

No. 757,487.

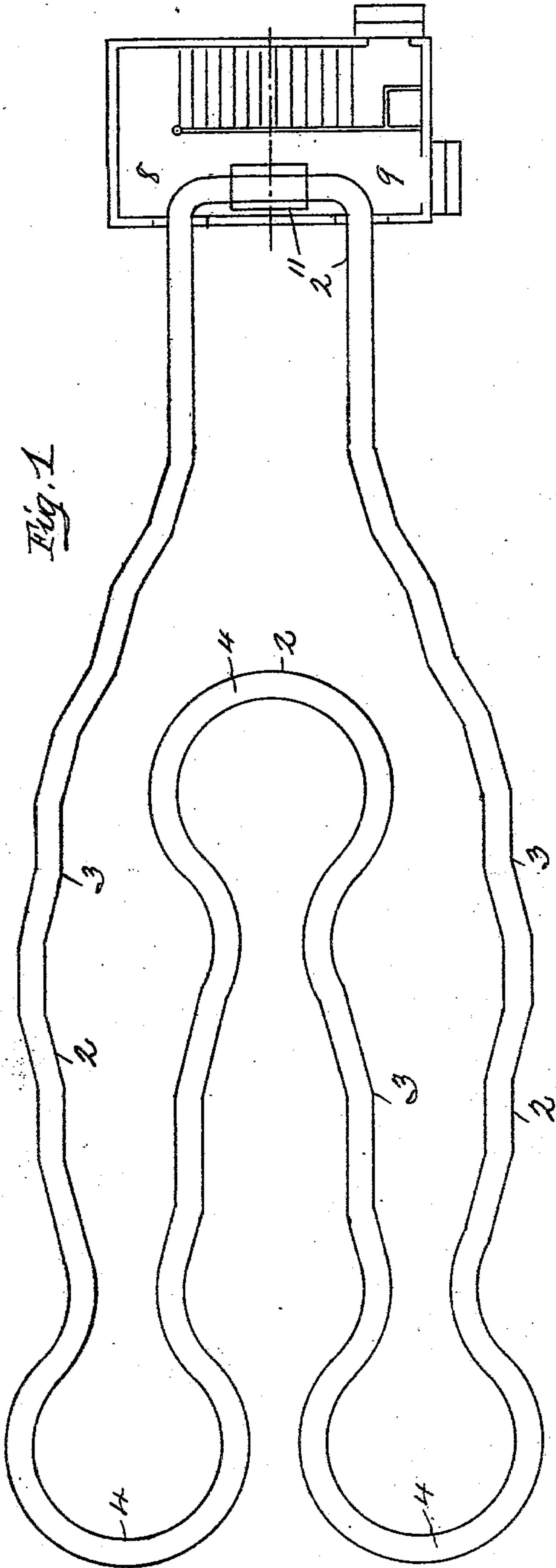
PATENTED APR. 19, 1904.

G. A. McLAUGHLIN.
ROLLER COASTER.

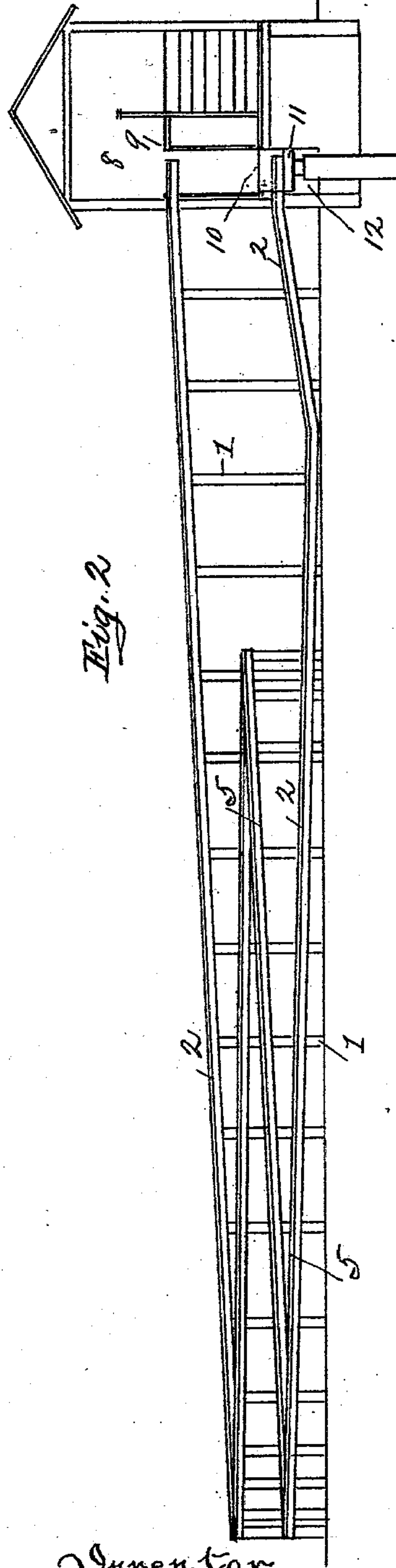
APPLICATION FILED OCT. 31, 1903.

NO MODEL.

3 SHEETS—SHEET 1.



Witnesses:
M. Hunter
C. B. Lewis



Inventor:
George A. McLaughlin
C. B. Lewis

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3 SHEETS—SHEET 2.

