

No. 875,167.

PATENTED DEC. 31, 1907.

R. E. FRAME.

CAR UNDERFRAME.

APPLICATION FILED SEPT. 18, 1907.

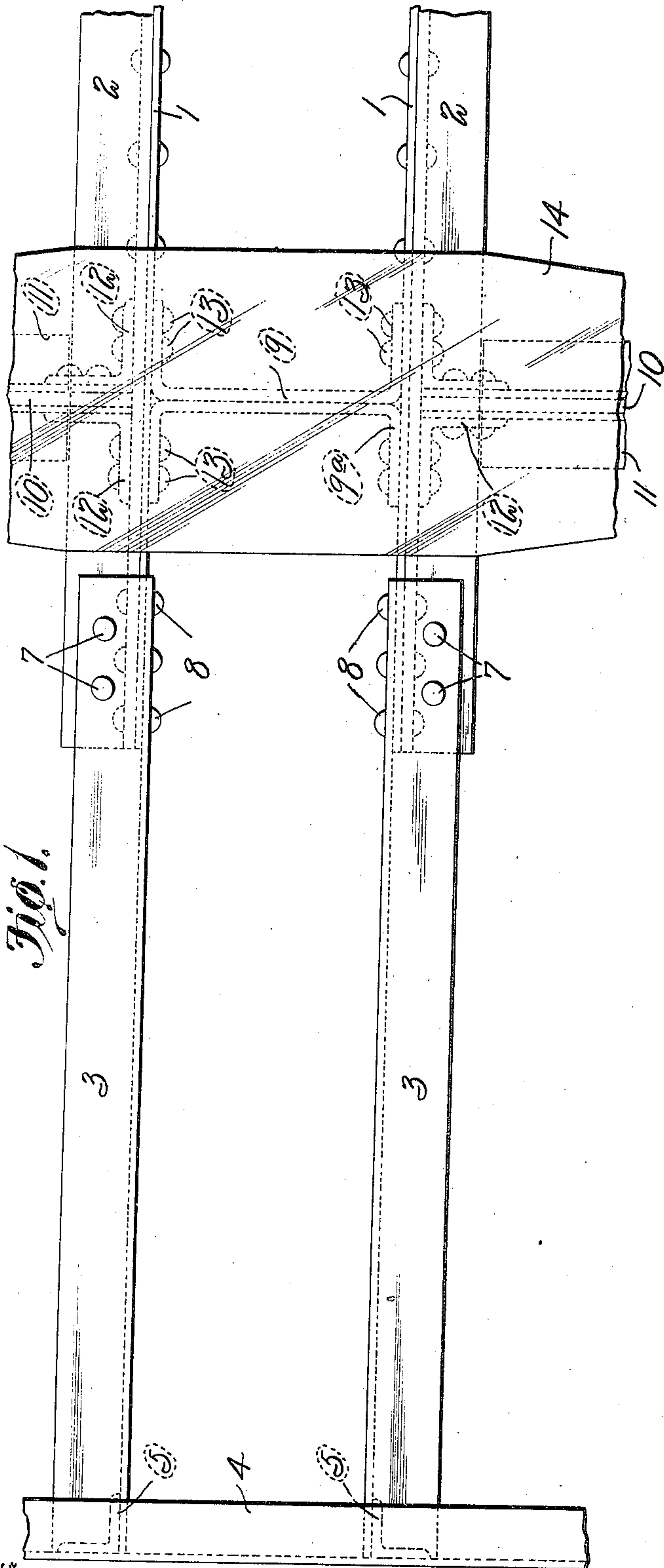


Fig. 1.

Witnesses:
Geo. R. Radson
Wells & Church.

