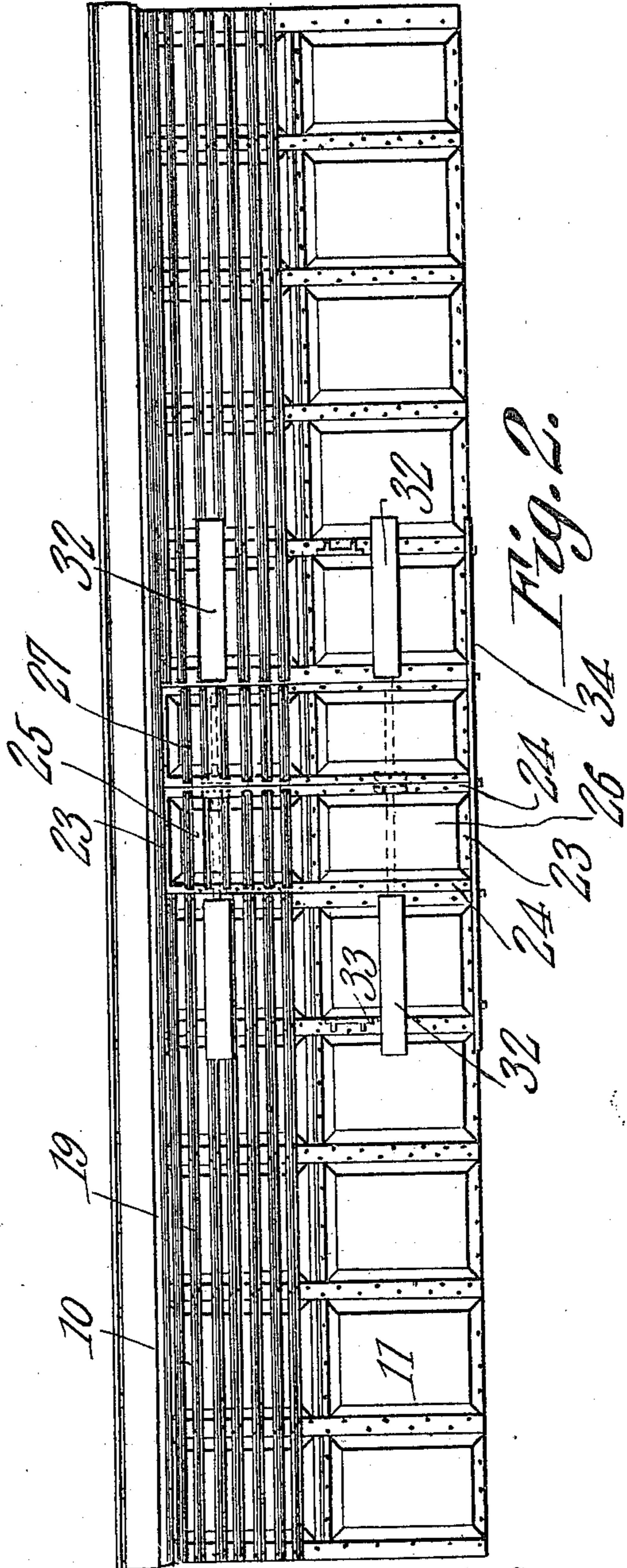
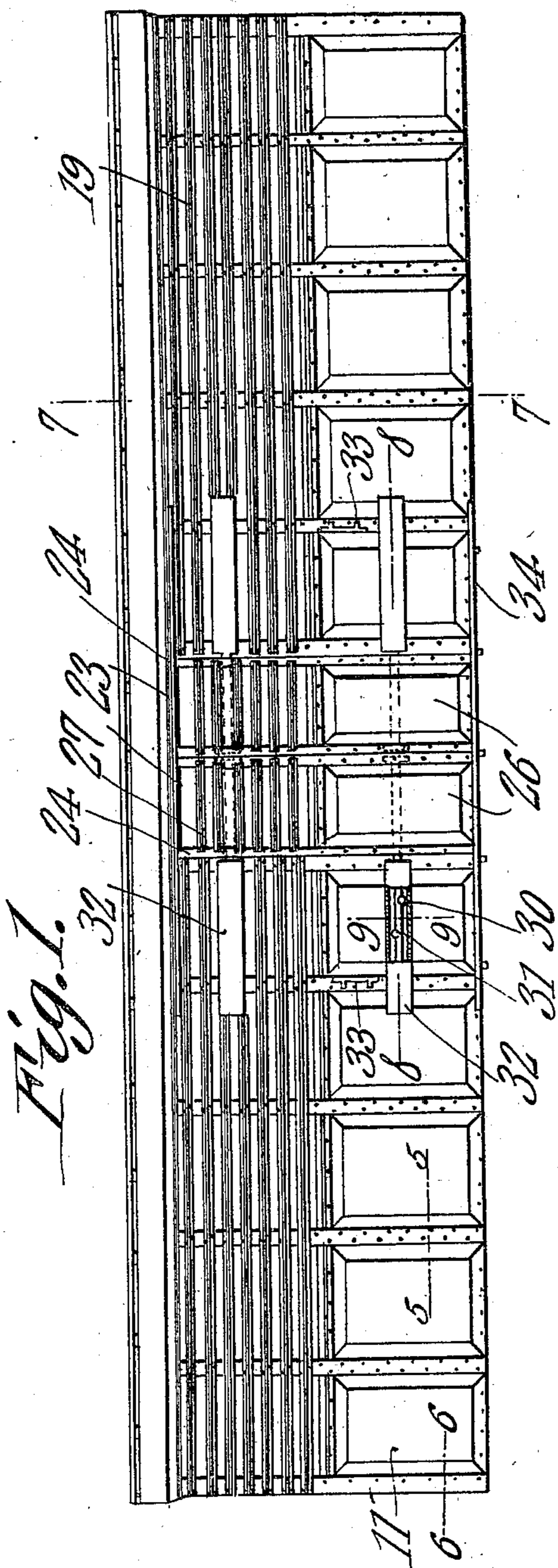