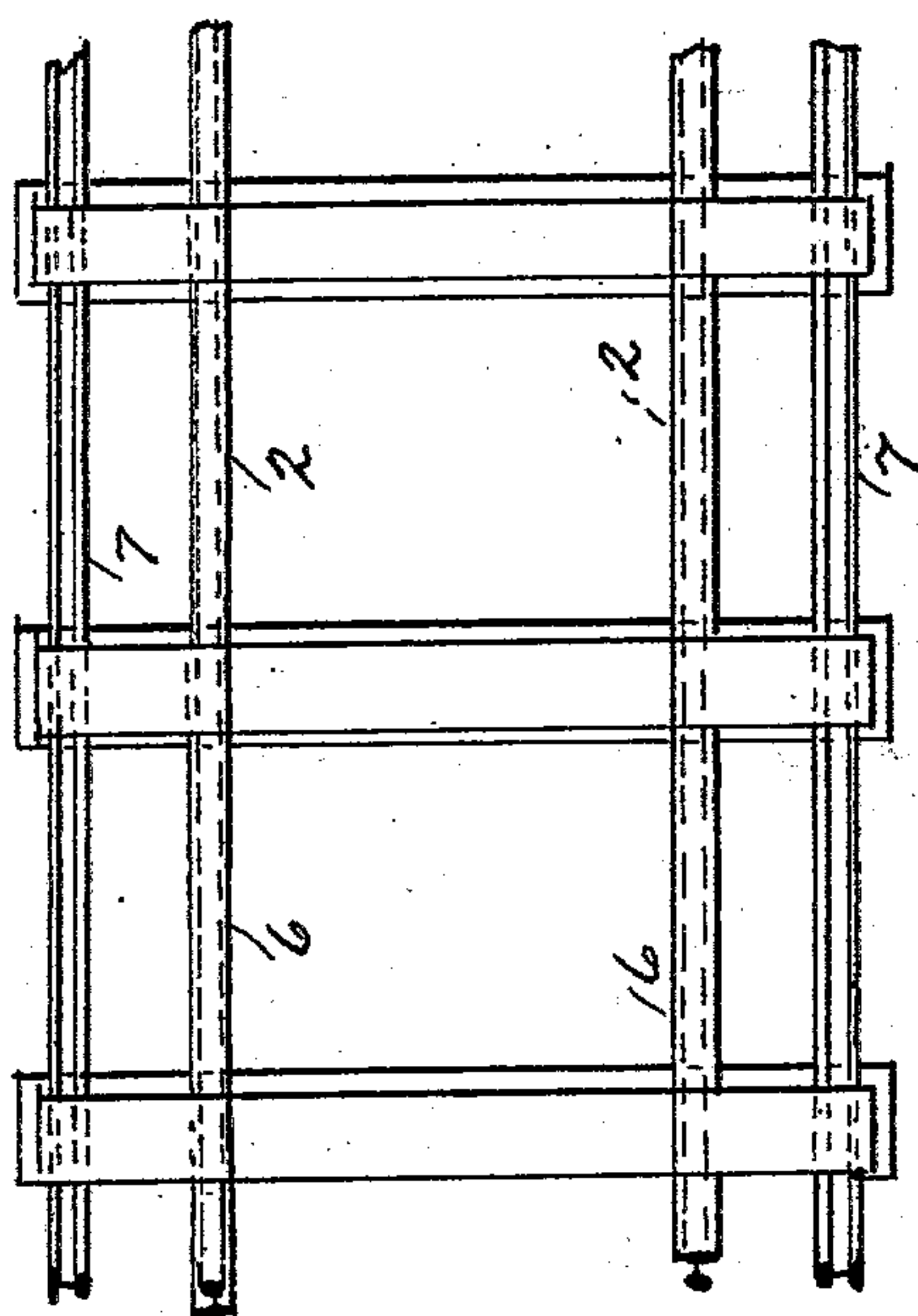


Fig. 3.

