No. 712,707. Patented Nov. 4, 1902.

G. F. MYERS.

PLEASURE RAILWAY.

(Application filed July 14, 1902.)

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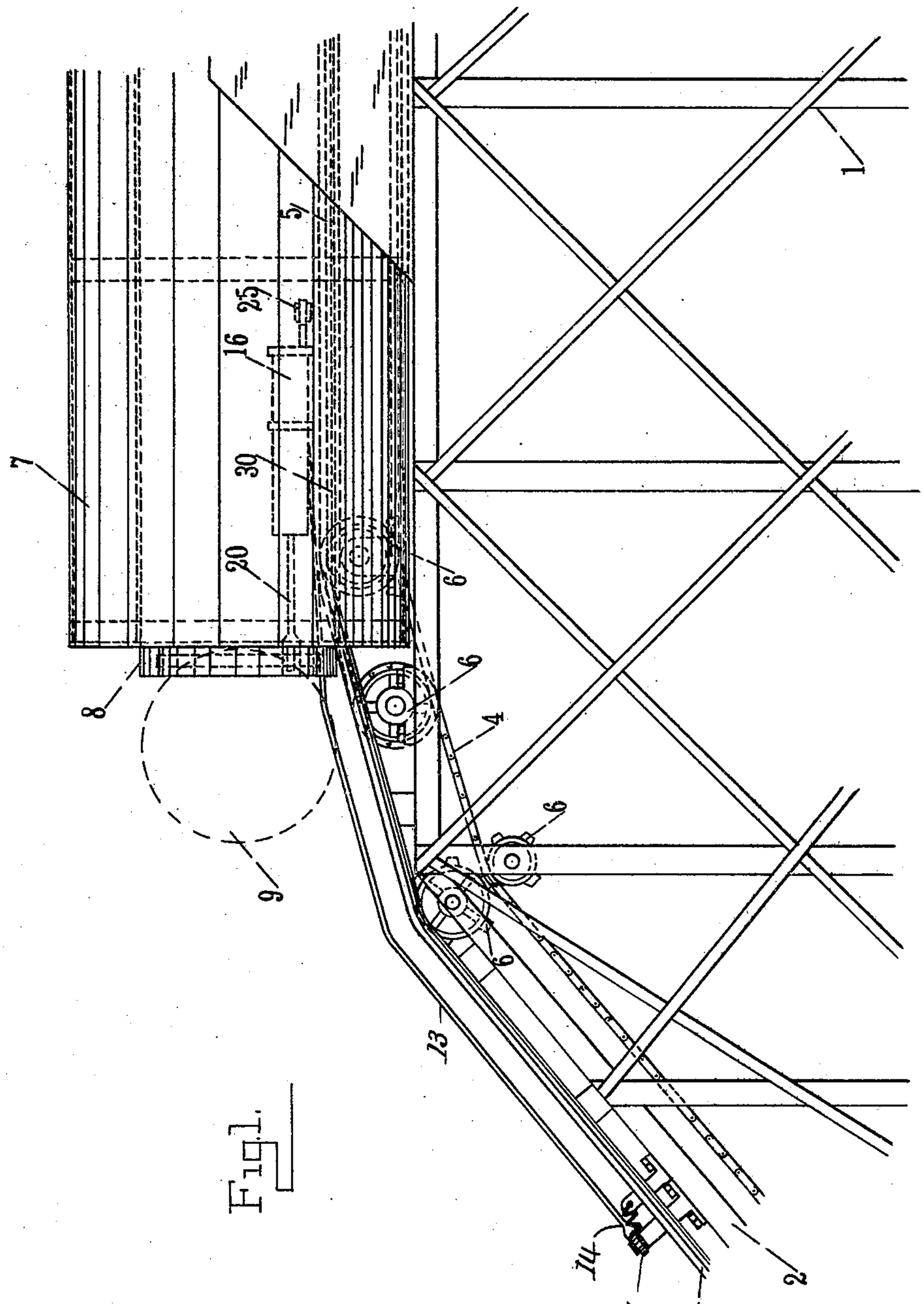

Fig. 1.

