

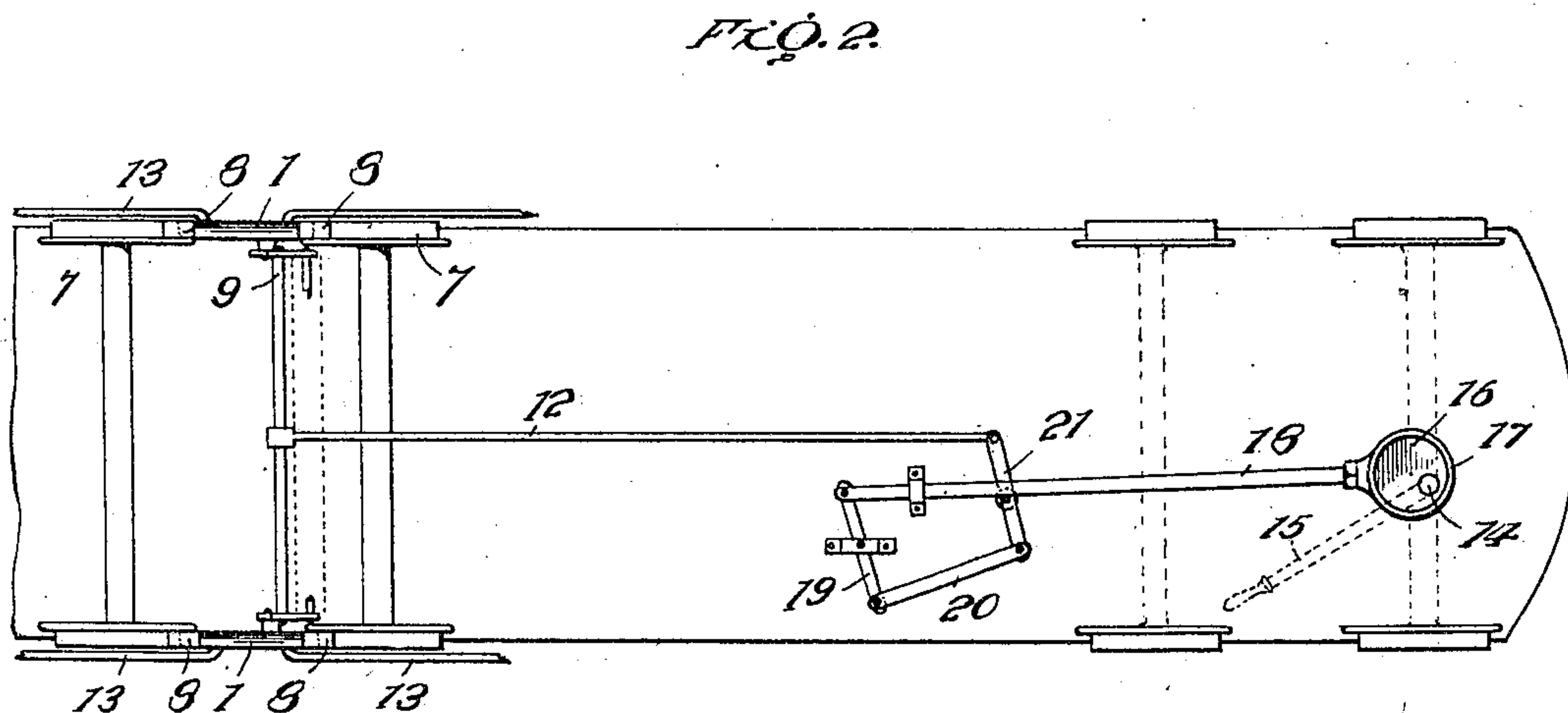