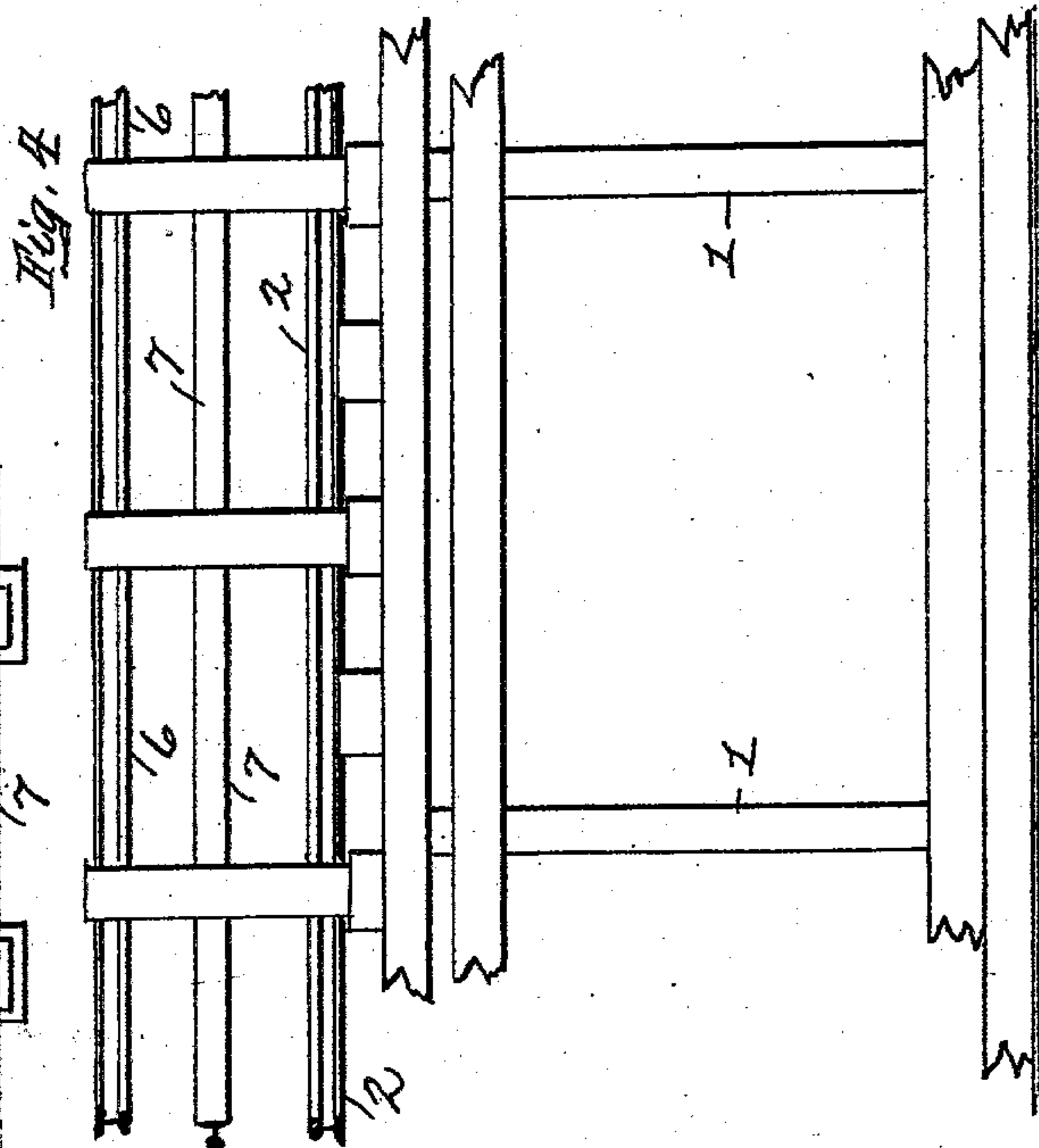
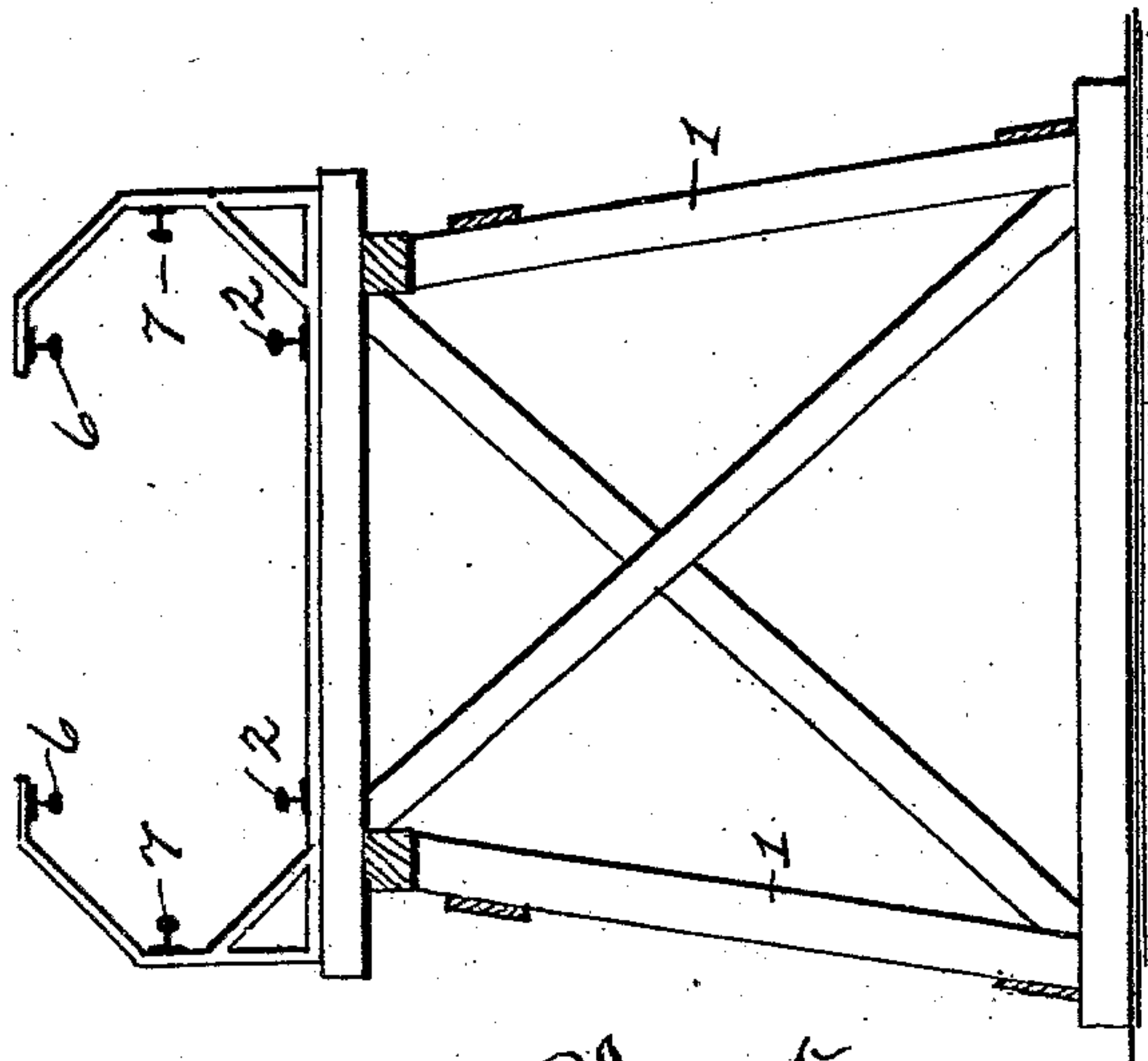