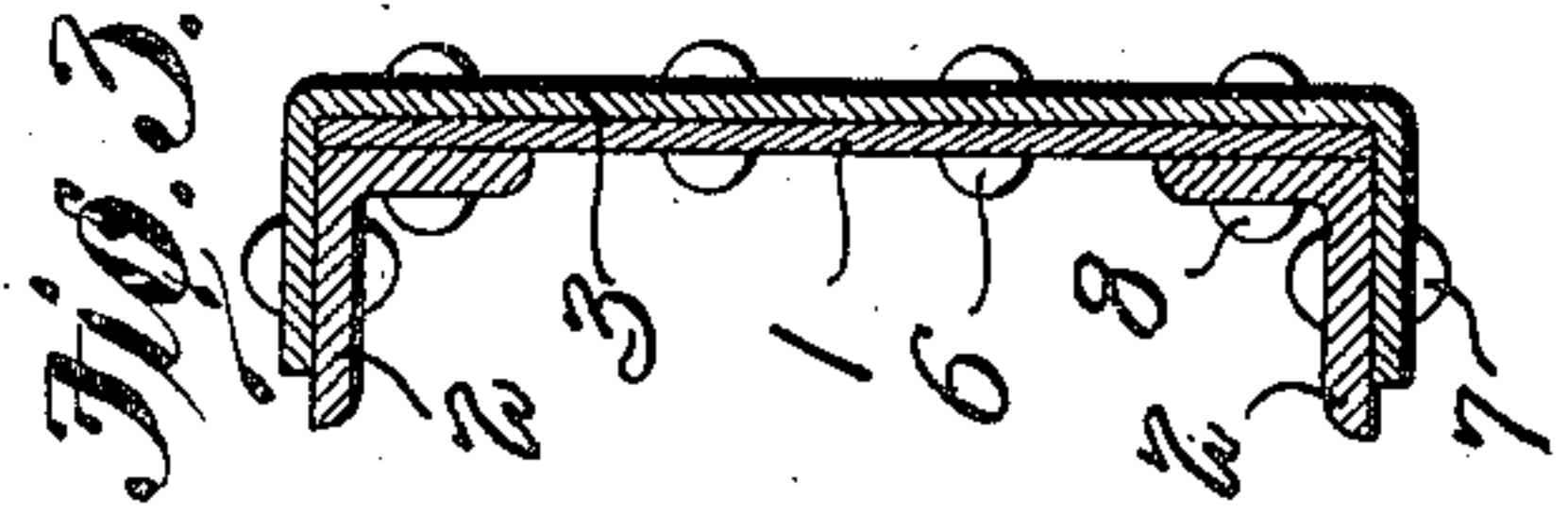
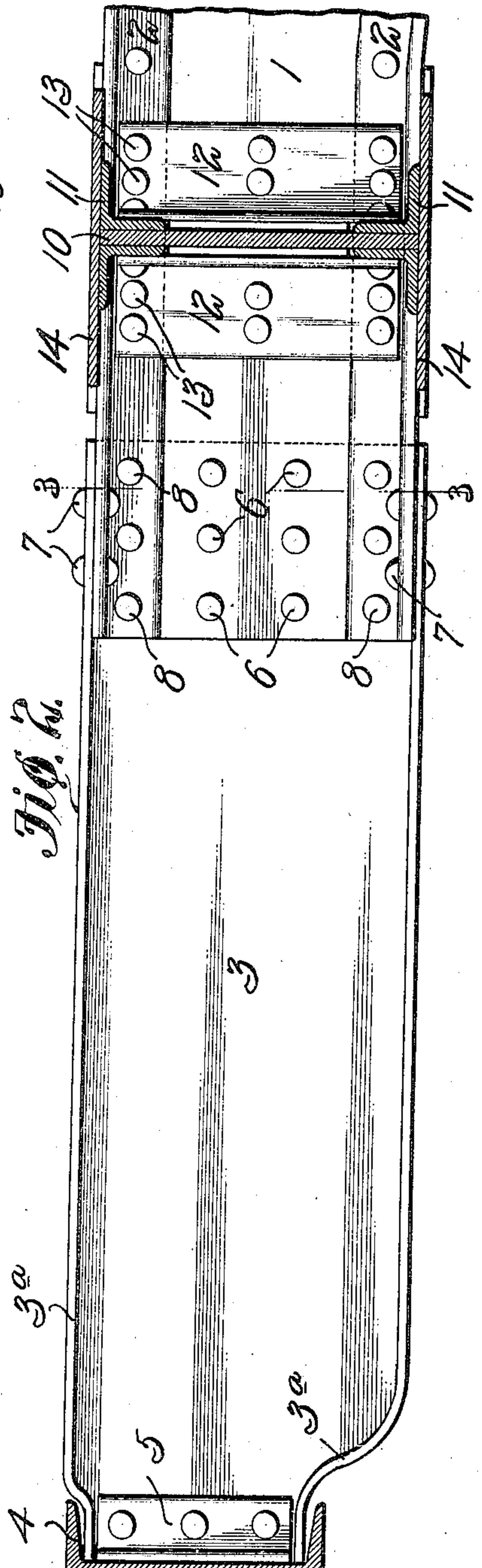