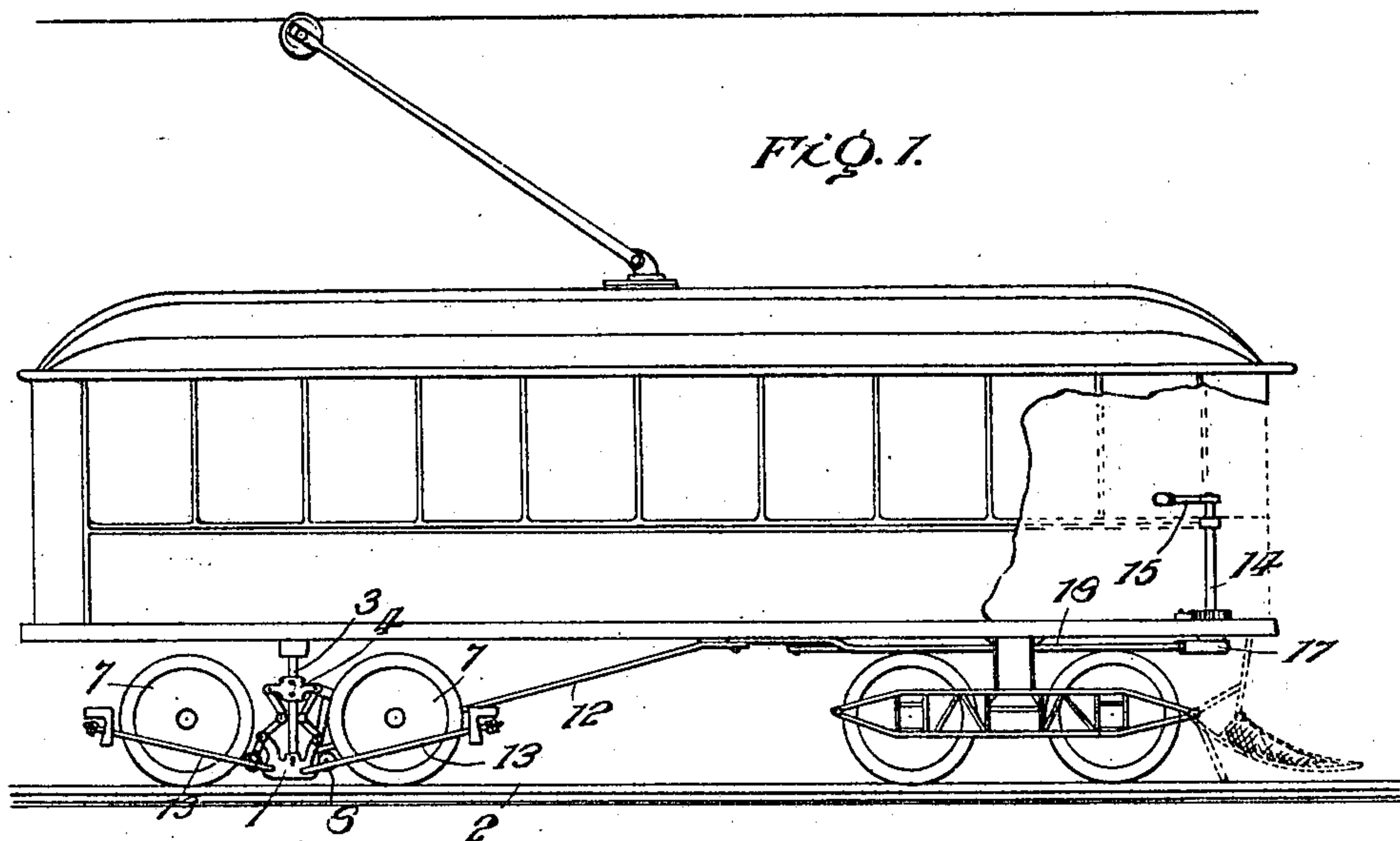
No. 836,997.