S. C. LINDSAY.
 CONVERTIBLE FREIGHT CAR.
 APPLICATION FILED DEC. 10, 1909.

965,203.

Patented July 26, 1910.

3 SHEETS—SHEET 1.



Witnesses

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3 SHEETS—SHEET 2.

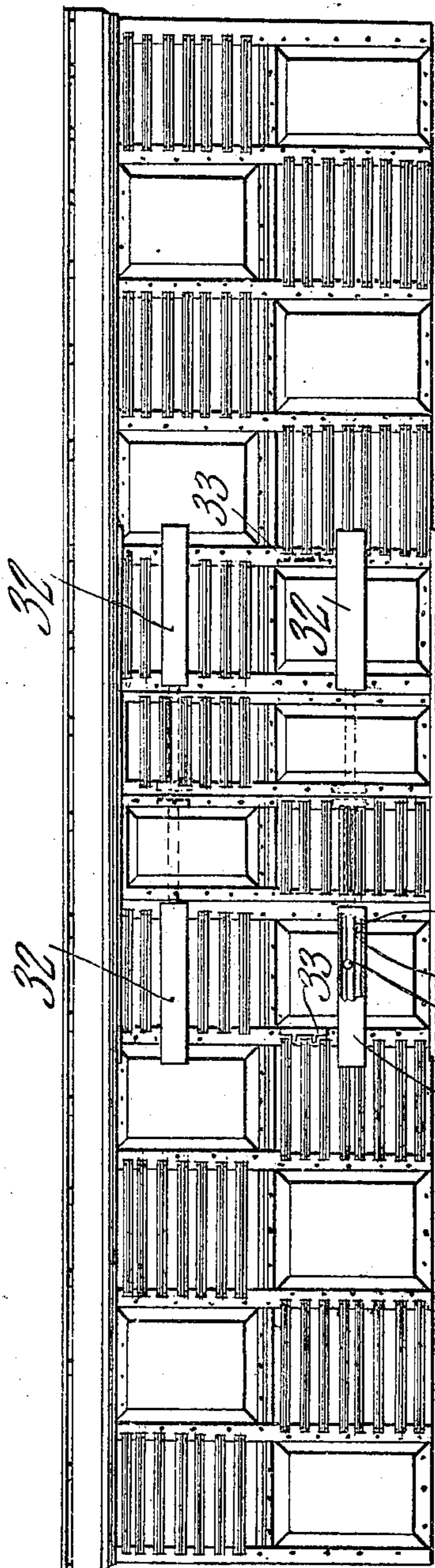


Fig. 4.

