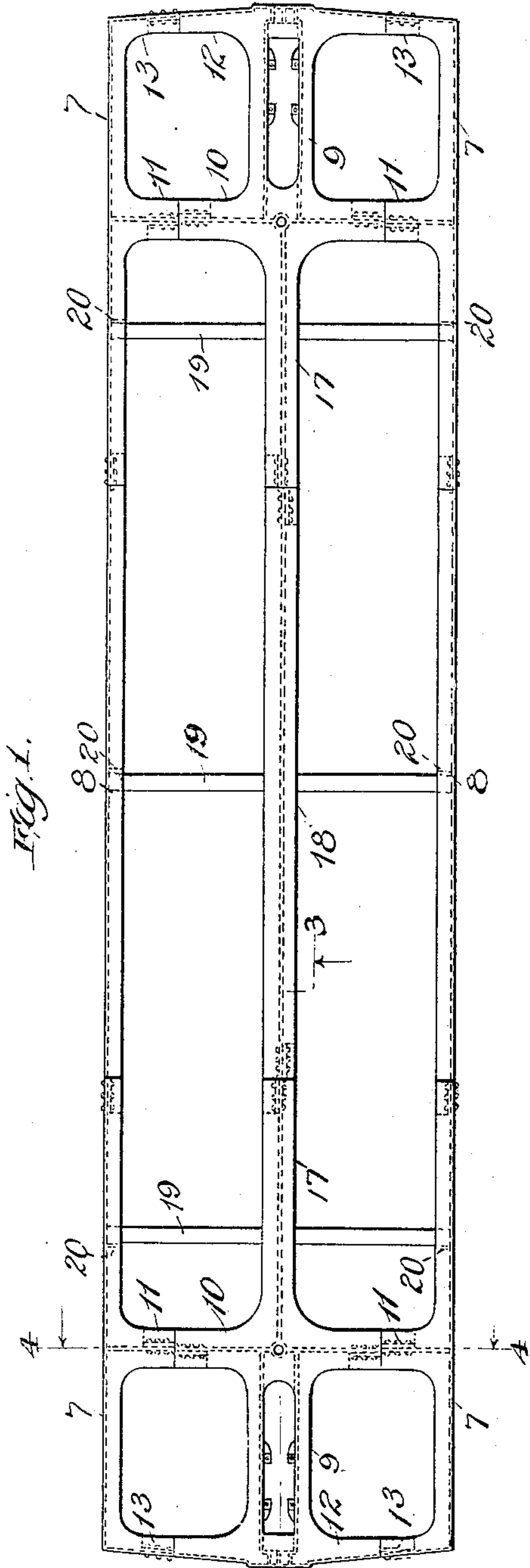


No. 865,670.

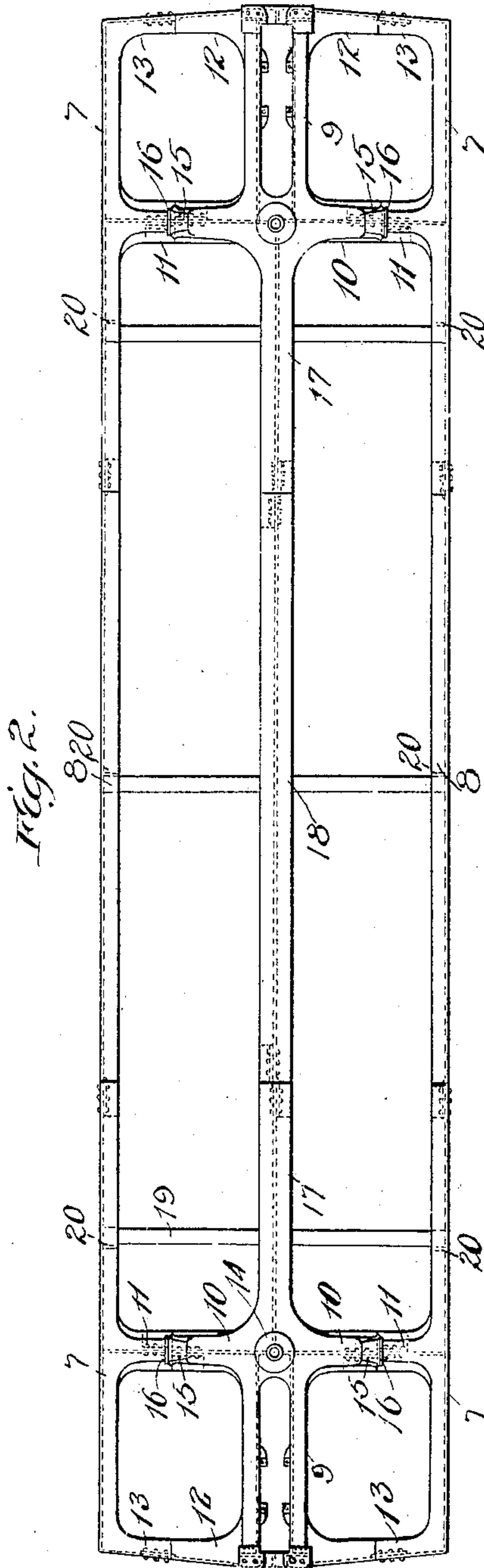
PATENTED SEPT. 10, 1907.

