

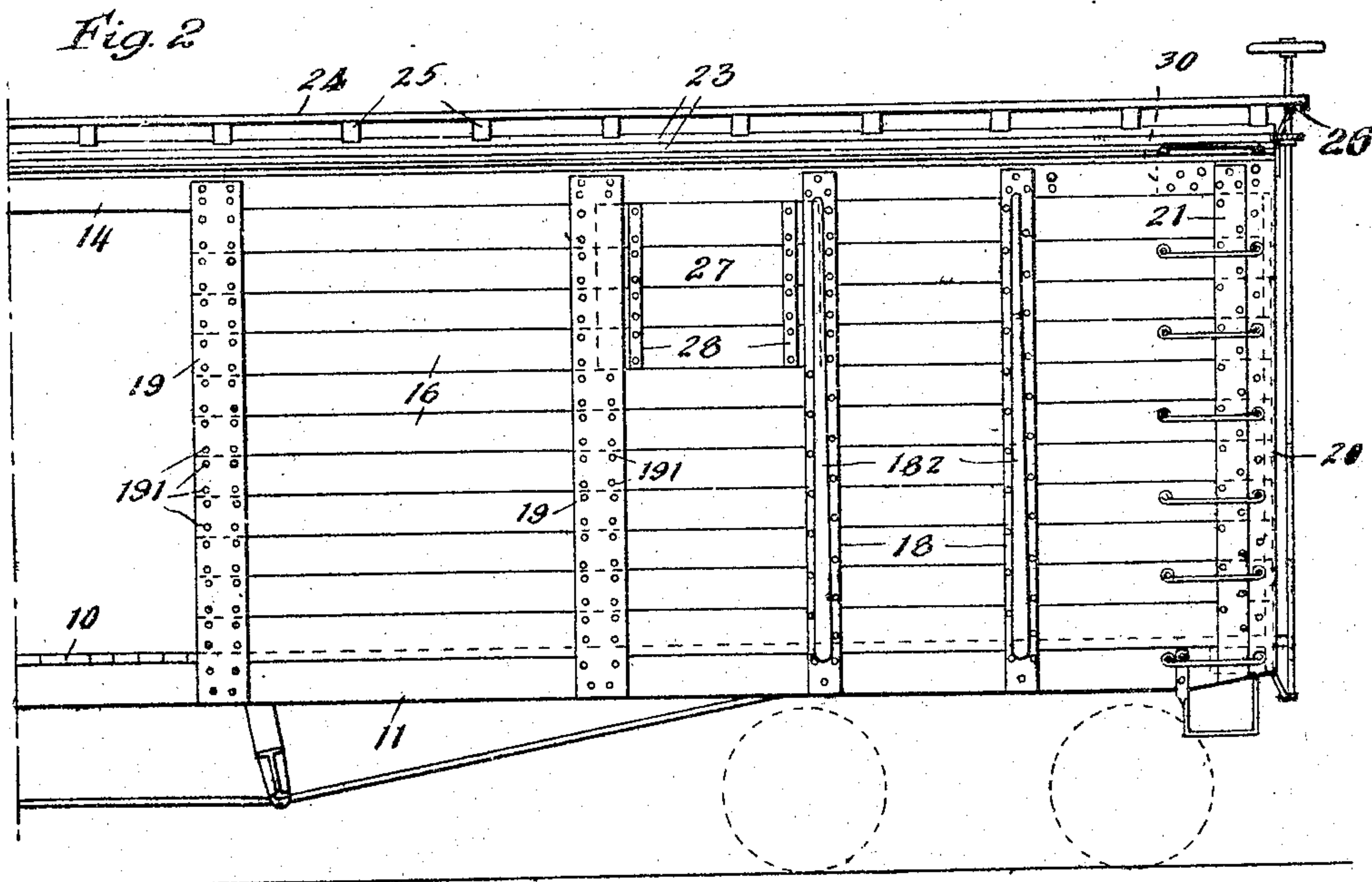