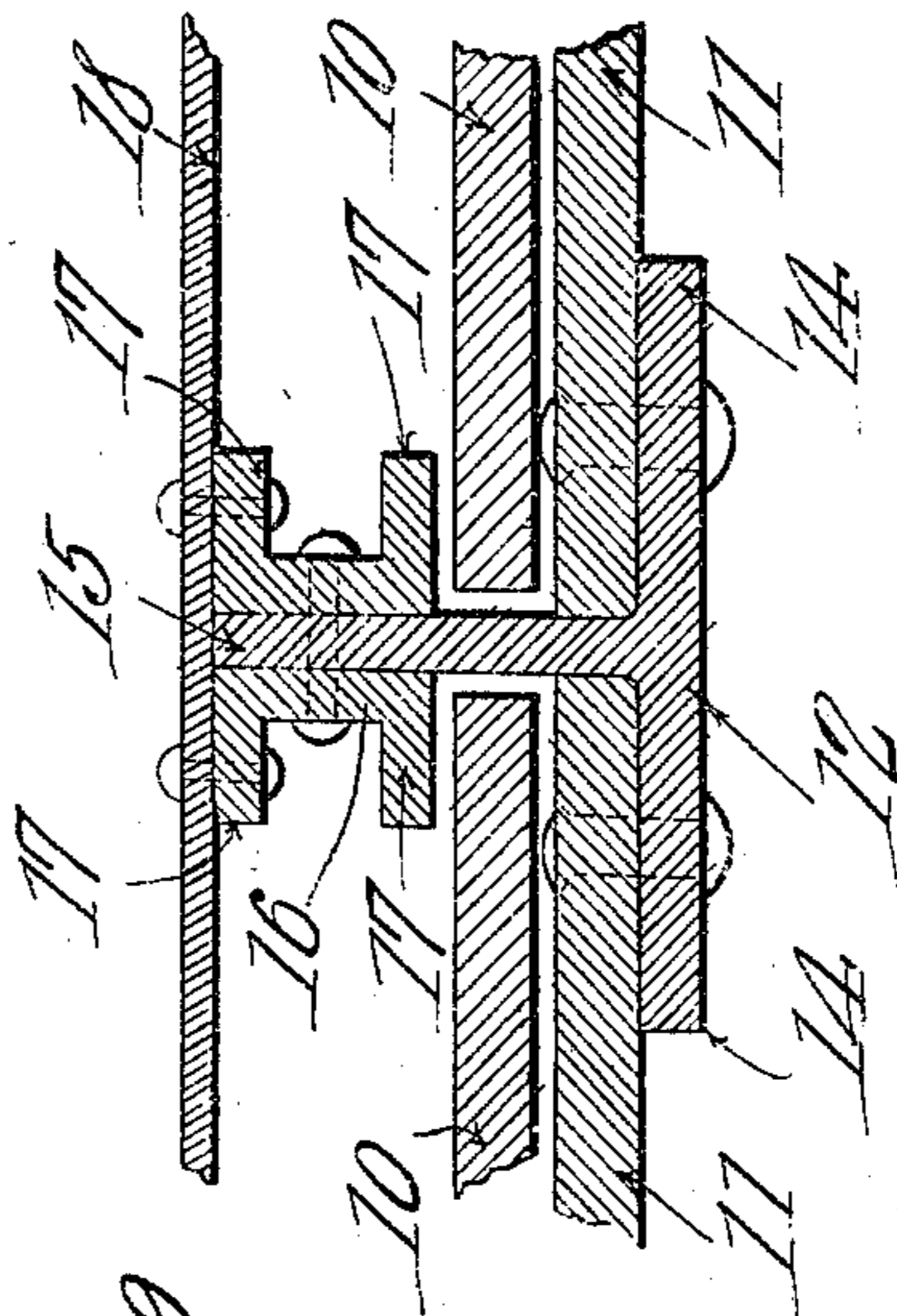
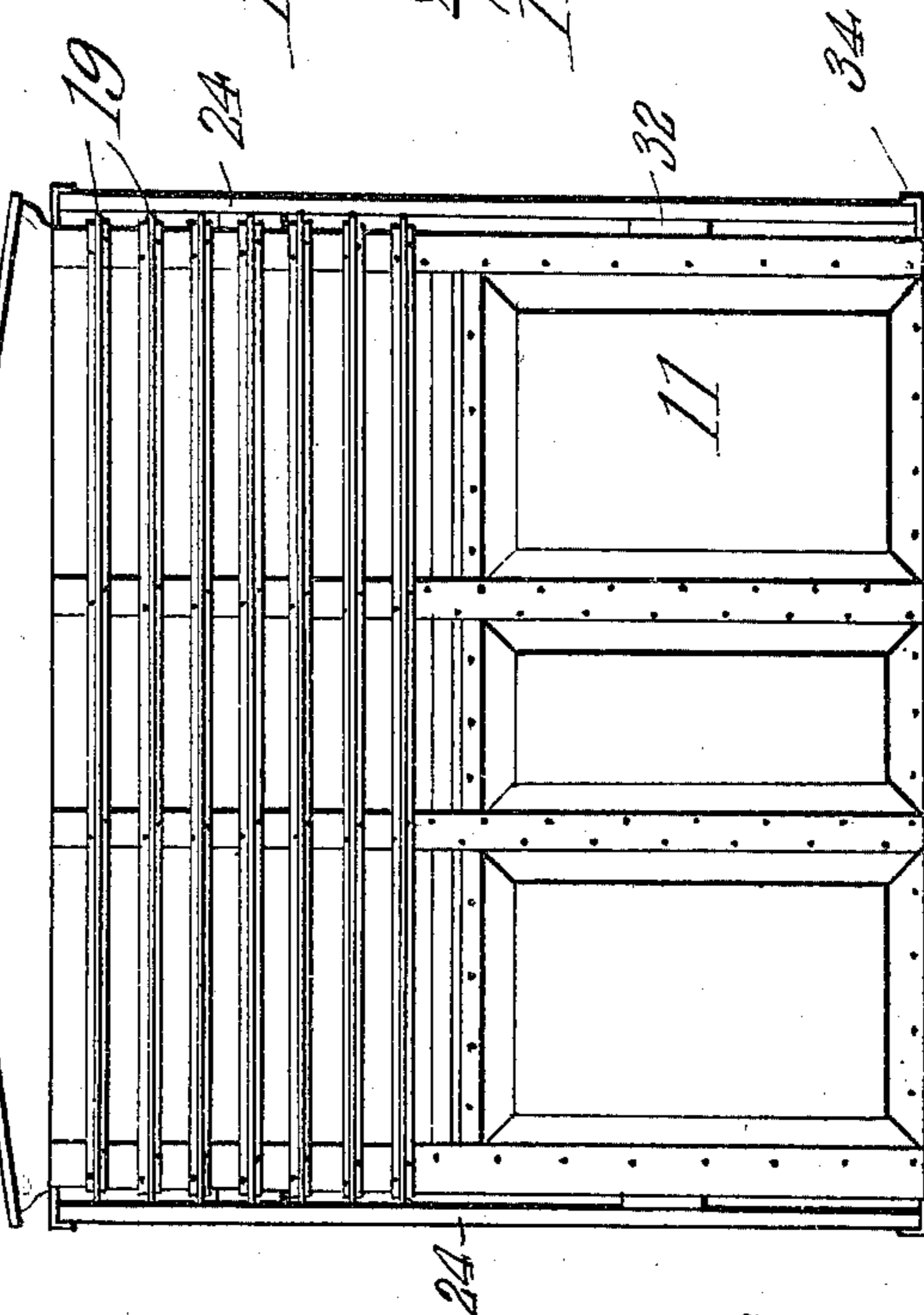