WITNESSES

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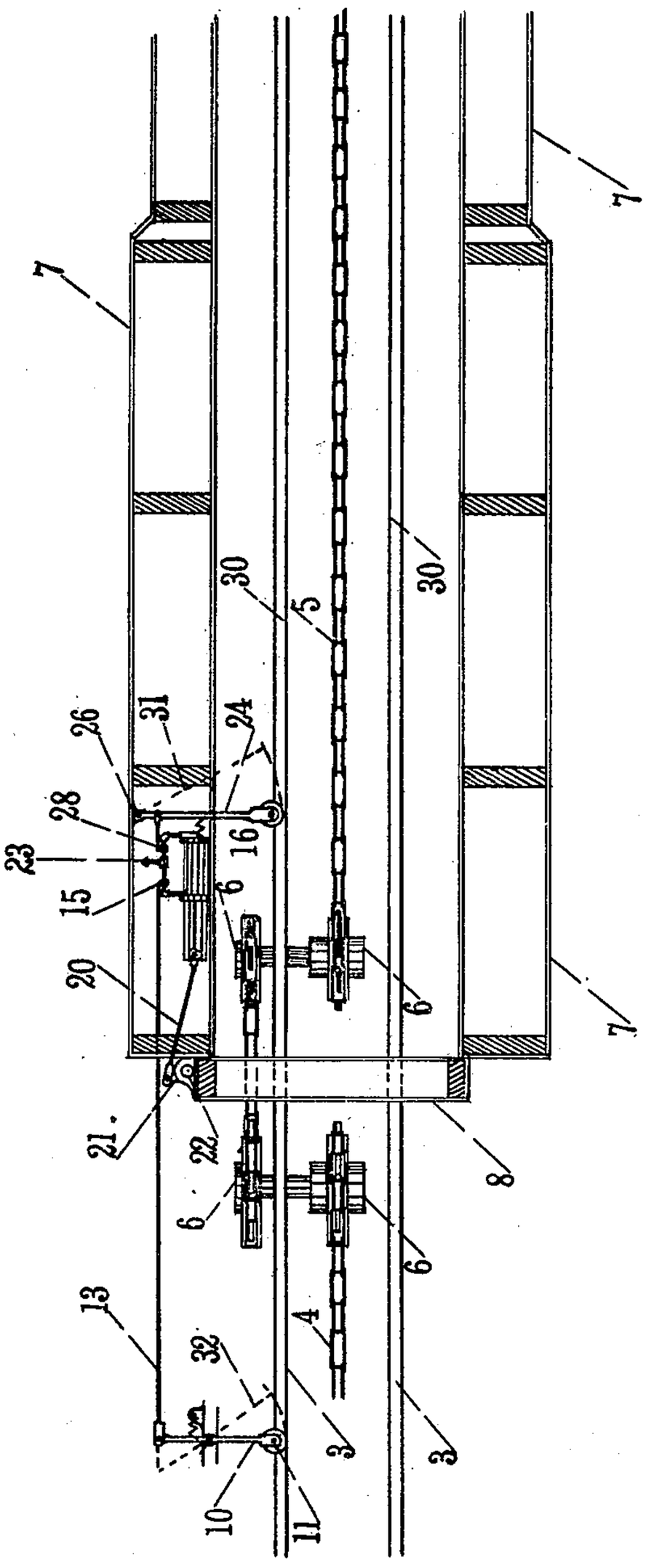

Fig. 2.