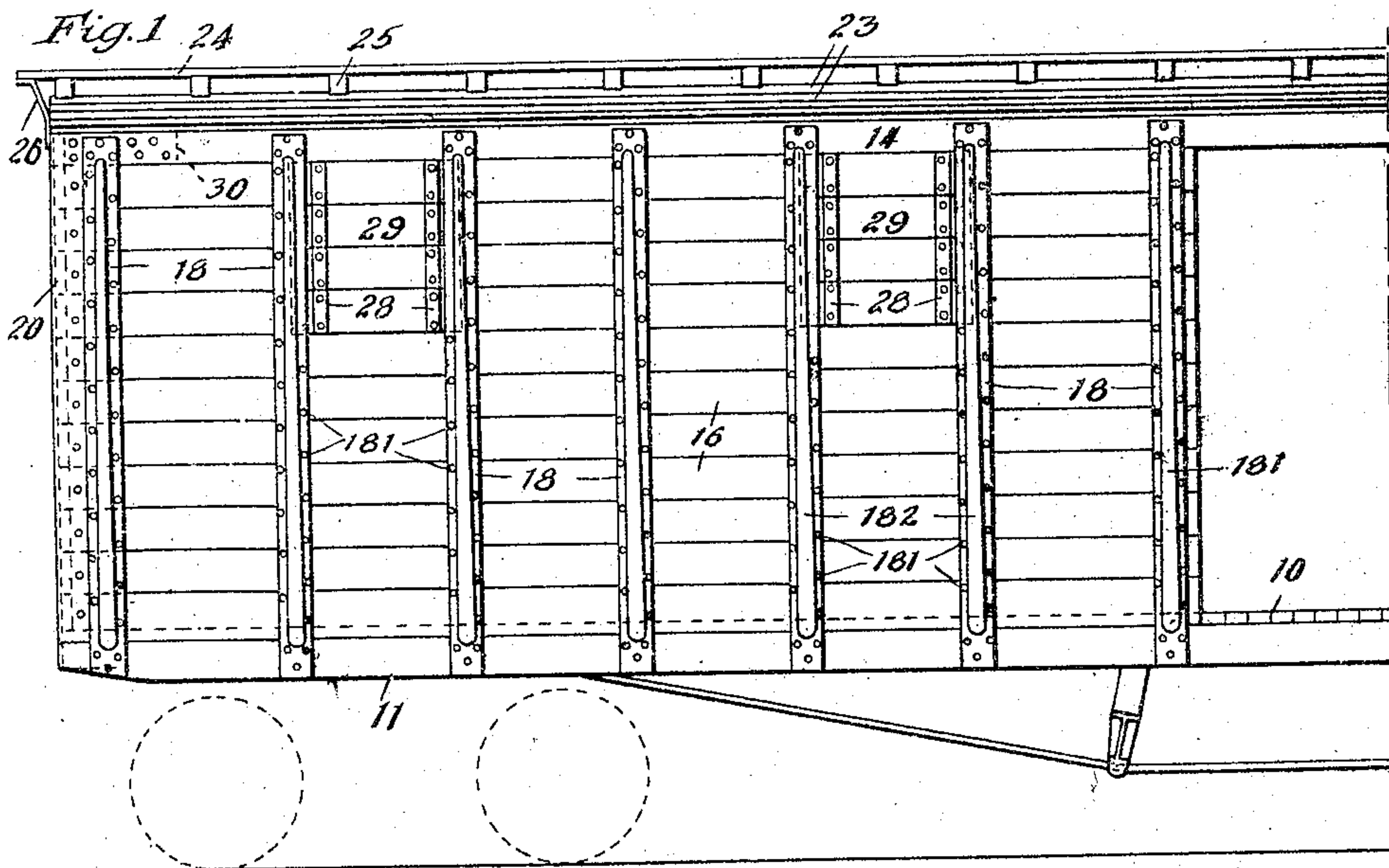
No. 897,896.