Fig. 5.

Fig. 3.



Witnesses

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 Machine

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3 SHEETS—SHEET 3.

Fig. 7.

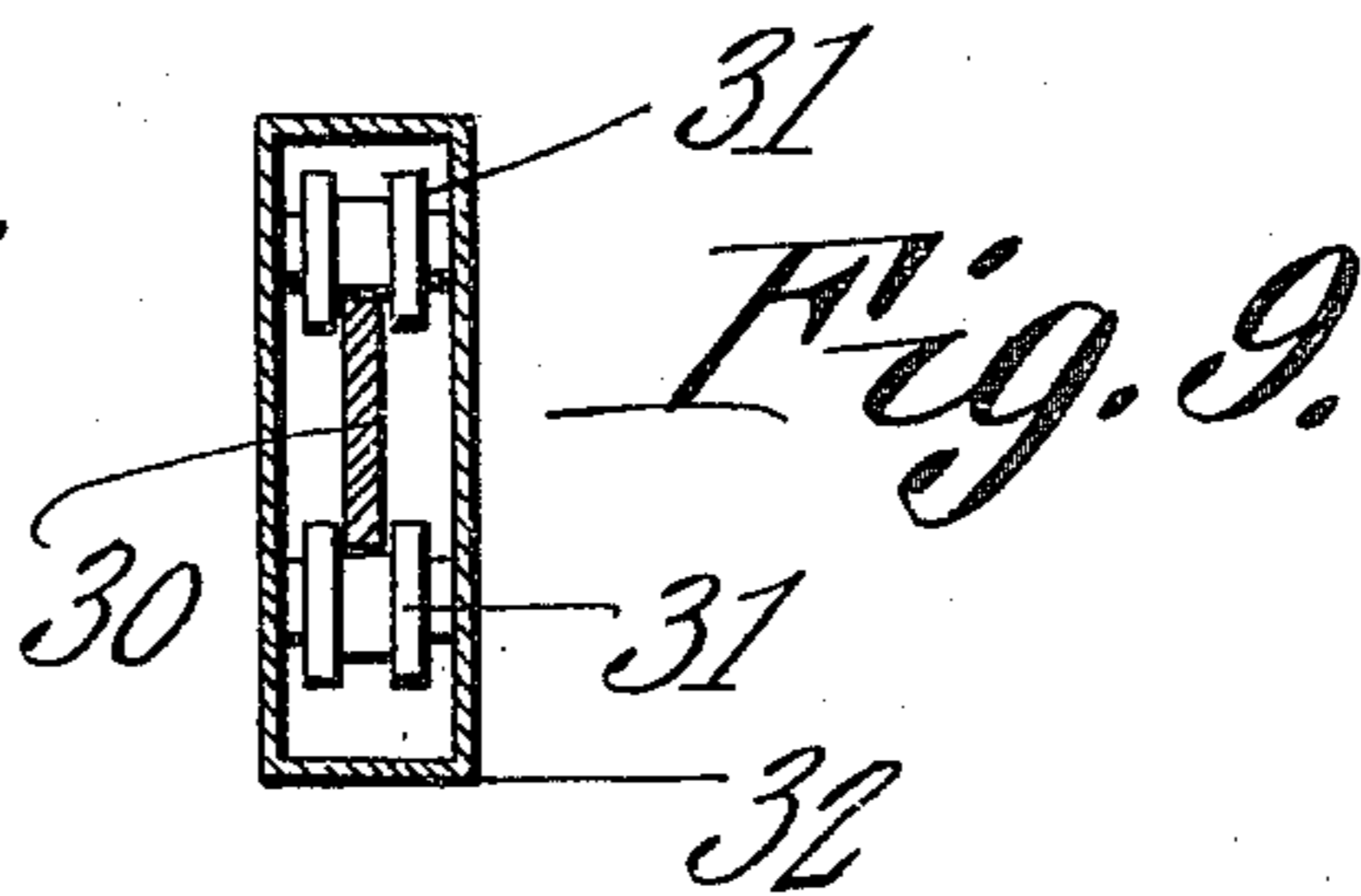