Fig. 4.



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3 SHEETS—SHEET 3.

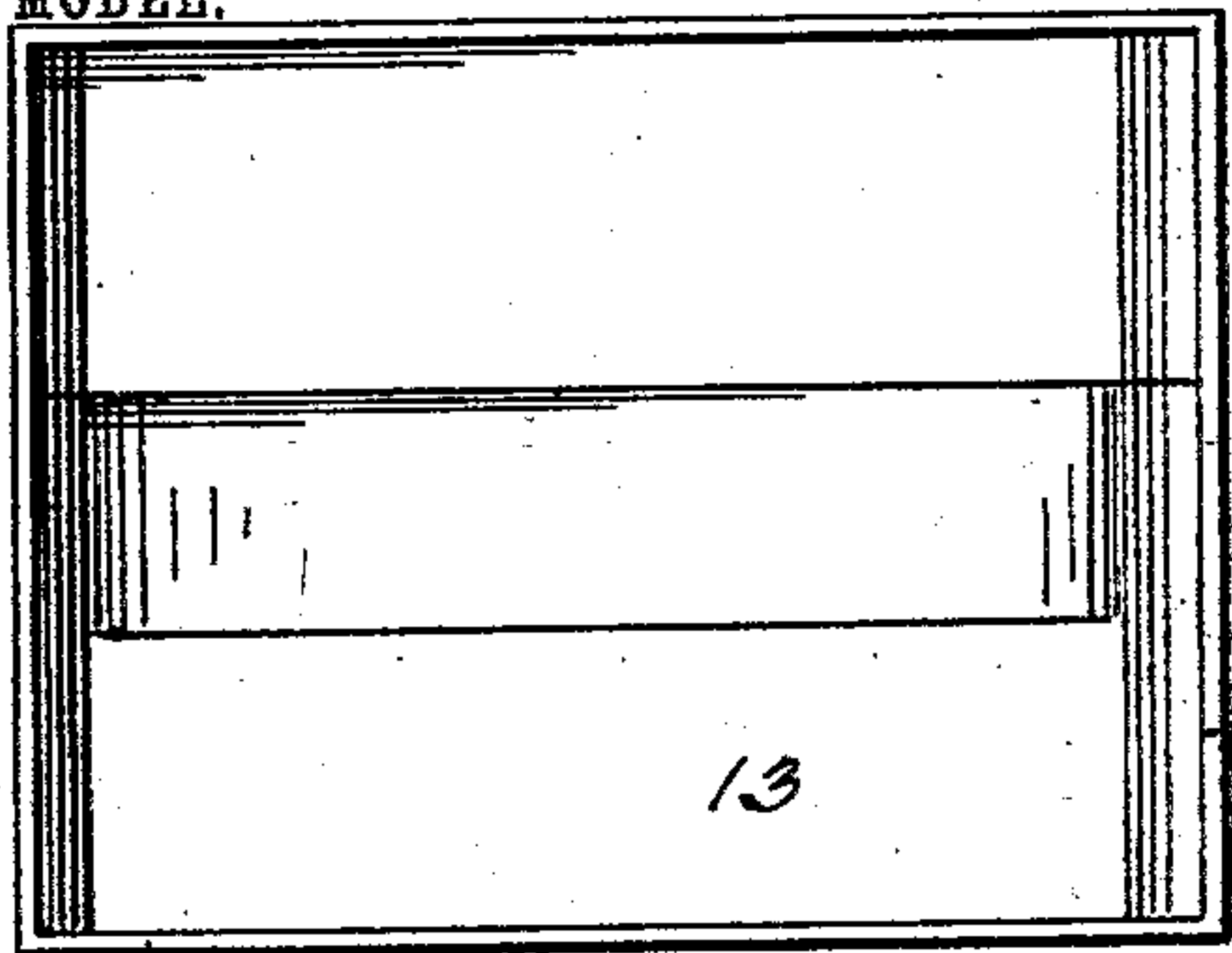


Fig. 6

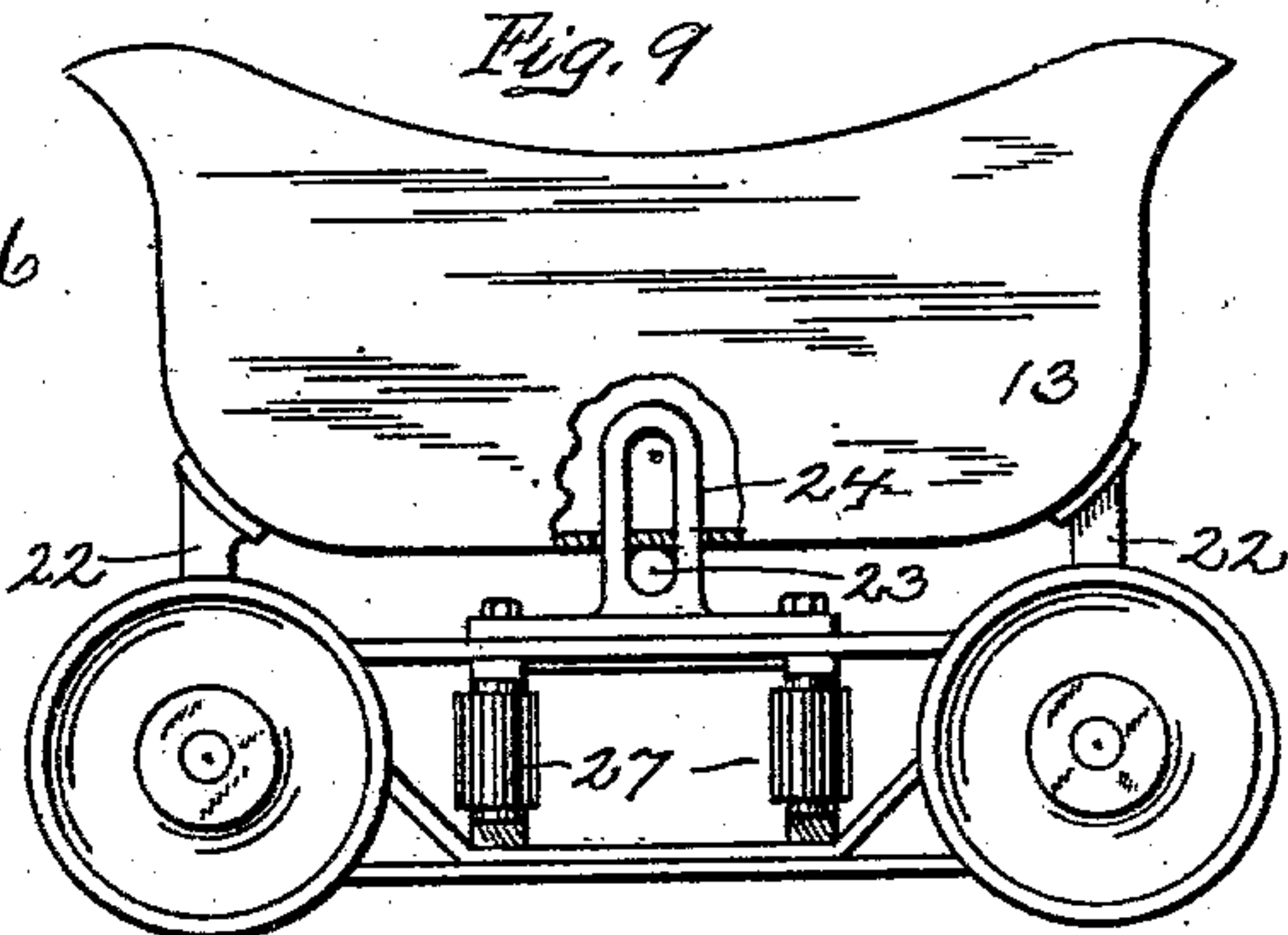