PATENTED SEPT. 8, 1908.

H. H. HARVEY & R. J. COOK.
CONSTRUCTION OF RAILWAY CARS.

APPLICATION FILED MAR. 16, 1907.

2 SHEETS—SHEET 1.



Witnesses:

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H. W. Munday,

Inventors

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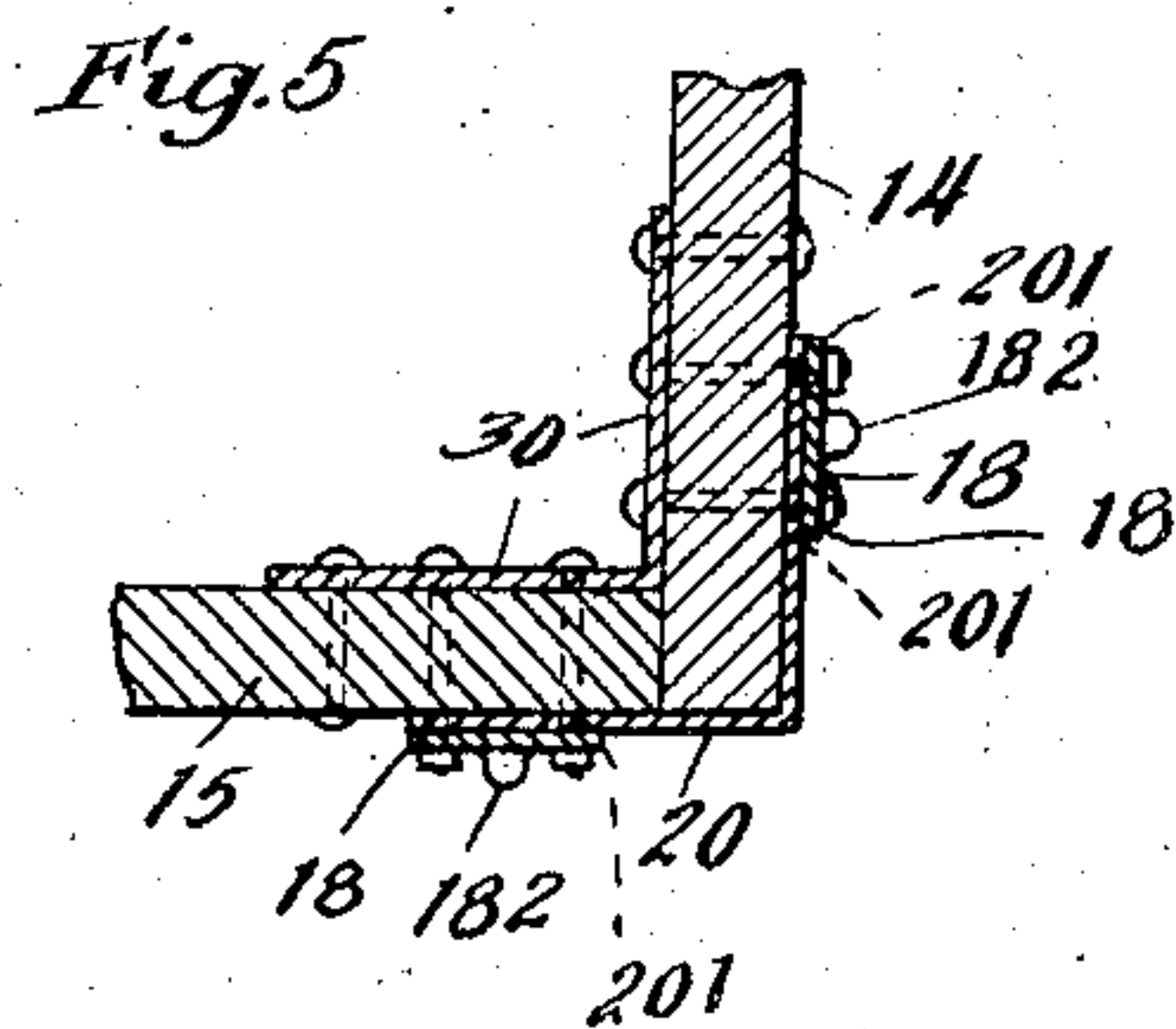
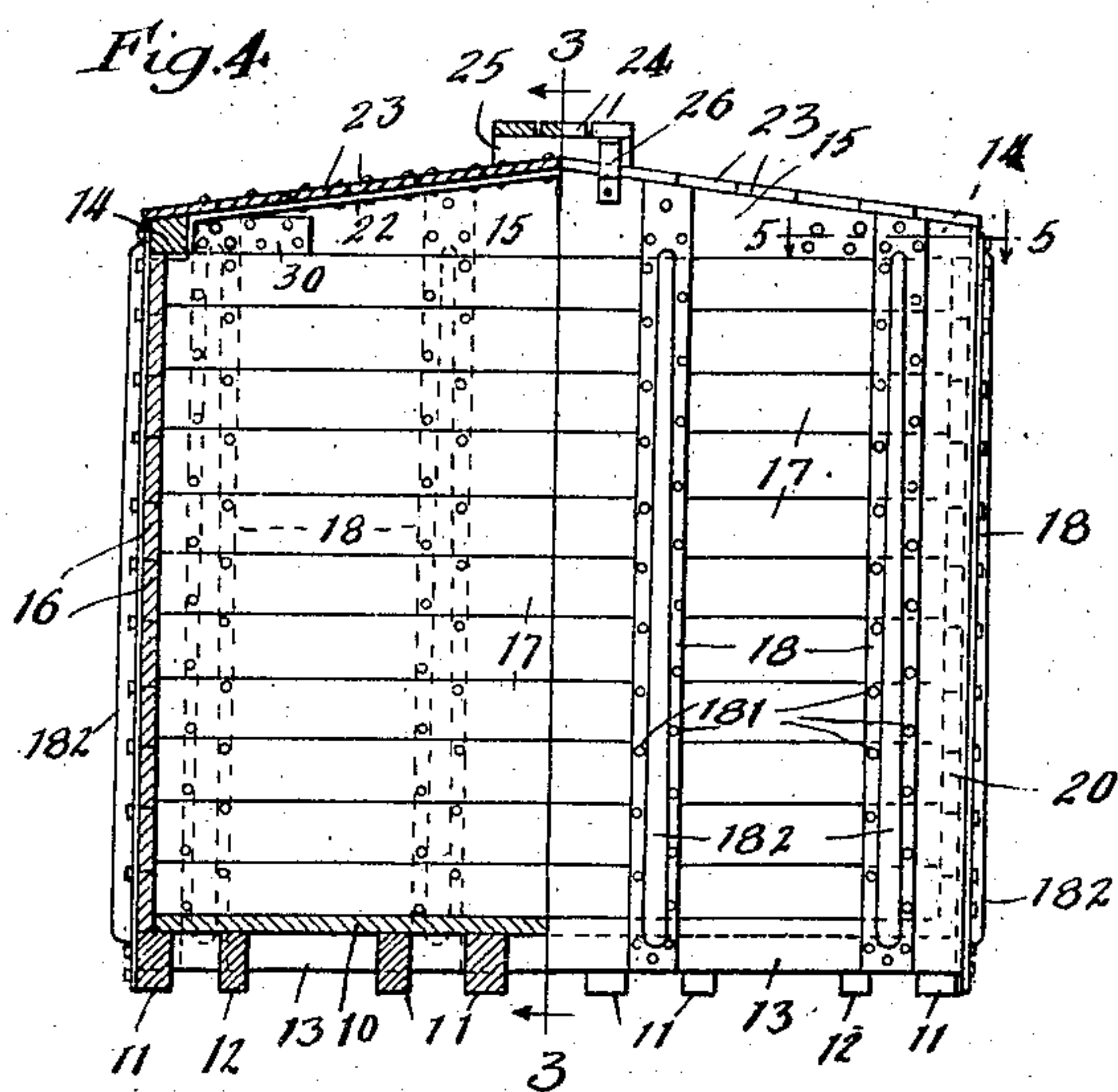
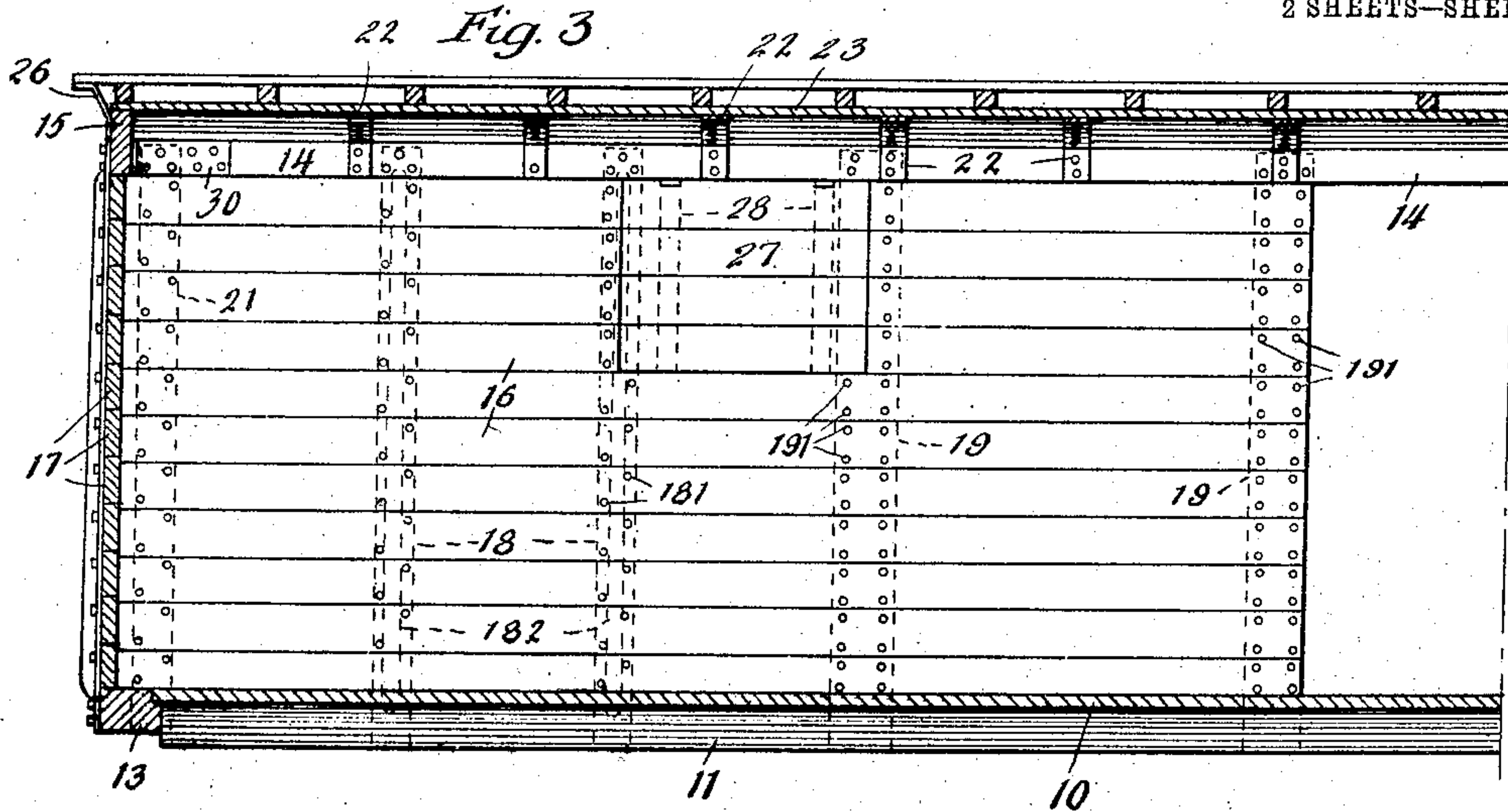
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UNITED STATES PATENT OFFICE.