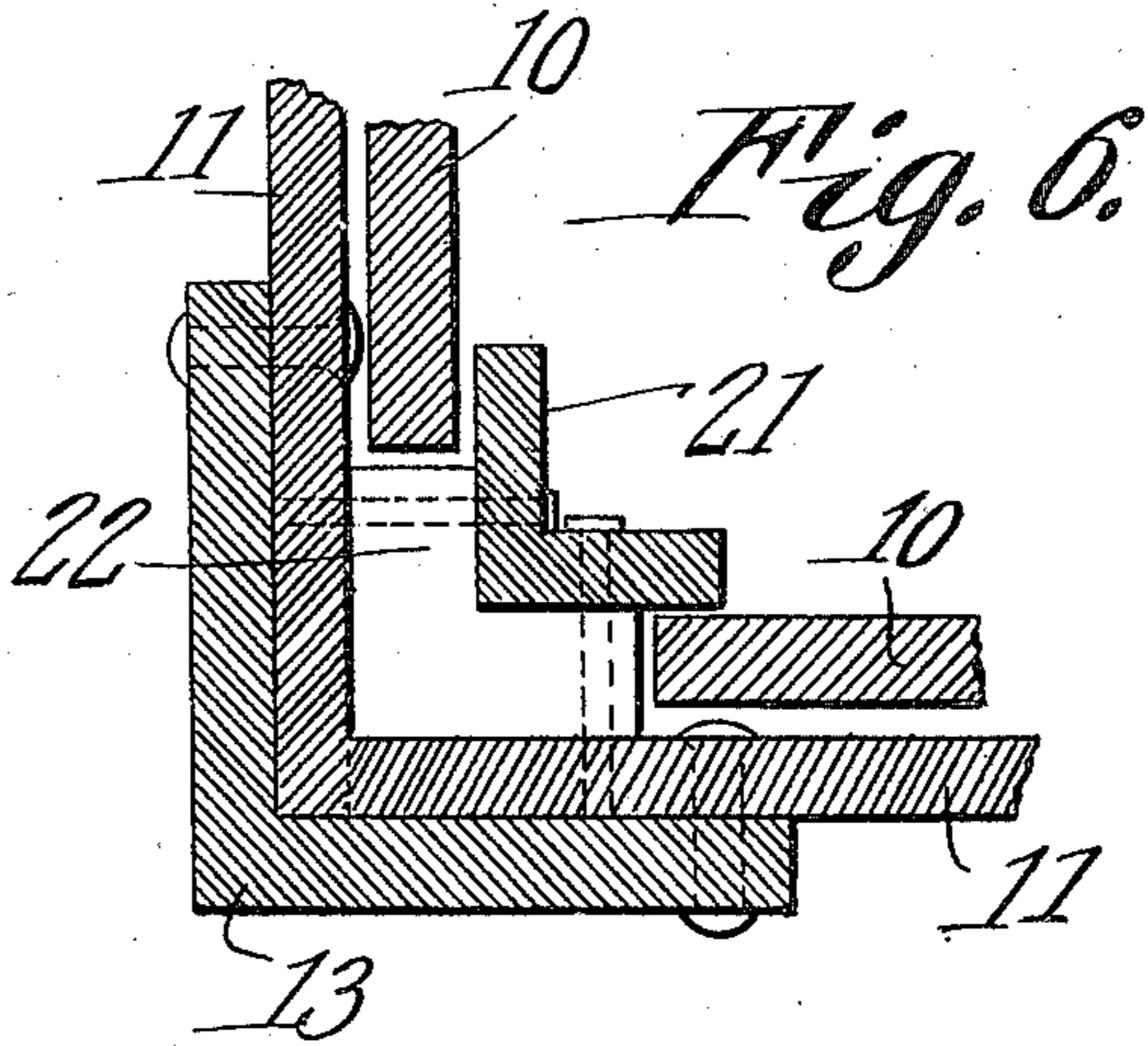
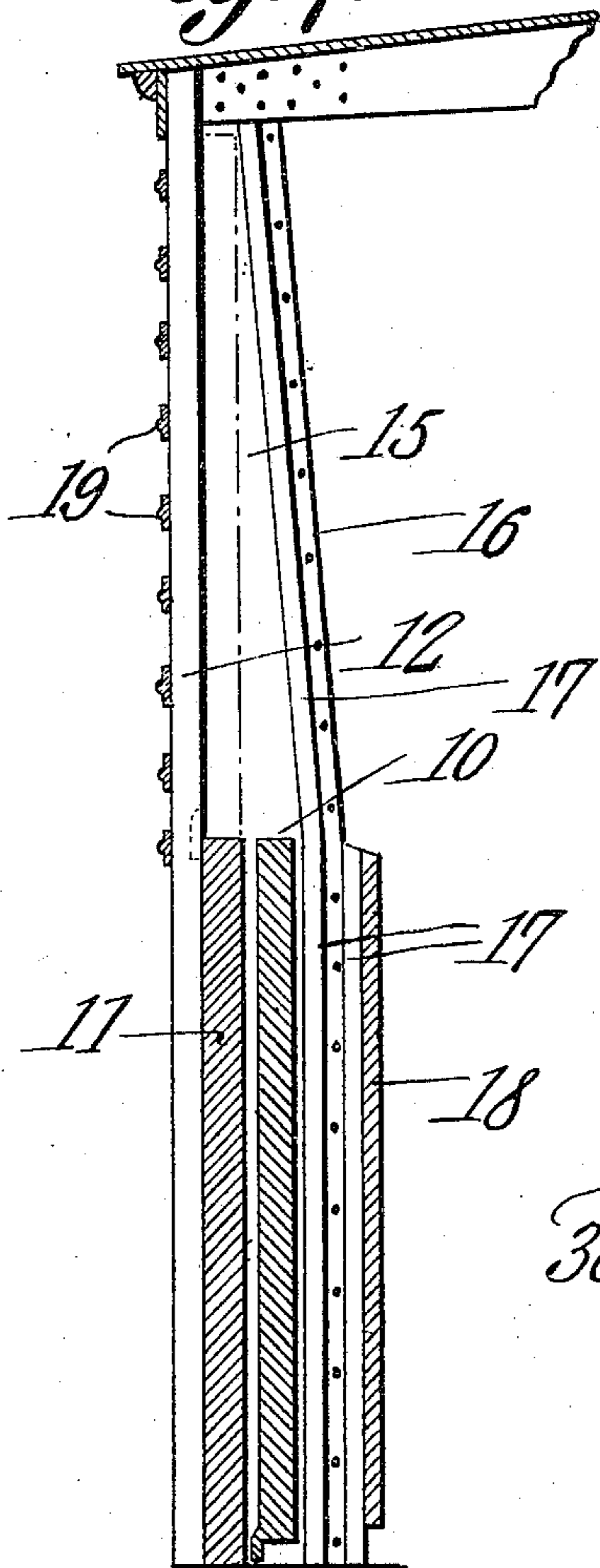
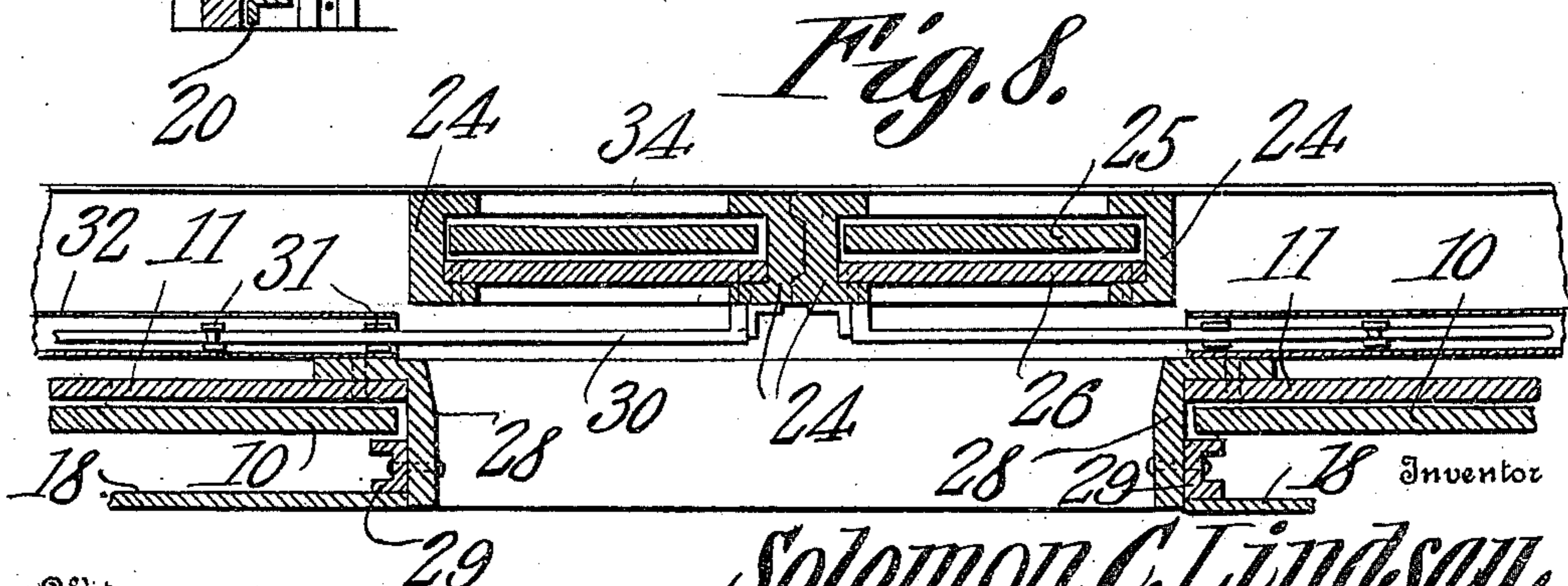