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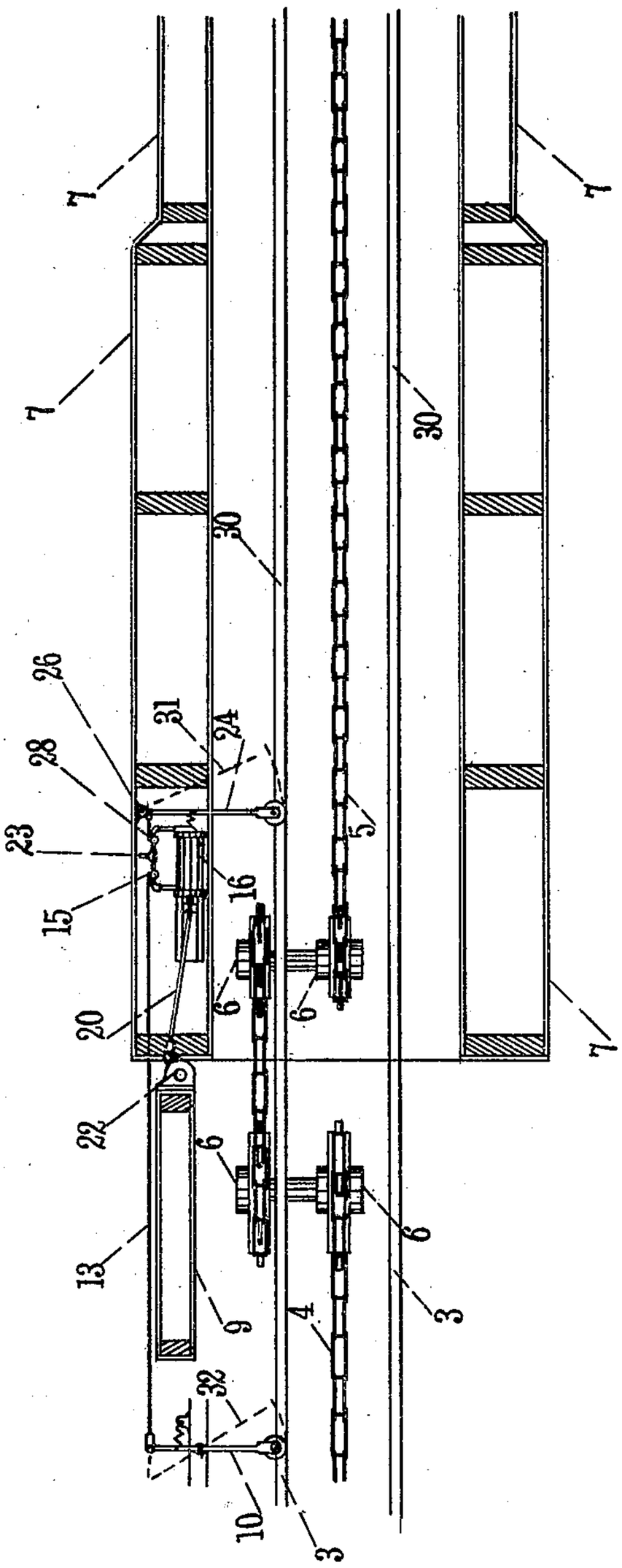

FIG. 3.