HILLMAN H. HARVEY AND ROY J. COOK, OF CHICAGO, ILLINOIS.

CONSTRUCTION OF RAILWAY-CARS.

No. 897,896.

Specification of Letters Patent.

Patented Sept. 8, 1908.

Application filed March 16, 1907. Serial No. 362,660.

To all whom it may concern:

Be it known that we, HILLMAN H. HARVEY and ROY J. COOK, citizens of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in the Construction of Railway-Cars, of which the following is a specification.

This invention relates to an improvement in the construction of freight cars for railroads, and the invention consists in certain novel parts and devices and combinations of parts and devices, as hereinafter more fully set forth and claimed.

In the accompanying drawings which form a part of this specification, Figures 1 and 2 taken together represent a side elevation of the car; the one figure being a continuation of the other. Fig. 3 is a vertical longitudinal section of the portion of the car shown in Fig. 1, the section being taken on line 3—3 of Fig. 4; Fig. 4 is an end elevation of the car, one half of said figure being shown in section; and Fig. 5 is an enlarged horizontal section of the corner of the car taken at the line 5—5 of Fig. 4.

In said drawings 10 represents the platform or floor of the car body supported by beams 11, 12 and 13. Upon the lengthwise running beams, the flooring may be laid and secured in the usual manner. Upon this platform of beams is erected the superstructure of the car, which is made without interior framing. The car body consists of rows of horizontal planking placed edge to edge, the planking which forms the sides of the car running lengthwise with the car and planking which forms the ends running across the car. The lowermost plank may rest down upon the flooring, and the uppermost plank touches the side and end beams of the roof structure.

14 indicates the side beams of the roof structure and 15 the end beams of said structure.

The above mentioned longitudinal planks composing the side of the car are indicated at 16, and those composing the end of the car at 17. Extending from the side and end beams of the platform or floor structure, and the side and end beams of the roof structure are the steel uprights 18, 19, 20 and 21. The uprights 18 are shown as being plates, of sufficient height to extend from the floor to the roof of the car, and of sufficient width to accommodate two rows of bolts 181, and a cen-

tral stamped up stiffening ridge 182. The uprights 19 are made somewhat wider than the last described, are also provided with a double series of bolt holes 191, but are not made with any stamped up stiffening ridge, because these uprights are designed to occupy the space of the car side adjacent to the central door opening, and over them the door (not shown in the drawing) is intended to slide. The uprights 20 are made in the form of an angle,—see Fig. 5—and are furnished with a double row of bolt holes 201 in each wing of the angle, corresponding in position to the bolt holes in the uprights 21, and the latter are made of the same dimensions as the uprights 18 but have no stamped up stiffening ridge.

