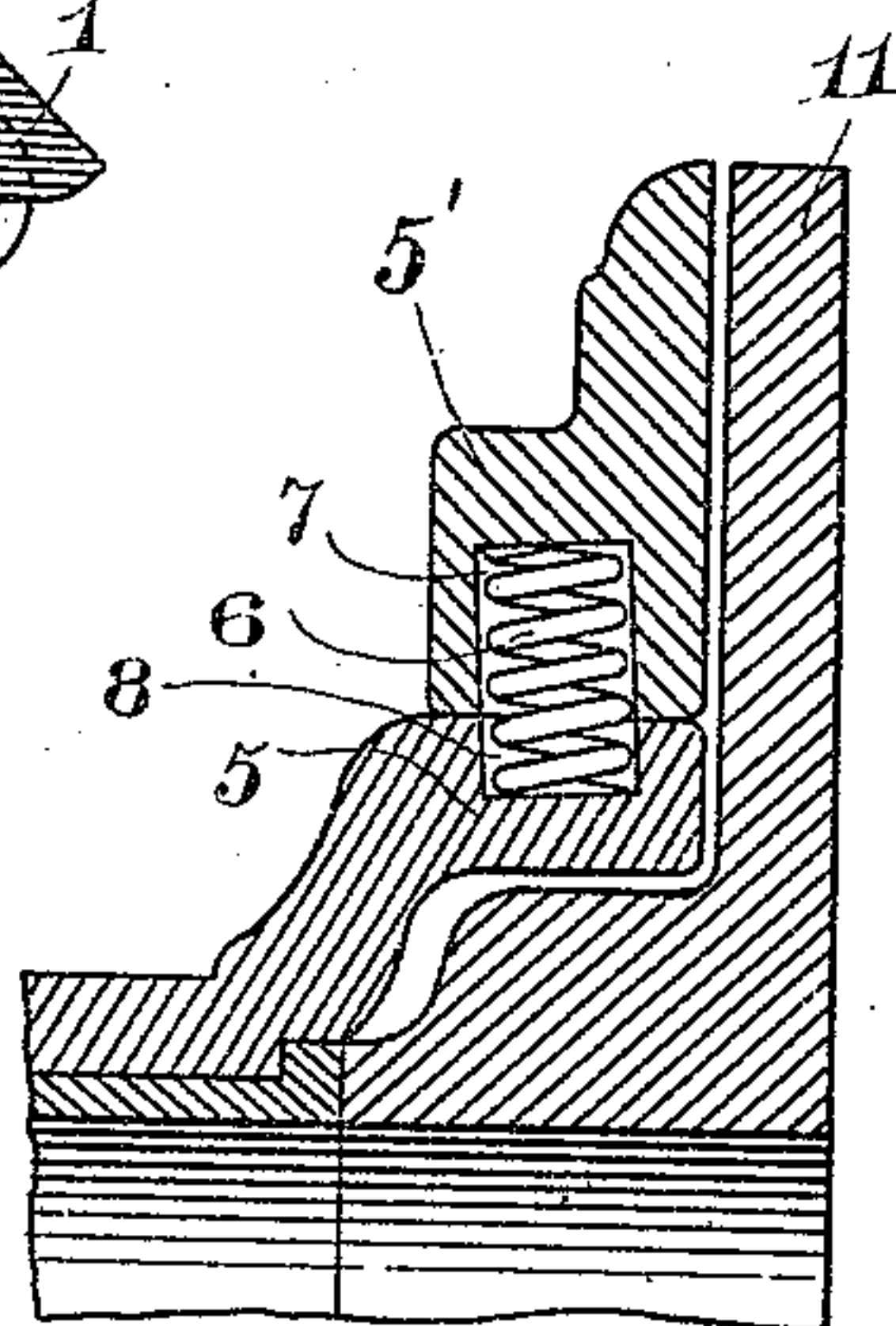
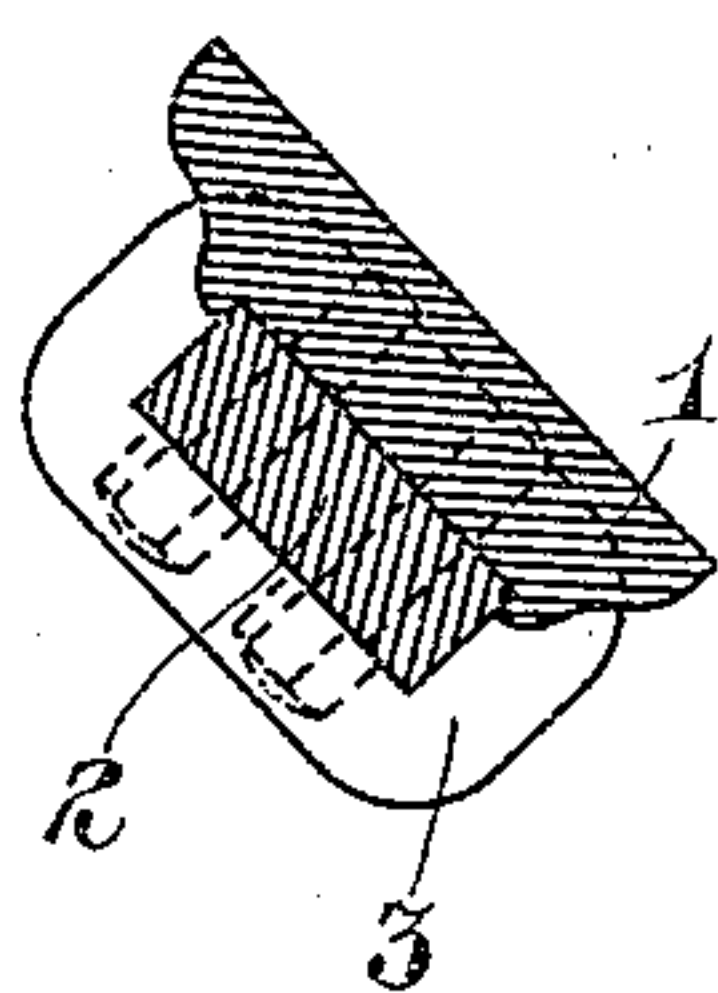


W. B. POTTER.
ELECTRIC BRAKE SHOE.

Patented July 30, 1895.