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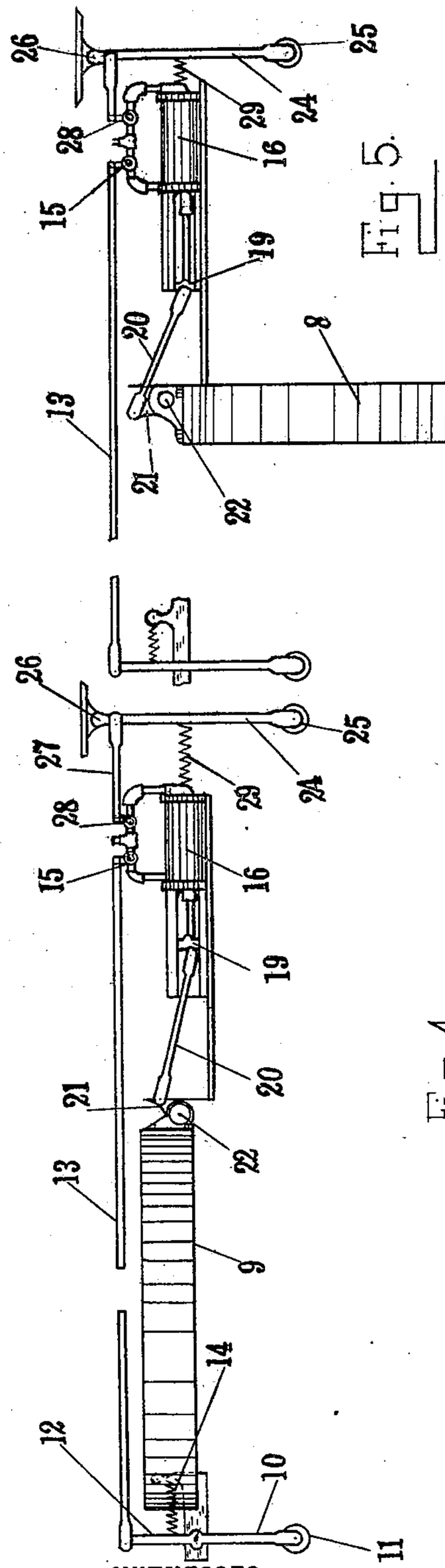

Fig. 5.

Fig. 4.

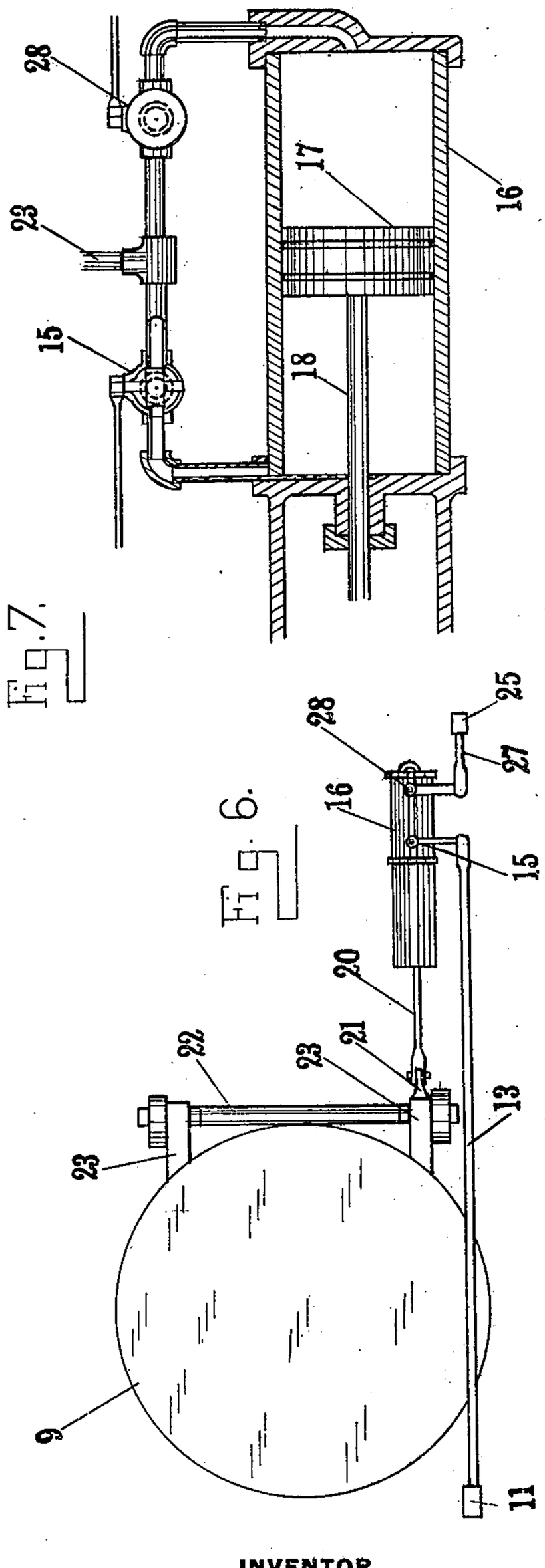

Fig. 7.

