(No Model.)

J. T. DUFF.

CAR BRAKE.

No. 500,649. Patented July 4, 1893.

Fig. 1.

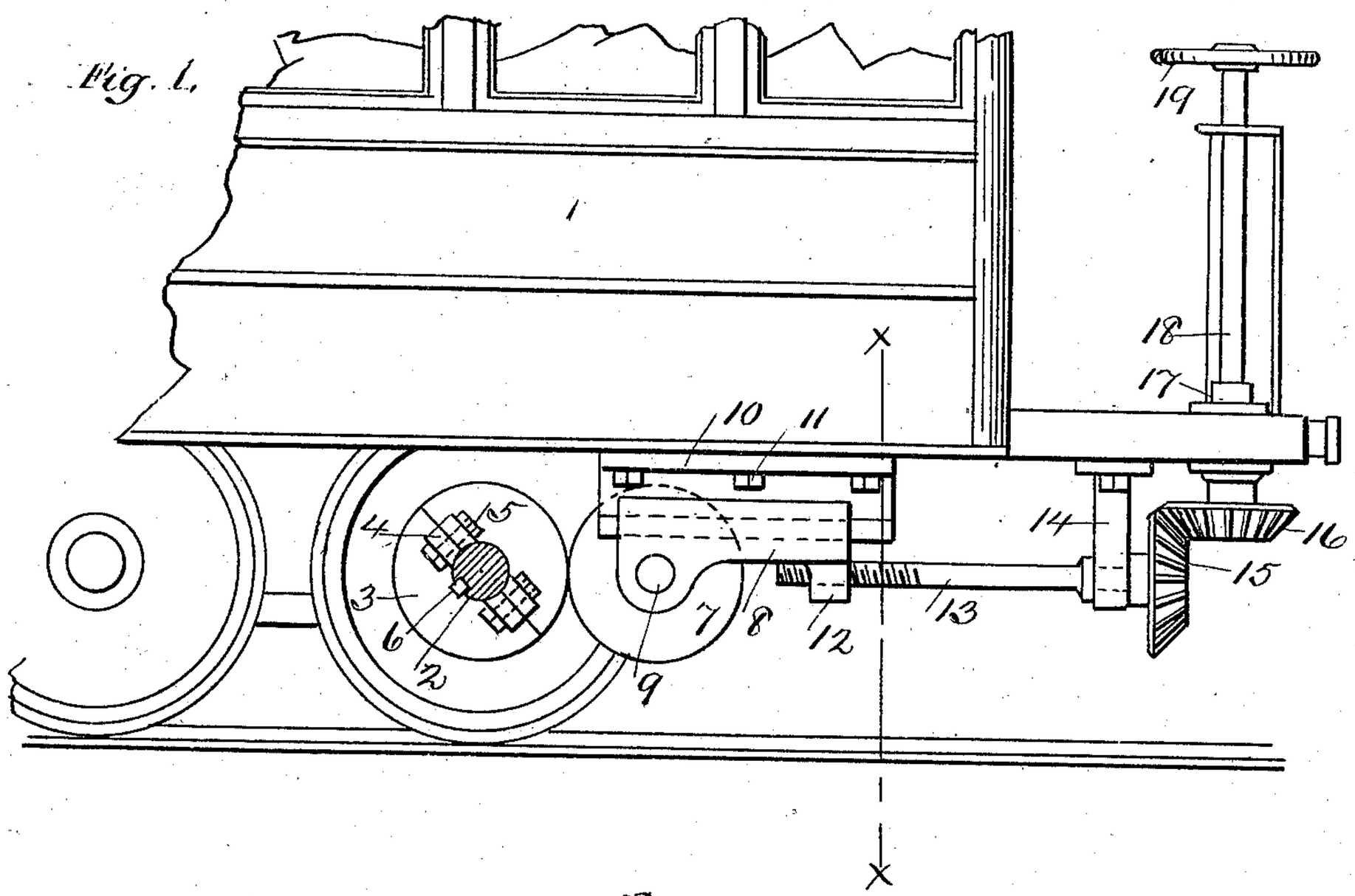


Fig. 2.

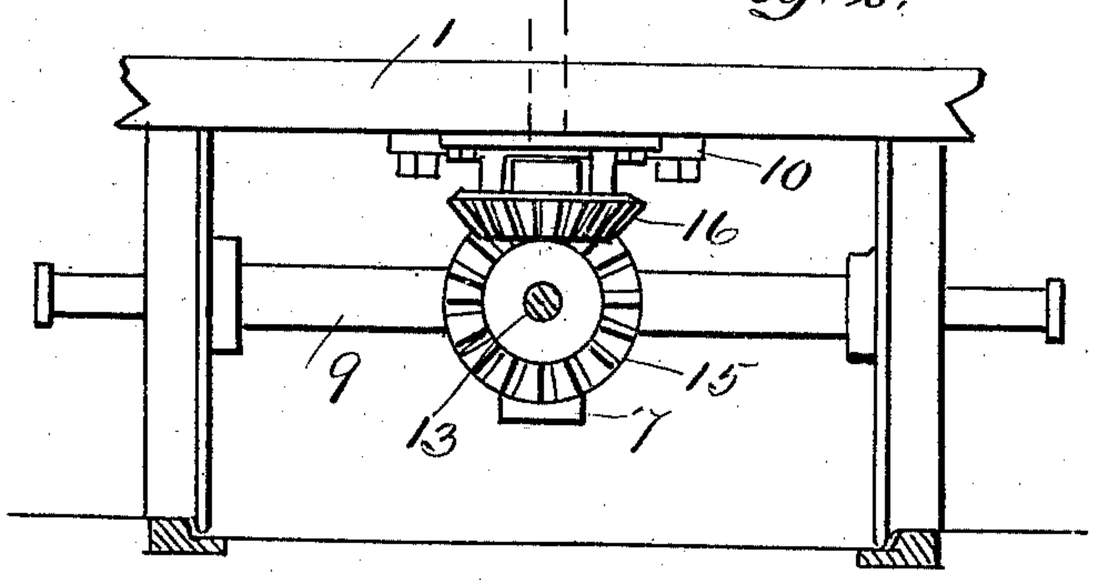
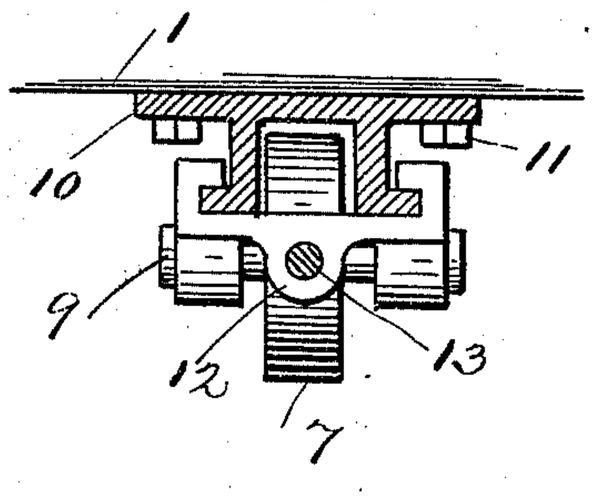