Fig. 9

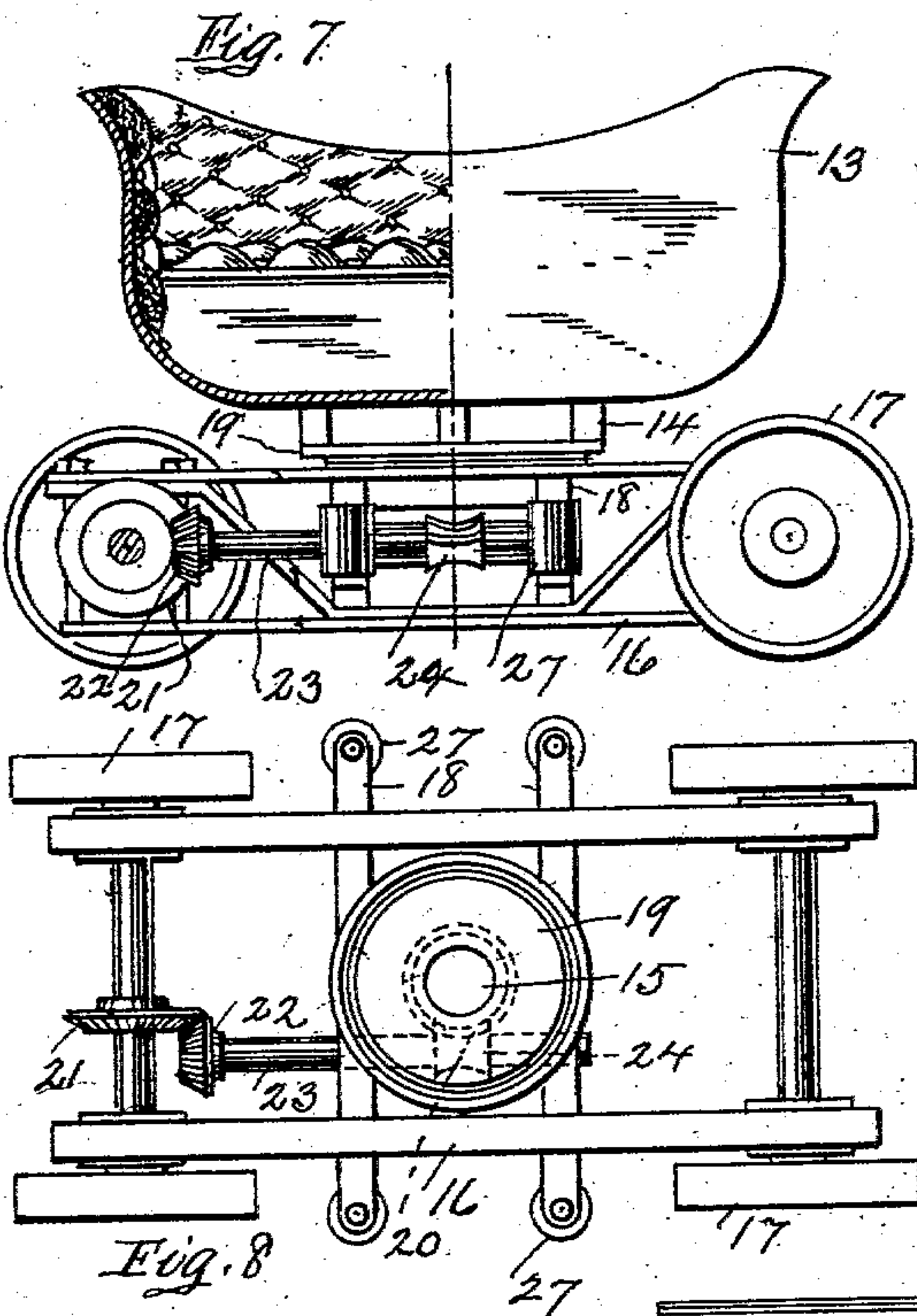


Fig. 7

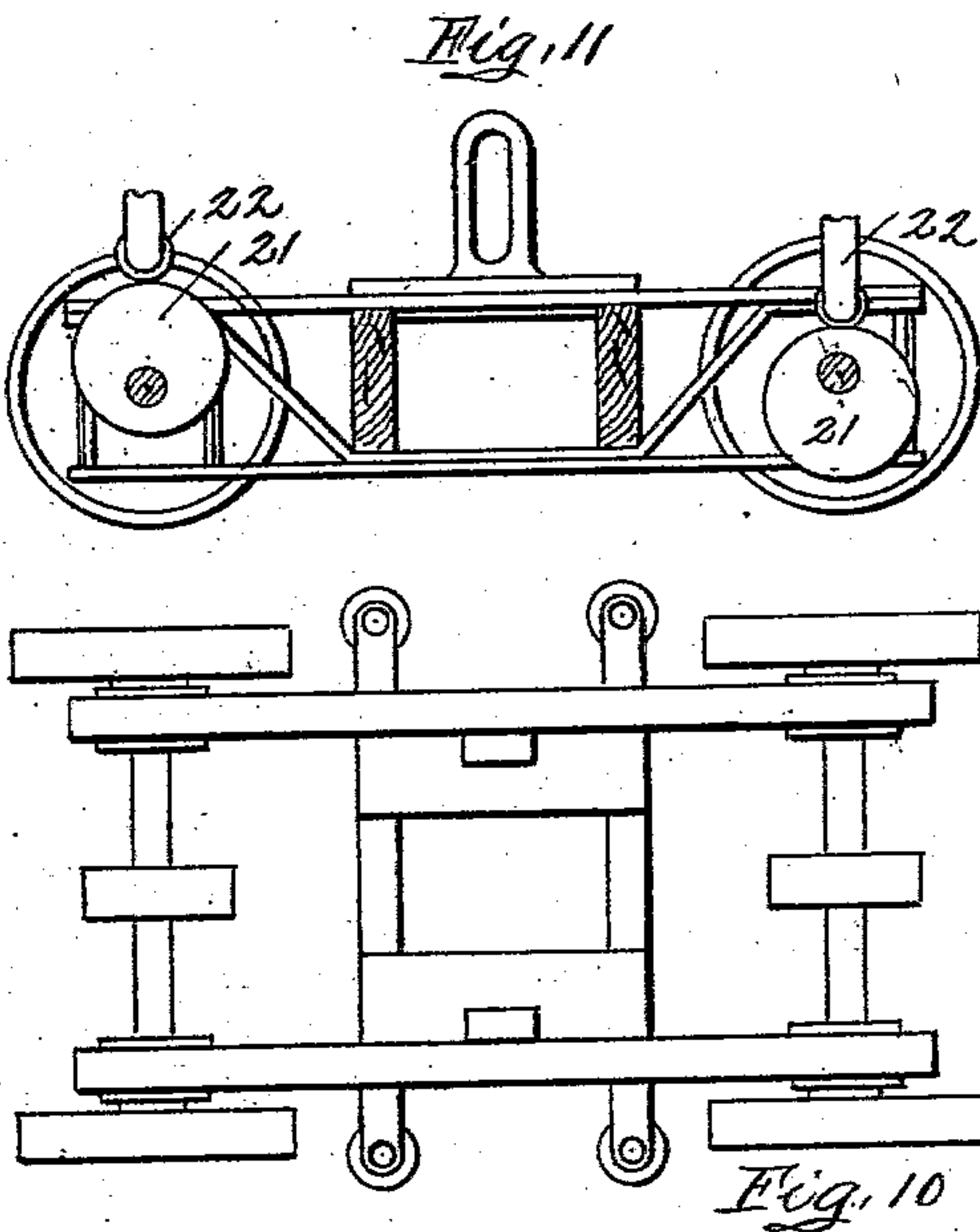


Fig. 11

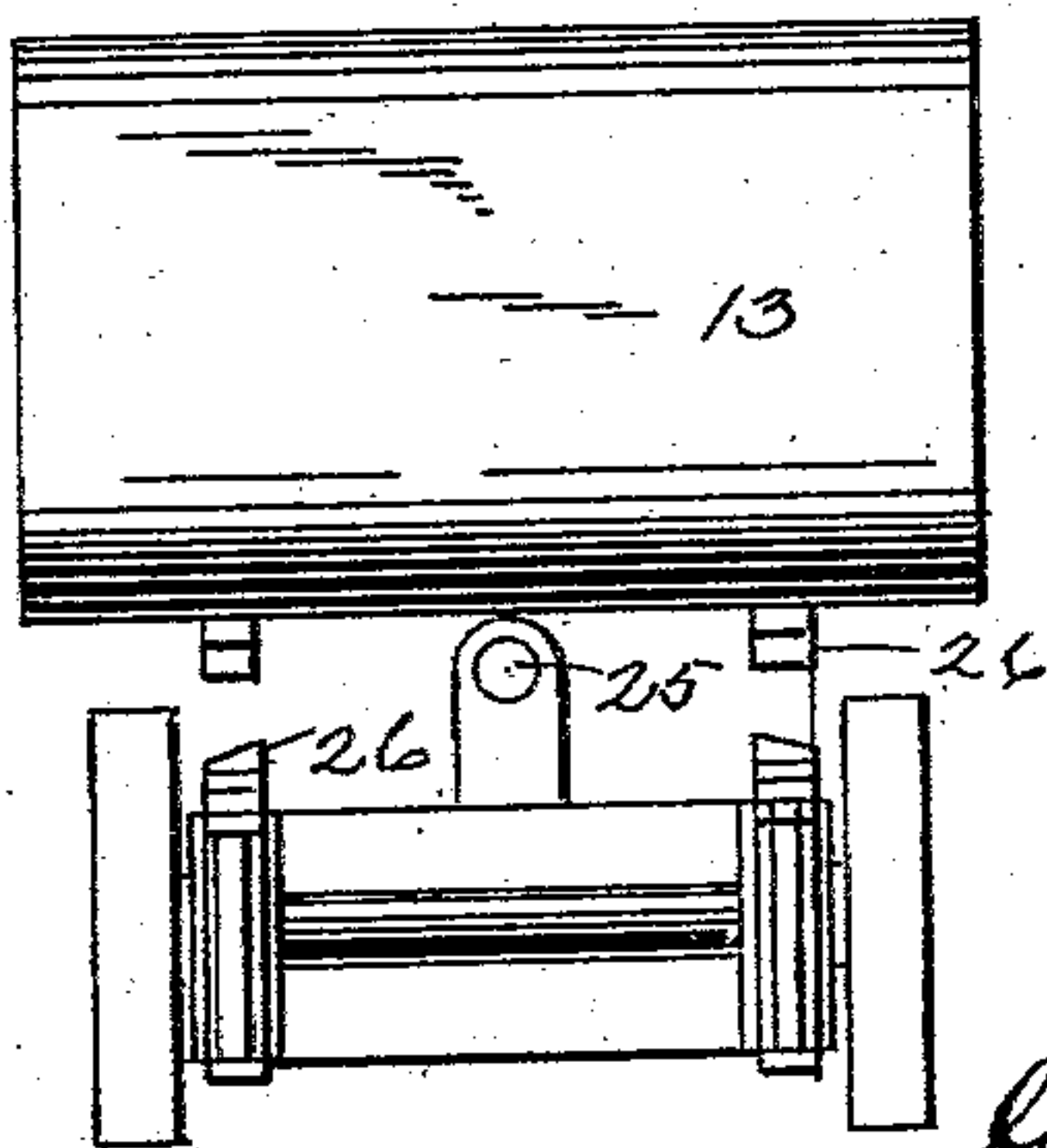


Fig. 12

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UNITED STATES PATENT OFFICE.

GEORGE A. McLAUGHLIN, OF PITTSBURG, PENNSYLVANIA.

ROLLER-COASTER.

SPECIFICATION forming part of Letters Patent No. 757,487, dated April 19, 1904.

Application filed October 31, 1903. Serial No. 179,329. (No model.)

