andrews
By Wm. T. Bell, atty.

UNITED STATES PATENT OFFICE.

JAMES S. ANDREWS, OF NEW YORK, N. Y.

UNDERFRAME FOR CARS.

No. 866,997.

Specification of Letters Patent.

Patented Sept. 24, 1907.

Application filed June 15, 1907. Serial No. 379,114.

To all whom it may concern:

Be it known that I, JAMES S. ANDREWS, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented new and useful Improvements in Underframes for Cars, of which the following is a specification.

This invention relates to underframes for railway cars and its object is to provide a sectional metal underframe of strong and substantial construction composed of few parts adapted to be securely and rigidly fastened together and consisting in whole or in part of steel castings.

In the accompanying drawings I have illustrated one embodiment of the invention and referring thereto Figure 1 is a top plan view of the underframe. Fig. 2 is a bottom plan view. Fig. 3 is an enlarged longitudinal sectional view on the line 3—3 of Fig. 1. Fig. 4 is an enlarged transverse sectional view on the line 4—4 of Fig. 1.

Referring to the drawings the side sills 5 each preferably consist of one continuous cast or rolled I-beam. Between the side sills, at each end thereof, is a steel casting comprising, in the one casting, a draw-bar sill 6 provided with an opening 7 to receive the draw-bar and its attachments, a body bolster 8 formed by projections 8' on each side of the draw-bar sill and an end sill 9 formed by projections 9' on each side of the draw-bar sill. Diagonal braces 10 are connected to the outer ends of the end sill and to the body bolster adjacent to the draw-bar sill, these braces being integral with the parts to which they are connected. The casting is also provided with an integral projection 11 extending rearwardly from the bolster and in line with the draw-bar sill to form a part of the center sill. Two channel beams 12, 12 are arranged side by side with their ends abutting against the castings and on each side of said projections 11 on the castings and to which they are riveted or bolted. The projections 8' are preferably made in I-form and are provided with integral side bearings 13 (Fig. 4). A center bearing 14 is provided on the underside of the casting between the projections 8' (Fig. 3). The two members 6' of the center sill, the projections 9' forming the end sill and the braces 10 are preferably made in channel form. The projections 11 are preferably made in I-form and the channel beams 12 are arranged with their flat sides adjacent and lying close to the web 11' of the projections 11 and between the flanges thereon (Fig. 3). Transoms 15, preferably of channel form, cast or rolled, are riveted or bolted to the side sills and the center sill in a suitable manner. The side sills are riveted or bolted to the ends of the body bolsters and

to the ends of the end sills, at the juncture of the end sills and the braces 10.

The underframe is strong and substantial in construction and comprises very few parts which are largely interchangeable. The side sills are made alike and are interchangeable, the two beams constituting part of the center sill are also made alike and interchangeable, and the castings at the ends of the frame are made alike and interchangeable. All of the parts of the underframe may be made of cast steel requiring only four patterns, or the side sills and the beams 12 may be made of rolled steel. The parts of the underframe can be readily and easily assembled and replaced or repaired.

What I claim and desire to secure by Letters Patent is:

1. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the body bolster, and I-beams extending from end to end of the underframe and fastened to the ends of said body bolster projections on the draw-bar sill castings to form the side sills of the underframe.

2. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the end sill, and I-beams extending from end to end of the underframe and fastened to the ends of said end sill projections on the draw-bar sill castings to form the side sills of the underframe.

3. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the body bolster, integral side projections constituting the end sill, integral diagonal braces connecting the outer ends of the end sill projections with the inner ends of the body bolster projections, and I-beams extending from end to end of the underframe and fastened to the ends of the body bolster and end sill projections on the draw-bar sill castings to form the side sills of the underframe.

4. An underframe for cars comprising at each end a draw-bar sill consisting of a steel casting having thereon integral side projections constituting the body bolster and integral side projections constituting the end sill of the underframe, and I-beams extending from end to end of the underframe and fastened to the ends of said end sill and body bolster projections on the draw-bar sill castings to form the side sills of the underframe.

5. An underframe for cars comprising at each end a steel casting having a projection thereon in I-form extending a distance lengthwise of the frame to form part of the center sill, and two channel beams constituting part of the center sill and having their ends abutting against said castings and secured to said projections on opposite sides thereof.

6. An underframe for cars comprising at each end a steel casting, a projection in I-form on said casting extending a distance lengthwise of the frame and constituting part of the center sill, and two channel beams constituting

a part of the center sill and arranged with their flat sides adjacent and their ends abutting against said castings and secured to said projections on either side of the web thereof and between the flanges thereon.

- 5 7. An underframe for cars comprising at each end a draw-bar sill having side projections constituting the end sill and side projections constituting the body bolster and a rear end projection extending a distance lengthwise of the frame to form part of the center sill, channel beams
10 extending throughout the length of the frame and fastened

to the ends of the end sills and the body bolsters to form the side sills, and two channel beams constituting part of the center sill and having their ends abutting against the draw-bar sills and fastened to the rear projections thereon and on opposite sides thereof.

JAMES S. ANDREWS.

Witnesses:

WM. O. BELT,
M. A. KIDDIE.