PATENTED NOV. 27, 1906.

W. C. SCHULZ.
RAIL BRAKE.

APPLICATION FILED APR. 13, 1906.

2 SHEETS—SHEET 1.



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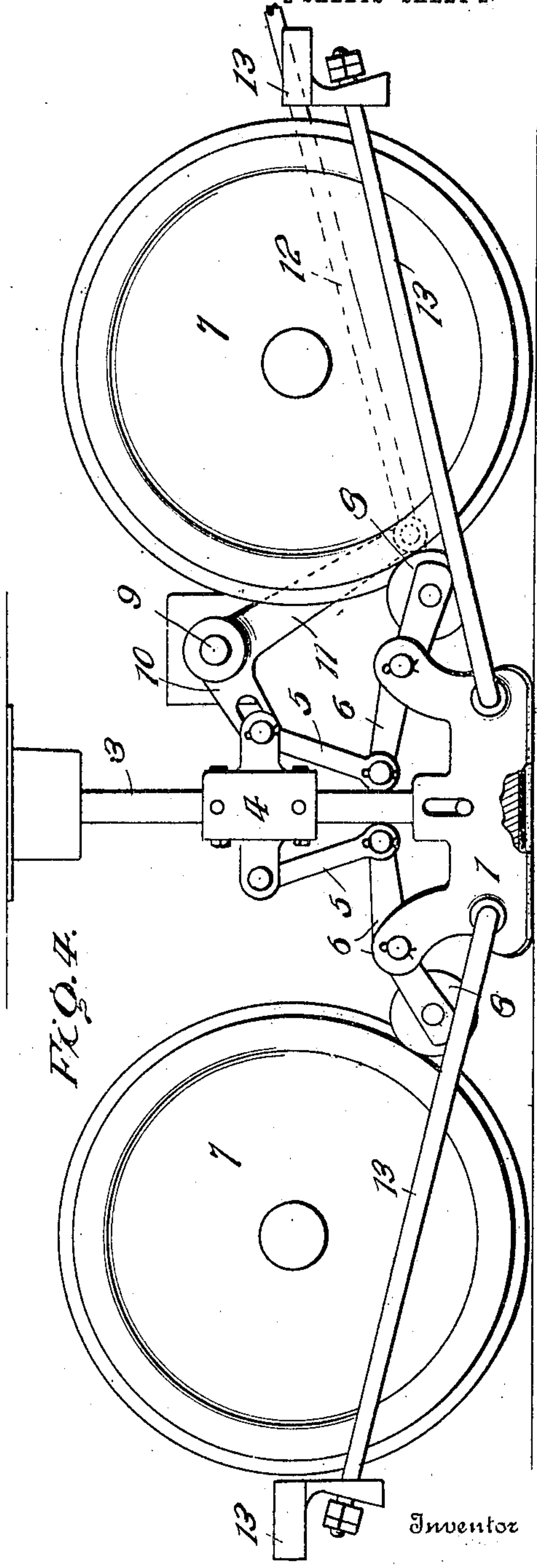
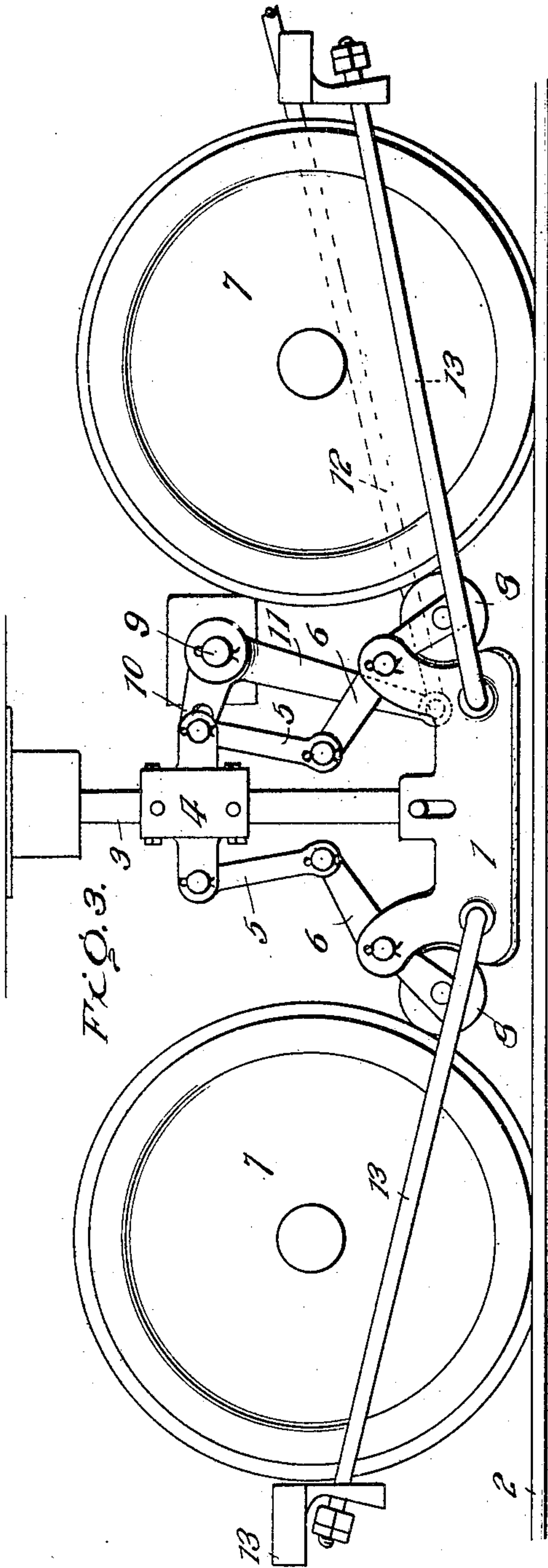
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Witnesses