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

2 SHEETS—SHEET 1.



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



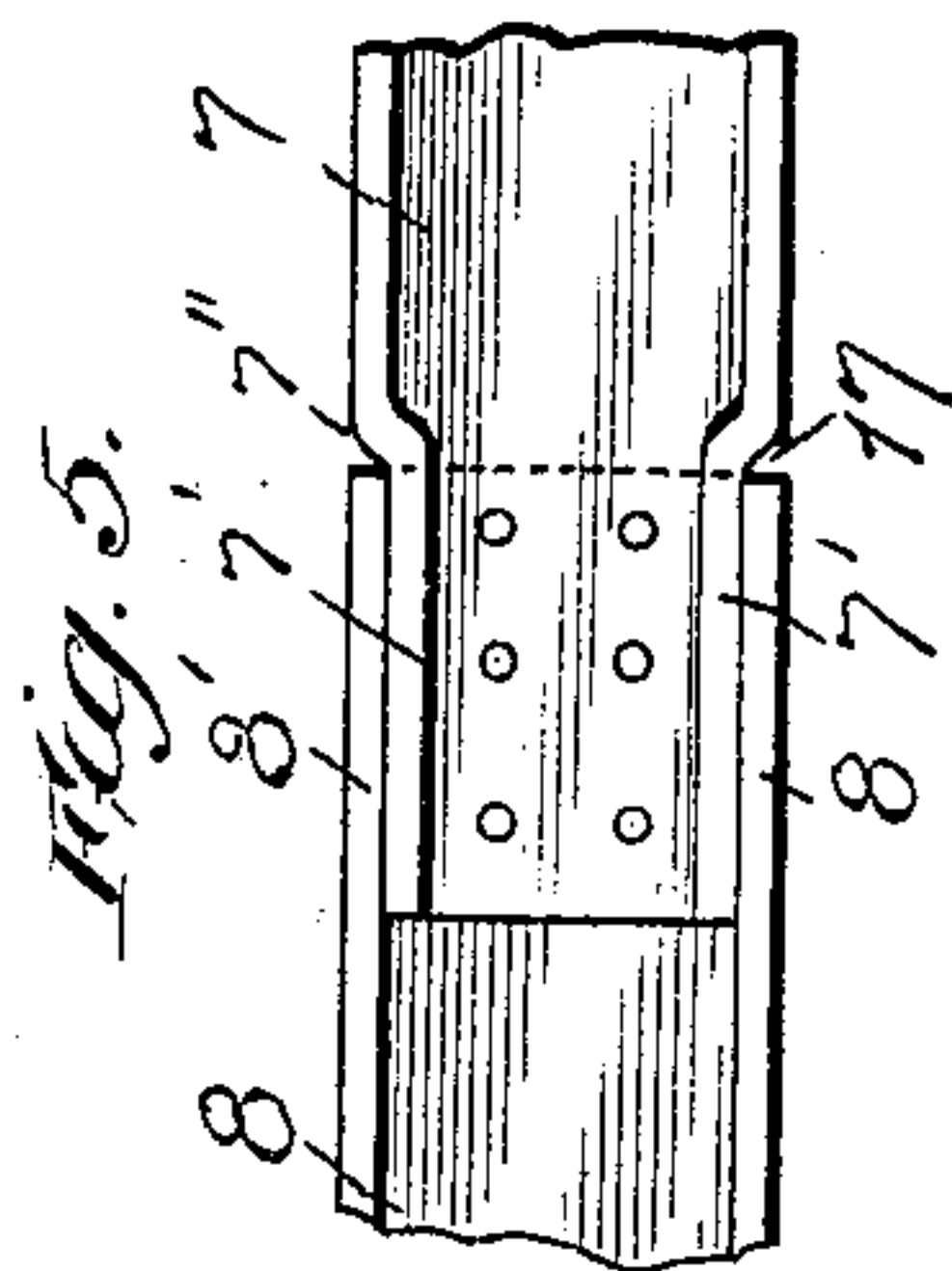
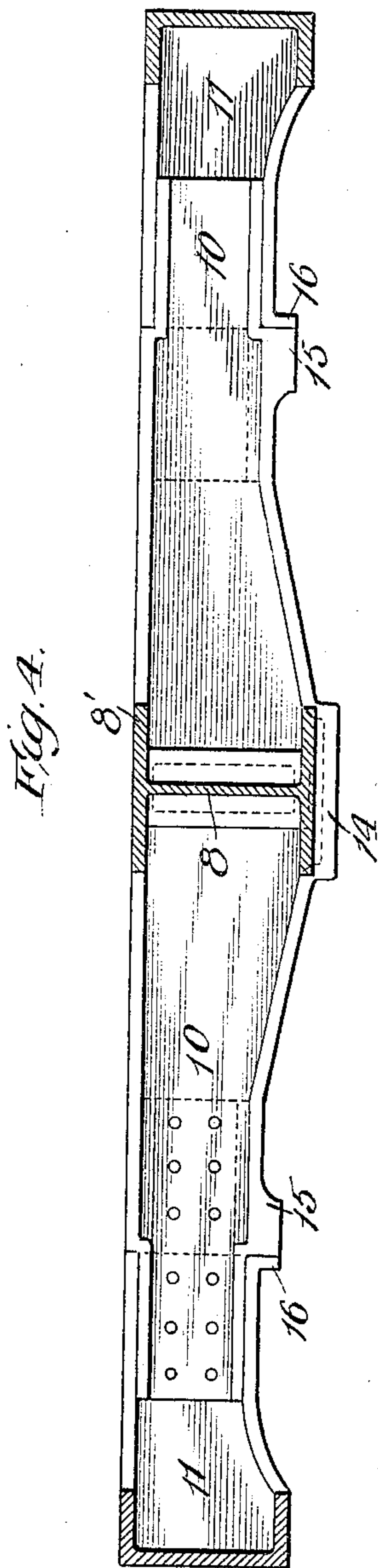
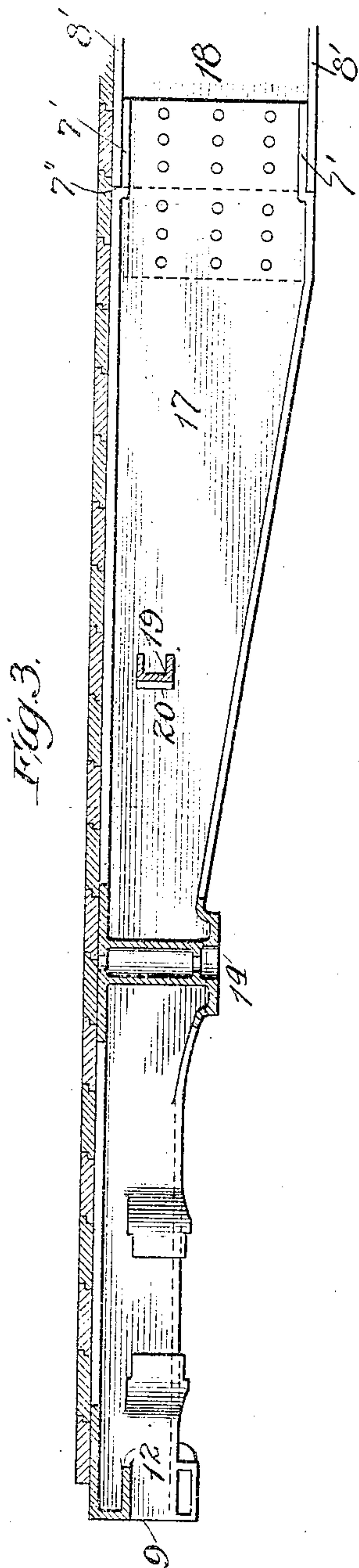
Inventor  
James S. Andrews  
By J. M. Bell, Atty.

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2 SHEETS—SHEET 2.



Witnesses  
Harry R. L. White  
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Inventor  
James S. Andrews  
By *Wm. R. Kelly* atty



# UNITED STATES PATENT OFFICE.

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

## UNDERFRAME FOR CARS.

No. 865,670.

Specification of Letters Patent.