Fig. 6.

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UNITED STATES PATENT OFFICE.

GEORGE FRANCIS MYERS, OF PITTSBURG, PENNSYLVANIA, ASSIGNOR TO MYERS AMUSEMENT COMPANY, A CORPORATION OF NEW JERSEY.

PLEASURE-RAILWAY.

SPECIFICATION forming part of Letters Patent No. 712,707, dated November 4, 1902.

Original application filed July 12, 1902, Serial No. 115,275. Divided and this application filed July 14, 1902. Serial No. 115,439. (No model.)

To all whom it may concern:

Be it known that I, GEORGE FRANCIS MYERS, a citizen of the United States, residing at Pittsburg, county of Allegheny, State of Pennsylvania, have invented certain new and useful Improvements in Pleasure-Railways; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

In an application for Letters Patent of the United States filed by me under date of July 12, 1902, Serial No. 115,275, I have described certain improvements in pleasure-railways embodied in a system wherein the passengers are carried at high velocity through a tunnel-like structure having the external semblance of a cannon and wherein to increase the delusion a breech-block or door automatically opens to receive the projectile-like car and then automatically closes, whereupon immediately prior to the projection of the car through the cannon the ignition, flash, and report of a cannon-discharge is simulated. The particular means for simulating the ignition, flash, and report are claimed in my application, Serial No. 115,440, filed July 14, 1902.

The present application relates particularly to the automatic devices for opening and closing the breech-block or door and to that extent constitutes a division of the application, Serial No. 115,275, referred to.

In the drawings, Figure 1 represents in side elevation the breech portion of the cannon and the parts of the system immediately adjacent thereto. Fig. 2 represents a central horizontal section showing the door closed. Fig. 3 represents a like view showing the door open. Figs. 4, 5, 6, and 7 represent details of the door and its operating mechanism on a larger scale.

Similar numerals of reference indicate similar parts throughout the several views.

Referring to the drawings, 1 indicates the trestle for supporting the cannon-like tunnel structure; 2, the incline leading to the cannon 7; 3 and 30, the track-rails; 4, the conveyer-chain for the incline; 5, the accelerating-chain within the cannon-bore, and 6 the sprocket-wheels, all as fully described in my application referred to.

The inlet-opening at the breech of the cannon is provided with a door, which is indicated by the numeral 8 when closed and by the numeral 9 when in the open position. The door is provided with brackets 23, (see Fig. 6,) which are adapted to swing upon the pivot-rod 22. The lower bracket 23 is provided with an extension 21, connected by a link 20 to the rod 18 of a piston-head 17, operative within the cylinder 16.

23 indicates the inlet-pipe for supplying steam, compressed air, water under pressure, or the like to either end of the cylinder through branches leading thereto.

Within the branch pipes leading to the cylinder ends and on opposite sides of the inlet-pipe 23 are located the three-way cocks 15 and 28, both of these cocks standing normally at the exhaust position, so as to freely vent both ends of the cylinder and at the same time cut off the supply of motive fluid from the inlet to the cylinder. Thus the cock 15 is maintained in the venting adjustment referred to by means of the spring 14, attached at one end to a fixed support and at the other end to the arm 12 of a pivoted trip-lever, whose other arm 10 bears the the anti-friction-roller 11. A link 13 connects the trip-lever to the operating-handle of cock 15. So, also, the cock 28 is maintained in the venting adjustment by the spring 29, connected to the tripping-lever 24, pivoted at 26, and connected to the handle of the cock 28 by the link 27. 25 indicates an antifriction-roller for the lever 24.