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UNITED STATES PATENT OFFICE.

WILLIAM C. SCHULZ, OF INDIANAPOLIS, INDIANA.

RAIL-BRAKE.

No. 836,997.

Specification of Letters Patent.

Patented Nov. 27, 1906.

Application filed April 13, 1906. Serial No. 311,429.

To all whom it may concern:

Be it known that I, WILLIAM C. SCHULZ, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Rail-Brakes, of which the following is a specification.

This invention has relation to apparatus for checking the speed of rolling-stock adapted to travel upon railway-tracks and propelled either by steam, electric, or other motive power and which are designated and known as "rail-brakes," since the chock members or brake-shoes are adapted to be brought into frictional engagement with the rails and skid thereon, the resultant resistance being utilized to quickly check the momentum of the vehicle or car and bring the same to a state of rest.

The present invention, in addition to the members adapted for coöperation with the rails, provides other members for coöperation with the wheels of the truck upon which the body of the vehicle or car is mounted, so as to utilize said wheels as points of resistance and to augment the frictional engaging surface, with the result that the vehicle is brought to a standstill more quickly than if the frictional engagement between the rails and the shoes were used solely. Moreover, the construction admits of lifting the wheels clear of the rails, so that the load of the vehicle or car is imposed directly upon the brake-shoes, such result being most advantageous in the event of the driving power being applied directly to one or both of the wheels so elevated, thereby destroying the friction between them and the rails.

For a full description of the invention and the merits thereof and also to acquire a knowledge of the details of construction of the means for effecting the result reference is to be had to the following description and accompanying drawings.

While the invention may be adapted to different forms and conditions by changes in the structure and minor details without departing from the spirit or essential features thereof, still the preferred embodiment is shown in the accompanying drawings, in which—

Figure 1 is a side view of the lower portion or running-gear of a car equipped with brake apparatus embodying the invention. Fig. 2 is a view of the car as seen from the bottom. Fig. 3 is a side view of a brake, show-

ing the brake mechanism on a larger scale and in normal position. Fig. 4 is a view of the parts illustrated in Fig. 3, showing the brake set and the truck elevated so as to lift the wheels clear of the rails.

Corresponding and like parts are referred to in the following description and indicated in all the views of the drawings by the same reference characters.

The brake mechanism is adapted for application to steam-railways or to street-car traffic irrespective of the means of propulsion and is susceptible of a variety of changes incident to adapting the invention to different types of rolling-stock or vehicles and to meet varying conditions. It is to be understood that a brake-shoe and adjunctive parts are provided for adjacent wheels and that all the brake-shoes are connected in series for simultaneous operation.