Fig. 2.



Inventor,
Robert E. Frame.
By McEwell & Arnold Attys.

UNITED STATES PATENT OFFICE.

ROBERT E. FRAME, OF ST. LOUIS, MISSOURI, ASSIGNOR TO AMERICAN CAR & FOUNDRY COMPANY, OF ST. LOUIS, MISSOURI, A CORPORATION OF NEW JERSEY.

CAR-UNDERFRAME.

No. 875,167.

Specification of Letters Patent.

Patented Dec. 31, 1907.

Application filed September 18, 1907. Serial No. 393,466.

To all whom it may concern:

Be it known that I, ROBERT E. FRAME, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Car - Underframes, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a top plan view of a car underframe constructed in accordance with my invention; Fig. 2 is a side elevation of the parts shown in Fig. 1; and Fig. 3 is a cross sectional view taken on the line 3—3 of Fig. 2.

This invention relates to car underframes, and has for its object to provide an underframe that is strong and which can be manufactured at a low cost.

Referring to the drawings which illustrate the preferred form of my invention, 1 designates plates that form the webs of the center sills, and 2 designates commercially rolled members, preferably angles, that are secured to the upper and lower edge portions of said plates to form built-up center sills of channel-shape in cross section, the horizontal legs of said angles projecting outwardly and the vertical legs of the angles being secured to the outside faces of the plates 1. The draft sills consist of channel-shaped pressed metal members 3 that are secured to the ends of the center sills which project beyond the bolster of the underframes, the outer ends of said draft sills being connected to the channel-shaped end sill 4 preferably by means of angles 5 although the draft sills could be provided with integral flanges for securing them to the end sill without departing from the spirit of my invention.

As shown in Fig. 2 the draft sills 3 are of greater depth than the end sills and their outer ends are reduced so that the flanges 3^a thereon will lie between the inwardly projecting flanges of the end sill, the top flanges of the draft sills being flush with the top flange of the end sill. The inner end portions of the draft sills are preferably telescoped over the projecting end portions of the center sills and the vertical webs of said sills are secured together by rivets 6, the laterally projecting flanges of the draft sills and center sills also being secured together by rivets 7 so that a very strong and rigid

structure is produced. Preferably, the rivets 8 which secure the angles 2 to the web plates 1 at the end portions of the center sills also pass through the webs of the draft sills 3, and the upper and lower edges of the vertically disposed web plates of the center sills extend flush with the horizontal legs of the angles 2 secured to said plates so as to butt against the flanges of the draft sills, as shown in Fig. 3, thereby producing an exceptionally strong connection between the center sills and draft sills as all of the parts are closely nested together.

The center sills are separated at the bolster by flanged diaphragms 9 arranged back to back, as shown in dotted lines in Fig. 1, and interposed between the center sills, and the bolster is made up of web plates 10 which project laterally from the center sills, said web plates having laterally projecting, commercially rolled members, preferably angles 11, secured to the upper and lower edge portions thereof to form an I-shaped structure. These laterally projecting I-shaped members are secured to the center sills by pairs of vertically disposed angles 12 and the end flanges 9^a of the diaphragms between the center sills are secured to said sills by the same rivets 13 which secure the connecting angles 12 to the center sills. The bolster is provided with the usual transversely extending top and bottom cover plates 14 which are secured to the flanges of the center sills and to the flanges of the I-shaped members that project laterally from the center sills.