Fig. 9.



Witnesses

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UNITED STATES PATENT OFFICE.

SOLOMON C. LINDSAY, OF GREENSBURG, PENNSYLVANIA.

CONVERTIBLE FREIGHT-CAR.

965,203.

Specification of Letters Patent.

Patented July 26, 1910.

Application filed December 10, 1909. Serial No. 532,409.

To all whom it may concern:

Be it known that I, SOLOMON C. LINDSAY, a citizen of the United States, residing at Greensburg, in the county of Westmoreland and State of Pennsylvania, have invented a new and useful Convertible Freight-Car, of which the following is a specification.

This invention has for its object to provide a novel and improved car structure whereby the car body may be converted from a freight car into a stock car, and vice versa, the change from one form of car to the other being readily effected.

It is also the object of the invention to provide a freight car which may be converted into a double deck stock car.

A further object of the invention is to provide a steel car of the kind stated which is strong, simple, and light, the frame being composed of ordinary channels and other structural steel shapes.

The invention is illustrated in the accompanying drawings, forming a part of this specification, in which drawings—

Figure 1 is an elevation of the car body arranged as a stock car. Fig. 2 is an elevation of the car body arranged as a freight car. Fig. 3 is an end view of the freight car. Fig. 4 is an elevation of the car body arranged as a double-deck stock car. Fig. 5 is an enlarged section on the line 5—5 of Fig. 1, showing the construction of the side of the car in detail. Fig. 6 is an enlarged section on the line 6—6 of Fig. 1 showing the corner construction. Fig. 7 is an enlarged vertical section on the line 7—7 through one of the side walls of the car. Fig. 8 is an enlarged horizontal section on the line 8—8 of Fig. 1, showing the door construction. Fig. 9 is a vertical section on the line 9—9 of Fig. 1.

Referring to the drawings, it will be seen that the side and end walls of the car are made up of metal top and bottom panels 10 and 11, respectively, the bottom panels being stationary, and the top panels being vertically slidable for a purpose to be presently described. The frame of the side and end walls is composed of posts 12 which are, preferably, T-beams, and corner posts 13, which latter are angles. The posts 12 are suitably spaced, and to the oppositely extending flanges 14 thereof are riveted, or otherwise secured the panels 11, said panels being secured to the inner faces of the

flanges. The other flange 15 of the post extends toward the interior of the car, and has secured to its inner end, on both sides, channel beams 16 which are spaced from the flanges 14 sufficiently so as to form guides for the sliding panels 10. The two flanges 17 of the channel beams extend outwardly from the flange 15, and one of said flanges 17 extends flush with the inner end of the flange 15, to provide a support for the sheathing 18, the latter being riveted, or otherwise secured to said flange 17. The sheathing extends only to the top of the stationary panels 11, in view of which the inner flanges 17 of the channel beams may be cut off at this point, as shown in Fig. 7. The panels 10 are slidable downwardly behind the panels 11, in which position, the space between the posts 12, at the upper portions thereof, is open, and across this space extend vertically spaced bars 19 to form a grating. These bars are riveted or otherwise secured to the outer faces of the flanges 14 of the post 12, and extend, with the exception of the space occupied by the doorways, throughout the entire length of the car, as well as across the ends thereof.

When in elevated position, the lower ends of the panels 10 rest on the upper edges of the panels 11, as shown by dotted lines in Fig. 7, and for the purpose of holding the upper panels in this position, the lower edges thereof are formed with downwardly projecting flanges 20 which lap the outer faces of the panels 11 at the top thereof. Above the panels 11, the channel beams 16 are inclined toward the outside of the car, so that when the panels 10 are slid upwardly, they will be guided outwardly so as to come into position on top of the lower panels 10. The flanges 15 of the posts 12 may be cut on a slant as shown in Fig. 7, to coincide with the outward slant of the channel beams 16, whereby a saving of material is effected. The two adjacent lower panels 11 at the corners of the car are secured to the corner posts 13 within the angles thereof, as shown in Fig. 6. A guide for the sliding panels 10 formed by an angle 21 arranged within the angle of the corner post, in spaced relation therewith, and with the panels 11, spacing blocks 22 being provided for this purpose, to which the angles 21 are bolted or otherwise secured.