To all whom it may concern:

Be it known that I, GEORGE A. McLAUGHLIN, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Roller-Coasters, of which improvement the following is a specification.

My invention relates to roller-coasters; and my object is to provide a new and improved form of such devices.

My invention consists of certain novel forms of details and combinations of parts hereinafter fully described and claimed.

In the accompanying drawings like characters refer to like parts throughout.

Figure 1 is an outline plan of my device, showing the general arrangement of my track and station. Fig. 2 is a side elevation. Fig. 3 is a plan view of a portion of my track drawn to a larger scale and showing the details. Fig. 4 is a side elevation. Fig. 5 is a cross-section. Fig. 6 is a plan view of one of my cars. Fig. 7 is a side elevation thereof, partly in section. Fig. 8 is a plan view of the truck therefor. Fig. 9 is a side elevation of one modification of my car. Fig. 10 is a plan of the truck for this modification. Fig. 11 is a section thereof. Fig. 12 is an end view of another modification of my car.

The numeral 1 indicates a trestle-frame, which carries rails 2, having angled portions 3 and loops 4. Alternately disposed along the rails 2 are a series of rises 5. The effect of this arrangement is to cause a car rolling on the said rails to move in an irregular manner, causing it to zigzag and rock at the same time. Now since a car moving in this way would be in danger of being thrown off the track I provide similar rails 6 parallel to and directly above the first-mentioned rails. A third set of rails 7 is held upon the trestle-work in such position as to prevent the car moving laterally. This whole system of rails begins in a house or station 8, provided with two floors 9 and 10 on the upper floor 9, and from there descends gradually to the lower floor 10, through the various angles and loops. An elevator 11 of any desired type is held to move between the said floors and carries a

similar system of rails to those outside the house and drops into a pit 12 on the lower floor to bring the car nearly to a level therewith. This house may be provided with any suitable arrangement of entrances and ticket-booths; but I prefer to have separate ingress and egress doors to prevent crowding of people.

In the preferred form of my car I provide a body 13, having the usual seats and being heavily padded interiorly. Upon the under side of this body is a casting 14, having a spindle 15 at the center thereof. A truck 16, provided with wheels 17, preferably ball-tired, supports a pair of bolsters 18, which in turn carry a casting 19, through which passes the spindle 15. Between the two castings 14 and 19 I provide any suitable form of antifriction-bearing. A worm-wheel 20 is held on the lower end of the spindle 15. On one of the axles of the truck I have provided a bevel-gear 21, which meshes with a bevel-gear 22, carried on a shaft 23, which also carries a worm 24, which meshes with the worm-wheel 20. It will now be plain that the motion of the car along the rails will cause the car-body to revolve as it goes along. Thus by its movement along the track the car gives an occupant a motion compounded of the motion of translation down the incline, irregular and sudden changes in direction, rocking from side to side of the track, and revolution, thus producing an exceedingly amusing and bewildering effect.

I also provide a modified form of my car, as shown in Figs. 9, 10, and 11. In this form cams 21 are held on the truck-axes to rotate therewith. These cams act against suitable bearings 22 on the car-body, and the latter is held to rock on a shaft 23, carried in bearings 24. These bearings are slotted, as shown, to prevent any accident if one of the two cams moves faster than the other. A second modification (shown in Fig. 12) consists in having the car hung longitudinally on a shaft below the center of gravity of the car, as shown at 25, and bumpers 26 are provided for limiting the motion. These two cars give a pitching or rocking motion in place of the revolution of the other form. On the trucks of all the

cars I provide friction-bearings 27 to act against the side rails. It will be noted that these cars may be all run on the same track, and it is my intention to run them in regular rotation, so as to provide a series of different motions. I thus provide a device peculiarly adapted for the purposes specified and of the character described.

It is obvious that many minor changes may be made in my device in respect to its form and details from that here shown and described. I do not, therefore, wish to confine myself to the said form exactly, but wish to include all such as properly come within the scope of my invention.

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

1. In a roller-coaster, an inclined track composed of alternate zigzag and curved sections.

2. In a roller-coaster, an inclined track constructed with rails adapted to carry a car, rails above said first-mentioned rails and guide-rails at the sides of said track and arranged in alternate zigzag and curved portions.

3. In a roller-coaster, a station, a zigzag track leading therefrom on an incline, a curved continuation thereof, a zigzag track leading from said curve toward said station, a second curved portion, a zigzag portion leading there-

from in the direction of the first-mentioned portion, a third curve connected therewith and a zigzag portion connecting the same with the said station, and a car adapted to roll thereon.

4. In a roller-coaster, a station having two floors therein, an inclined track composed of alternate zigzag and curved sections leading out from the second floor of said station and back to the first floor of said station, a car running on said track and an elevator in said station to lift said car to the second floor on its return.

5. In a roller-coaster, an inclined track arranged in alternate zigzag and curved sections, a car-truck running thereon, a car-body carried by said truck and means to cause said car-body to rotate relative to said truck.

6. In a roller-coaster, an inclined track arranged in alternate zigzag and curved sections, a car-truck running on said track, a car-body carried by said truck, and means to cause said car-body to rock relative to said truck.

In testimony whereof I have hereunto signed my name in the presence of two subscribing witnesses.

GEORGE A. McLAUGHLIN.

In presence of—

G. A. ENDE,

M. HUNTER.