Patented Sept. 10, 1907.

Application filed June 15, 1907. Serial No. 379,115.

*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 make a sectional underframe of strong and substantial construction consisting of steel castings securely and rigidly fastened together.

In the accompanying drawings I have illustrated the invention as embodied in an underframe of the general construction disclosed in my application Serial No. 377,721 filed June 7, 1907, to illustrate 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 lines 4—4 of Fig. 1. Fig. 5 is an enlarged detail view showing one of the joints.

Referring to the drawings each side sill consists of two end sections 7 and a central section 8, all of these sections being preferably made of cast steel in channel form, but the central section 8 may be made of a rolled channel beam. The ends of the central section 8 overlap the ends of the end sections 7 and these overlapping ends are fastened together securely and rigidly by rivets or bolts. The joint formed at these overlapping ends is illustrated in detail in Fig. 5 which shows the end of the section 7 offset to fit between the flanges 8' on the section 8. This can be reversed and the end of the section 8 offset to fit between the flanges 7' on the section 7 if desired. In the construction shown in Fig. 5 the section 7 is provided with shoulders 7'' against which the end of the section 8 abuts.

At each end of the frame is a draw-bar sill 9 and this draw-bar sill is provided with side projections 10 to abut against side projections 11 on the end sections 7 of the side sills to constitute the body bolster, and also with side projections 12 to abut against side projections 12 on the end sections of the side sills to constitute the end sill. The projections 10 and 11 are made in I-form and are reduced at their ends so that each may overlap and fit in the channel on one side of the other, the upper flange on each of said projections being cut away for this purpose (Fig. 1). The projections 12 and 13 overlap and are secured together in the manner shown in Fig. 5.

The body bolster is provided with a center bearing 14 and side bearings 15 and the side projections 11 may

have downwardly extending flanges 16 to abut against the side bearings 15 (Fig. 4).

The draw-bar sills have end projections 17 in I-form to constitute parts of the center sill and an intermediate cast steel section 18 in I-form overlaps at its ends the ends of the projections 17 and is riveted or bolted thereto, as shown in Fig. 3. Transoms 19, preferably of channel form and made of cast or rolled steel, are riveted or bolted to lugs 20 on the side and center sills.

My invention provides a sectional underframe of strong and substantial construction in which the sections are adapted to be securely and rigidly fastened together in a simple manner. The construction is such that the whole frame will be rigid and the parts thereof will not have any objectionable relative movement.

The manner of joining the sections may be embodied in frames of other constructions than that illustrated in the drawings and I do not limit myself to this particular embodiment.

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

1. In an underframe for cars, a metal side sill comprising a plurality of sections of channel form, said sections having their adjacent ends overlapped and secured together, one of said ends being offset to fit within the other.

2. In an underframe for cars, a metal side sill comprising a plurality of sections of channel form having their adjacent ends overlapped and fastened together, the end of one section being offset to fit within the channel of the other section and having a shoulder against which the end of the other section abuts.

3. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection to constitute part of the body bolster, a cast steel draw-bar sill having an integral side projection to constitute part of the body bolster, said projections overlapping each other at their adjacent ends, and means for fastening said projections together.

4. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the body bolster, a cast steel draw-bar sill having an integral side projection forming part of the body bolster, said projections being made in channel form with their ends overlapping, the end of each projection being reduced to fit within the channel on one side of the other projection, and the flanges on said projections being cut away to permit them to overlap, and means for fastening said projections together.

5. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the body bolster, a cast steel draw-bar sill having an integral side projection forming part of the body bolster, said projections overlapping and one provided with a side bearing and the other with a depending flange to lie against said side bearing, and means for fastening said projections together.

6. In an underframe for cars, a side sill comprising a

cast steel end section having an integral side projection forming part of the end sill, a cast steel draw-bar sill having an integral side projection forming part of the end sill, said projections overlapping at their adjacent ends, and  
5 means for fastening said projections together.

7. In an underframe for cars, a side sill comprising a cast steel end section having an integral side projection forming part of the body bolster and an integral side projection forming part of the end sill, a cast steel draw-bar  
10 sill having an integral side projection forming part of the

body bolster and an integral side projection forming part of the end sill, the bolster projection on the draw-bar sill overlapping the bolster projection on the side sill section and the end sill projection on the draw-bar sill overlapping the end sill projection on the side sill, and means for fastening the overlapping ends of said projections together. 15

JAMES S. ANDREWS.

Witnesses:

WM. O. BEET,  
M. A. KIDDIE.