The construction of the car door is shown

in detail in Fig. 8. A double sliding door is provided. Each door section comprises top and bottom rails 23, and stiles 24, the latter being composed of channel beams arranged with their channels facing each other, so as to form guides for a sliding panel 25. The door has a stationary lower panel 26 which is in the same horizontal plane as the lower stationary panels 11 of the car walls, the stationary door panels being secured to one of the flanges of the channel beams composing the stiles 24. The slidable panel is the upper one, and may be lowered behind the stationary panel 26, when the car is converted into a stock car. When the car is to be used as a freight car, the panel 25 will be elevated to the seat on the upper edge of the panel 26, thus closing the space at the upper portion of the door. This space is also provided with a grating 27 similar to the grating 19. The meeting stiles of the door sections are tongued and grooved as shown in Fig. 8, so as to form a tight joint when closed. The door jambs are angles 28, to which one of the ends of the adjacent panels 11 is fastened. To one of the flanges of these angles are secured channel beams 29 for guiding the adjacent sliding panels 10, and for supporting the sheathing 18. To each door section are secured two arms 30 extending in the direction of the opening movement of the sections. Each of these arms work between upper and lower rollers 31 mounted in a casing 32 secured to the car wall, and which casing is open at one end to permit the arms to enter the same. The rollers are grooved to receive the opposite edges of the arms, and thus prevent lateral play. On the car wall are mounted stops 33 for limiting the opening movement of the door sections. The door sections are guided at the top and bottom by strips 34.

In use, if the car is to be employed for hauling live stock, the panels 10 are lowered behind the panels 11, and the door panels 25 are also lowered. This arrangement is illustrated in Fig. 1. If the car is to be used as a freight car, the panels 10 and 25 are elevated, whereby a car is had having closed side and end walls as shown in Fig. 2.

Fig. 4 shows an arrangement of panels by means of which a convertible freight car, and a double-deck stock car is had. The lower panels are made stationary and slidable in alternate order, and the upper panels are arranged in the same manner. Alternating lower stationary panel and upper sliding panel sections, and lower sliding, and upper stationary panel sections are thus had. Upon sliding the upper movable panels downwardly, and the lower movable panels upwardly, the car walls are entirely closed, and a freight car is thus had. If this car is to be used for hauling live stock, the upper movable panels will be slid down-

wardly behind the lower stationary panels, and the lower movable panels will be slid upwardly behind the upper stationary panels. This arrangement gives the car walls a sufficient number of open spaces, to properly ventilate the interior of the car. A grating, similar to the grating 19, is also provided for these open spaces. This grating does not extend in a continuous line across the car walls as in the first instance, but is carried only across the respective spaces. It will be understood, that this form of car will contain an upper floor or deck, and with the exceptions herein noted, the construction is the same as the first described car. Each form of car will also be provided with suitable means for holding and locking the sliding panels in elevated position.

Instead of making the upper panel sections slidable in the first described form of car, they may be made stationary, and the lower panels made slidable.

The floor beams, the roof structure, and other parts of the car have not been described, as these parts may be constructed and arranged in any suitable manner, and they form no part of the present invention.

What is claimed is:

1. A car having its walls composed of flanged posts, angular corner posts, panels and guides secured to the flanges of the first-mentioned posts, the panels at the corners of the car being secured to the corner posts, and sliding panels mounted between the aforesaid panels and the guides.

2. A car having its walls composed of flanged posts, angular posts, panels and guides secured to the flanges of the first-mentioned posts, the panels at the corners of the car being secured to the corner posts, and said panels having height less than that of the wall, whereby open spaces are had, a grating secured to the flanged post, and extending across said open spaces, and sliding panels mounted between the aforesaid panels and the guides.

3. A car having a wall composed of spaced posts having oppositely extending flanges at their sides, panels between the posts secured to the flanges thereof, and having a height less than that of the wall, whereby open spaces are had between the posts, channel beams secured to opposite sides of the post, and having their flanges outwardly presented, adjustable panels located between the posts, and engageable with one of the flanges of the channel beams, and a sheathing secured to the other flanges of the channel beams.

4. A car having its walls formed with an upper and a lower series of openings alternating with closed portions, the openings of one series being opposite the closed portions of the other series, and closures for the open-

ings, the closures of one series of openings being carried by the closed portions of the other series.

5 5. A car having its walls formed with an upper and lower series of spaced panels, the panels of one series being opposite the spaces between the panels of the other series, and closures carried by the panels adjustable to the openings opposite the same.

10 6. A car having its walls formed with an upper and lower series of spaced panels, the panels of one series being opposite the spaces

between the panels of the other series, and sliding panels carried by the aforesaid panels, and adjustable to close the spaces 15 opposite the same.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

SOLOMON C. LINDSAY.

Witnesses:

HARRY B. FOOT,

WILLIAM M. CHURCHILL.