In constructing the car, the uprights 18, 19, 20 and 21 are bolted to the platform frame, and the planks—preferably already bored for the bolts—are applied in place edge to edge one upon another, and bolted or riveted to the uprights by means of short bolts or rivets. The beams of the roof structure 14 and 15 are then bolted or secured to the upper end of the uprights and the steel transverse carlines 22 are bolted or secured to the side beams of the roof structure, each carline extending from one side beam across the roof to the other. Then the longitudinal planks 23 forming the roof are laid upon and bolted to the carlines, and this completes the car body. The running board 24 is erected upon supports 25 and the bracket extensions 26, on top of the roof, after such roofing material as is desired has been applied upon the top of the longitudinally running roofing planks.

At each side of the car body, we have shown three window openings, and a central door opening. At each end of the car toward which the opening door slides is shown the window opening and its shutter 27 formed by cutting some of the planks, at two points and joining them together by means of the steel straps 28, 28 bolted thereto. The shutter thus formed is hinged to the longitudinal roof beam, and opens inwardly, extending from the middle of one upright to the middle of the next one, so that the uprights serve as jambs. In addition to the window 27, on the same side of the car, but at the other end, are two similar and somewhat smaller windows 28 and 29. In respect to these windows both sides of the car are similarly provided; that is to say, on

both sides of the car there are three windows, two windows at one side of the door opening and one window at the other side of the door opening, both sides of the car being alike except that the two windows in the one side are arranged at that end of the car which contains the one window on the other side. This arrangement of windows makes the car well adapted for carrying many different kinds of freight; thus these openings permit the loading and unloading of lumber, are specially well adapted for handling of coal, and also permit the easy loading of grain at small stations where there is no elevator.

The method of construction of the corner of the car is most clearly indicated at Fig. 5. The planks forming the side of the car and those forming the end of the car are butted together, the outer surface of the end planks being brought flush with the ends of the side planks and the roof beams are similarly framed together. One of the angle uprights 20, and two of the uprights 18 or 21 are applied to the outside of the corner thus built and bolts are passed through the uprights 18 or 21 and 20, to the inside of the car, and through the platform framing below and the roof beams above. At the upper end of this corner structure, and on the inside, to specially strengthen the roof structure, we apply the angle iron 30 bolted to the roof frame, and through the angle upright 20 and uprights 18 or 21. This, all taken together forms an extremely rigid and strong structure, making the ends of the car strong enough to withstand the usual severe shocks to which they are subjected.

It will be understood by those skilled in the art that the entire structure above described is very strong, and is also very simple and comparatively cheap, as it does away with all braces, girths, tie rods and internal sheathing; the planks which form the outside of the car form also the inside thereof. It will be further noted that nails are not used in this structure outside of the flooring, and that therefore there are no nails to work

out; that the interior of the car is smooth and that there is no chance for grain leakage, making the car especially valuable for that kind of freight. It will be further noted by those familiar with the subject that the car has a special advantage in being easy to inspect, and moreover, very easy to repair, as well as being originally easy to build, as the framing and building and repairing will consist largely in the mere application of bolts or rivets in their proper predetermined places, no framing or mortising, tenoning or application of tie rods being required. It will be further noted that this method of construction in a car of given outside width increases the interior available width of the car from three to five inches, which is a matter of great importance in the accommodation of freight, making it possible to carry more freight in a given height of load.

The nature of the construction enables us to put at least two bolts or rivets through each plank into each upright, and this we endeavor to do, as it greatly increases the strength of the structure as against diagonal strains. It will further be noted that in the manufacture of such cars, it is easy to do all of the boring for the bolts through the wooden portion of the structure before the car is erected, and as to the sheet steel or metallic portions, the bolt holes in these can be stamped out or bored when the piece is made, so that the erection of the car is merely a matter of applying the bolts.

We claim:—

A car side without interior framing, formed of planking placed edge on edge, and finished to present an interior plane surface, provided with exterior angle and intermediate posts, to all of which the planking is removably bolted, substantially as specified.

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Witnesses:

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