Fig. 3.



Witnesses:
L. E. Harrison.
J. A. Herron.

Inventor.
John T. Duff.
per. H. E. Harrison.
Atty.

UNITED STATES PATENT OFFICE.

JOHN T. DUFF, OF PITTSBURG, PENNSYLVANIA.

CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 500,649, dated July 4, 1893.

Application filed March 28, 1893. Serial No. 468,053. (No model.)

To all whom it may concern:

Be it known that I, JOHN T. DUFF, a citizen of the United States, residing at Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Brakes; 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 pertains to make and use the same, reference being had to the accompanying drawings, which form a part of this specification.

My invention relates to an improved car brake, and consists in a disk attached to one of the axles of the car, and a sliding carriage having a similar disk journaled thereon adapted to be brought in contact with the disk on the axle, whereby great friction of the parts is obtained, to retard the speed of the vehicle, also suitable means for operating the said sliding or moving disk, together with the certain details of construction and combination of parts as will be fully described hereinafter.

In the accompanying drawings, Figure 1. is a side elevation partly in section of a railway car, provided with my improved brake. Fig. 2. is a front elevation of my improved brake. Fig. 3. is a sectional end elevation, on the line *x. x.*

To construct a brake in accordance with my invention, and adapt the same to an ordinary street railway car 1, I attach to one of the axles 2 a steel disk 3 of a suitable diameter and width. This disk is constructed in two sections, each of which is provided with integral flanges 4, through which bolts 5. are passed for the purpose of rigidly securing the said sections to the axle 2. A key 6 entering the axle, and one of the sections of the disk 3, serves to prevent the said disk from turning. Operating on a carriage 8 arranged at the front of the axle disk 3. is another disk 7 arranged directly in line, and adapted to be moved toward or away from the first described disk 3. This movable disk 7. is attached to a short shaft 9 journaled in a horizontally moving carriage 8. This carriage 8. is provided with slides, to engage with a stationary slide 10. attached to the car or truck by means of bolts 11. To operate this carriage horizontally I employ a shaft 13, threaded at its rear end to engage with a threaded bearing 12. formed integral with the carriage. This shaft 13. is provided at its forward end with a bearing 14. and a bevel gear 15. This gear 15 meshes with another 16. attached to a vertical shaft 18. suitably arranged in bearings 17, and the said shaft provided with a hand wheel 19. By this construction of a car brake, quick action is obtained, as it is only necessary to move the disk 7 slightly to either apply or release the brake. To set the brake the hand wheel 19 is revolved which operates the bevel gear wheels 15 16 thereby rotating the shaft 13. This rotation of the shaft 13. operates the threaded portion of the same in the bearing 12. to move the carriage 8. and disk 7. toward the axle disk 2. When these two disks are brought tightly together the friction between the same retards the car, and if the pressure is great will lock the car wheels and prevent the same from turning. One of these brakes thus constructed may be arranged at each end of the car, or the number of disks may be multiplied if deemed necessary, without departing from my invention.

Having thus described my invention, I claim—

1. A car brake consisting of a sectional disk attached to one of the axles of the car, a movable disk arranged in line with the said axle disk, a carriage carrying the movable disk, slides arranged to carry said carriage, a threaded shaft operating in a threaded bearing formed on said carriage, gearing for operating said shaft, and a means for operating said gearing, substantially as described.

2. In combination with a railway car 1, the disk 2, constructed in sections and bolted together, the movable disk 7. journaled to a carriage 8, suitable slides formed on said carriage—the slides 10 attached to the car or truck adapted to carry the said carriage, the threaded bearing 12 formed on the said carriage, a threaded shaft 13 operating in said bearing, the bearing 14 to support the forward end of the shaft 13, the bevel gear 15 mesh-

ing with another 16. attached to the lower end of a vertically arranged shaft 18, suitable bearings 17 for said shaft, and the hand wheel or other suitable means for operating the vertical shaft 18, all arranged and combined for service, substantially as and for the purpose described.

In testimony that I claim the foregoing I hereunto affix my signature this 13th day of March, A. D. 1893.

JOHN T. DUFF. [L. S.]

In presence of—
P. B. REILLY,
L. E. HARRISON.