The brake-shoe 1 may be of any length and constructed of any material and preferably comprises a metallic body having its lower face channeled or grooved, so as to receive the head or tread portion of the rail 2. The lower or engaging face of the brake-shoe may be plain or may be supplied with a material, such as leather or wood, to obviate serious wear upon the rail and provide necessary frictional engagement therewith to effect the desired result. The brake-shoe is mounted for vertical movement and is connected to a rod 3, which in turn is directed in its vertical movements by suitable guide means. A cross-head 4 is fitted to the rod 3 and links 5, connecting opposite ends of the cross-head with the inner ends of brake-levers 6, which are fulcrumed between their ends to the shoe 1. The outer ends of the brake-levers 6 are arranged to come in contact with adjacent wheels 7 of the car or vehicle, and to obviate a too rapid wearing away of the parts anti-friction-rollers 8 are provided at the outer ends of the brake-levers. The brake-levers are located low down and their outer ends normally extend beneath the treads of the wheels, so as to readily pass under the same when the brakes are set to effect elevation of the car and a lifting of the wheels from the rails, as indicated most clearly in Fig. 4.

The parts may be mounted in any manner and suitable actuating means employed. A rock-shaft 9 is provided with arms 10, connected at their outer ends with the cross-heads 4 and with another arm 11, which has connection with a rod or bar 12, by means of

which power is transmitted thereto for setting the brakes when required. Draft-rods 13 connect opposite ends of the brake-shoe with hangers 13 or other parts of the truck or framing. These rods sustain the draft and have a limited play with reference to the hangers or parts 13, whereby provision is had for free vertical movements of the brake-shoes.

For setting the brakes a shaft 14 is provided and is supplied at its upper end with a lever 15 and at its lower end with an eccentric 16, to which is fitted an eccentric-strap 17, having connection by means of a rod 18 with one end of a lever 19, the opposite end of the lever 19 being connected by link 20 with a lever 21, which is connected with the rod or bar 12. Upon turning the shaft 14 in one direction the brakes are set and upon turning said shaft in the opposite direction the brakes are released.

When the parts are in normal position, they occupy the relative arrangement shown most clearly in Fig. 3, and when the brakes are set the inner ends of the brake-levers 6 are forced downward, thereby bringing their outer ends in contact with the treads of the wheels 7, with the result that the brake-shoes are brought forcibly into contact with the rails, and upon application of sufficient force the body of the car is elevated, thereby lifting the wheels 7 from the rails and bringing the entire load upon the brake-shoes, as shown most clearly in Fig. 4.

From the foregoing it is obvious that various changes in the form, proportion, and minor details of construction may be resorted to without departing from the nature of the invention.

Having thus described the invention, what is claimed as new is—

1. In brake apparatus of the character specified, the combination with a vehicle and the wheel thereof, of a brake-shoe, means for

directing the same in its movements, a brake-lever fulcrumed to the brake-shoe between its ends and normally having one end extended beneath the tread of said wheel, and actuating means applied to the opposite end of said lever.

2. In brake mechanism of the character specified, the combination of a vehicle, adjacent wheels, a brake-shoe arranged between said wheels and mounted for vertical movement, brake-levers fulcrumed to opposite end portions of the brake-shoe and having their outer ends extended beneath the tread portions of the said wheels, and actuating means applied to the inner ends of said brake-levers.

3. In brake apparatus of the character specified, the combination of a framework provided with adjacent wheels, a brake-shoe arranged between the wheels and mounted to move vertically, brake-levers mounted between their ends upon opposite end portions of the brake-shoe and having their outer ends adapted to extend beneath the tread portions of said adjacent wheels, and actuating means for imparting simultaneous movement to the inner ends of said brake-levers.

4. In brake mechanism of the character specified, the combination of a framework provided with adjacent wheels, a brake-shoe mounted to move vertically, draft-rods connecting opposite ends of the brake-shoe with the framework and having a limited play with reference to the latter, brake-levers mounted upon opposite end portions of the brake-shoe and having their outer ends extended beneath tread portions of the said wheels, and actuating means for imparting simultaneous movement to the inner ends of said brake-levers.

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

WILLIAM C. SCHULZ. [L. S.]

Witnesses:

ELLA GRONINGER,
JOHN GRONINGER.