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

1. A car underframe comprising built-up center sills of channel-shape in cross section, and pressed metal channel-shaped draft sills embracing the end portions of the center sills and secured to the webs and to the top and bottom flanges thereof; substantially as described.

2. A car underframe comprising built-up center sills of channel-shape in cross section arranged with their flanges projecting outwardly, pressed metal channel-shaped draft sills telescoped over the end portions of the center sills beyond the bolster, and fastening devices passing through the webs and the top and bottom flanges of the center sills and draft sills; substantially as described.

3. A car underframe comprising a bolster, center sills projecting beyond the bolster and each consisting of a vertically disposed web plate having angles secured to the upper and lower edge portions thereof to produce a channel-shaped structure, pressed metal draft sills of channel-shape in cross section telescoped over the end portions of the center sills, and fastening devices passing through the webs and the top and bottom flanges of the center sills and draft sills; substantially as described.
4. A car underframe comprising a bolster, center sills projecting beyond the bolster and each consisting of a vertically disposed web plate and angles secured to the upper and lower edge portions thereof and arranged with their flanges projecting outwardly, channel-shaped pressed metal draft sills telescoped over the end portions of the center sills, and fastening devices passing through the webs and the top and bottom flanges of the draft sills and center sills; substantially as described.
5. A car underframe comprising a bolster, channel-shaped center sills projecting beyond the bolster and each consisting of a vertically disposed web plate having angles secured to the outside faces thereof, the upper and lower edges of said plate extending flush with the horizontal legs of said angles, and pressed metal channel-shaped draft sills telescoped over the end portions of the center sills and secured to the webs and to the top and bottom flanges thereof; substantially as described.
6. A car underframe provided with a longitudinally extending channel-shaped sill which consists of a vertically disposed web plate having commercially rolled members secured to the upper and lower edge portions thereof, a pressed metal extension conforming in cross section to the longitudinally extending sill and being in telescopic engagement with the end portion thereof, and means for securing the webs and the top and bottom flanges of said members together; substantially as described.
7. A car underframe comprising flanged center sills, a pair of pressed metal diaphragms placed back to back and arranged between said center sills, I-shaped members projecting laterally from the center sills, each of said members consisting of a vertically disposed web plate having angles secured to

the upper and lower edge portions thereof and arranged with their horizontal legs projecting in opposite directions, and means for securing said members to the center sills; substantially as described.

8. A car underframe comprising center sills, each of which consists of a vertically disposed web plate having angles secured to the outside faces of the upper and lower edge portions thereof, the horizontal legs of said angles projecting outwardly, a spacing member arranged between the center sills, I-shaped members projecting laterally from the center sills and each consisting of a vertically disposed web plate having a pair of angles secured to the upper and lower edge portions thereof, vertically disposed angles connected to the top and bottom angles of the center sills and to the top and bottom angles of said I-shaped members for securing said parts together, and top and bottom cover plates extending transversely over the center sills and the I-shaped members which project laterally therefrom; substantially as described.

9. A car underframe comprising a channel-shaped end sill, a bolster, built-up center sills of channel-shape in cross section which project beyond the bolster, and pressed metal channel-shaped draft sills telescoped over the end portions of the center sills and connected to the top and bottom flanges thereof, said draft sills having their outer ends reduced to fit between the flanges of the end sill; substantially as described.

10. A car underframe provided with a longitudinal sill which consists of a vertically disposed web plate, angles secured to the upper and lower edge portions of said plate and arranged with their horizontal flanges projecting laterally therefrom, and a pressed metal channel-shaped extension telescoped over the end portion of said sill and having its web secured to the vertical web plate thereof and its top and bottom flanges secured to the angles at the upper and lower edges of said plate; substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this thirteenth day of September 1907.

ROBERT E. FRAME.

Witnesses:

WELLS L. CHURCH,
GEORGE BAKEWELL.