As a car advancing up the incline 2 approaches the closed door 8 it comes into contact with the free end of the pivoted trip-lever 10 and moves said lever into the position indicated by the dotted line 32. The effect of this movement is to partially rotate the stem of the cock 15 in such manner as to close its exhaust-port and to admit steam or other motive fluid into the proximate end of the cylinder 16. Consequently the piston recedes and the door is moved into the open position. As soon as the car passes the spring

14 restores the cock 15 to its normal adjustment, thereby again venting the cylinder 16. After the car enters the breech of the cannon it strikes the free end of the lever 24, thereby moving the lever into the position indicated by the dotted line 31, shifting the cock 28 so as to admit steam or other motive fluid into the remote end of the cylinder 16. Consequently the piston advances and the breech-block or door 8 closes behind the car, leaving the passengers for the moment in darkness. The car is then seized by the accelerating-chain 5 and conveyed swiftly through the cannon, and immediately prior thereto the simulation of an ignition, flash, and report takes place, all as explained more fully in my application referred to.

What I claim is—

1. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel and means actuated by an approaching car for automatically opening said door; substantially as described.

2. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door; substantially as described.

3. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door, said means consisting of a piston connected to operate the door, a cylinder within which said piston operates, valve mechanism governing the inlet and outlet ports of the cylinder, and valve actuating or tripping mechanism in the path of movement of the car; substantially as described.

4. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door, said means consisting of a piston connected to operate the door, a cylinder within which said piston operates, inlet and outlet ports for the cylinder, three-way cocks governing said ports, a cylinder supply-pipe between said cocks, and actuating or tripping mechanism for said cocks in the path of movement of the car; substantially as described.

5. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door, said means consisting of a piston connected to operate said door, a cylinder within which said piston operates, inlet and outlet ports for the cylinder, three-way cocks governing said ports, a cylinder supply-pipe between said cocks, and actuating or tripping mechanism for said cocks in the path of movement of the car, said actuating or tripping mechanism consisting of a system of links and levers connected to the cocks, tripping or actuating arms in the path of movement of the car, and springs for restoring said tripping-arms to their normal position when the car has passed; substantially as described.

6. In a pleasure-railway, a cannon-tunnel provided with a movable breech-block or door, a power-cylinder for opening and closing the door, a supply-pipe having branches leading to opposite ends of the cylinder, a three-way cock in each of said branches, a tripping-lever and intermediate transmitting mechanism for each of said cocks, and springs for normally maintaining the cocks in the exhaust adjustment, substantially as described.

7. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door, said means consisting of a piston connected to operate the door, a cylinder within which said piston operates, valve mechanism governing the inlet and outlet ports of the cylinder, and valve actuating or tripping mechanism in the path of movement of the car, substantially as described.

8. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door, said means consisting of a piston connected to operate the door, a cylinder within which said piston operates, inlet and outlet ports for the cylinder, three-way cocks governing said ports, a cylinder supply-pipe

between said cocks, and actuating or tripping mechanism for said cocks in the path of movement of the car, substantially as described.

9. In a pleasure-railway, a cannon-tunnel, a trackway leading to the breech of the cannon-tunnel, a trackway within the cannon-tunnel bore, a trackway leading from the muzzle end, means for speeding the passage of a car through the cannon-tunnel bore, a movable door at the breech of the cannon-tunnel, and means actuated by an approaching car for automatically opening and closing said door, said means consisting of a piston connected to operate the door, a cylinder within which said piston operates, inlet and outlet ports for the cylinder, three-way cocks governing said ports, a cylinder supply-pipe between said cocks, and actuating or tripping mechanism for said cocks in the path of movement of the car, said actuating or tripping mechanism consisting of a system of links and levers connected to the cocks, tripping or actuating arms in the path of movement of the car, and spring for restoring said tripping-arms to their normal position when the car has passed, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

GEORGE FRANCIS MYERS.

Witnesses:
B. A. LAWS,
F. DIFFENBACH.