WITNESSES_

A. F. Macdonald.

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INVENTOR_

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UNITED STATES PATENT OFFICE.

WILLIAM B. POTTER, OF SCHENECTADY, NEW YORK, ASSIGNOR TO THE
GENERAL ELECTRIC COMPANY, OF NEW YORK.

ELECTRIC-BRAKE SHOE.

SPECIFICATION forming part of Letters Patent No. 543,653, dated July 30, 1895.

Application filed March 30, 1895. Serial No. 543,802. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM B. POTTER, a citizen of the United States, residing at Schenectady, in the county of Schenectady, State of New York, have invented certain new and useful Improvements in Electric-Brake Shoes, of which the following is a specification.

This invention relates to electric brakes, and has for its object to provide an electric-brake shoe so constructed that it can be conveniently located about the car-axle without removing the car-wheel, and will also be suspended so as to render it efficient, besides affording simplicity and economy of construction.

The invention consists in a brake-shoe constructed as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is an elevation of a brake-shoe constructed in accordance with this invention, showing its face, which, when the shoe is magnetized by the action of an electric current, is brought against the adjacent face of a disk or other revolving part fixed to the car-axle to brake the car, and also showing the brake-shoe in its position relative to the motor. Fig. 2 is a plan view of the part of the support or bearing of the motor which rests on the car-axle, and Fig. 3 is a detail view in transverse section on the line X X of Fig. 1, through one of the pole-pieces and cores of the magnet forming the brake-shoe. Fig. 4 is a detail view in section of a portion of the bearing or motor-support shown in Fig. 1, taken on the line *a a*, and a portion of the disk adapted to be mounted on the car-axle, and with which the brake-shoe is brought in contact when the latter is magnetized.

In the construction of this invention the brake-shoe is formed of a number of metallic pieces 1 connected together by cores 2, upon which are wound coils 3, the metallic pieces 1 serving as pole-pieces of the magnet and the cores 2 and coils 3 being arranged in a circumferential direction about a central axis, which, when the shoe is mounted on the car-axle, is the car-axle 4. In assembling these parts above described to form the brake-shoe the metallic pieces 1 and cores 2 are bolted together, the cores 2 being slightly offset from the metallic pieces 1 and the brake-shoe sur-

rounding the car axle 4 and resting upon a projection 5 of the axle-bearing of the motor-casing at a single point above the car-axle by means of a lug or projection 5' on the upper metallic piece 1 resting on the projection 5. The brake-shoe so suspended is located, as shown in Fig. 4, in close proximity to the disk 11, so as to be readily attracted against the latter, and is adapted to slide on its point of suspension, a coil-spring at 6 angularly mounted in the recess 7 in the upper pole-piece 1, and having its lower end resting in a socket 8 in the motor-car-axle bearing 5, serving, by reason of its angular position, to move the brake-shoe back and hold it in normal position when the shoe is released, and by its upward action sustaining so much of the weight of the shoe as to practically eliminate the friction due to its movement to and from the brake-disk.

To prevent the brake-shoe from vertical movement, the side pole-pieces 1 are formed with the shouldered part 9, which abut against the projections 10 of the motor-car-axle bearing; but do not serve to support the brake-shoe in a vertical position. The projections 10 prevent the brake-shoe from having lateral movement. By having the pole-pieces and cores bolted together the parts may be readily detached to supply new pole-pieces when desired.

By means of this construction, hereinbefore set forth, the brake-shoe, when energized by an electric current, carried thereto by any suitable connection, will be readily brought against the opposing revolving part fixed on the car-axle—as, for example, the disk 11. (Shown in Fig. 4.)

It will readily be seen that by suspending the brake-shoe at a single point above the car-axle and independent thereof, as set forth, the brake-shoe can be effectively operated and will be held in normal position.

What I claim as new, and desire to secure by Letters Patent of the United States, is—

1. An electric brake shoe consisting of a magnet arranged about a car axle and suspended by a single spring-cushioned bearing above the car axle.

2. An electric brake shoe consisting of a number of pole-pieces arranged in the same

plane about a car axle, cores connecting said pole-pieces and wound with coils, said brake shoe being suspended at a single point above the car axle.

- 5 3. An electric brake shoe consisting of a number of pole-pieces arranged in the same plane about a car axle, cores connecting said pole-pieces and wound with coils, and means substantially as described, for holding the
10 brake shoe against vertical and lateral movement, said brake shoe being suspended at a single point above the car axle.

- 15 4. An electric brake shoe consisting of a magnet arranged about a car axle and suspended at a single point above the car axle, said shoe being adapted to slide on its point

of suspension, and means for restoring the shoe to normal position.

5. An electric brake shoe consisting of a magnet arranged about a car axle, and sus- 20
pended at a single point above the car axle, said shoe being adapted to slide on its point of suspension, and a spring connection at the point of suspension by means of which the shoe is moved back to and retained in its nor- 25
mal position, and is relieved of friction.

In witness whereof I have hereunto set my hand this 27th day of March, 1895.

WILLIAM B. POTTER.

Witnesses:

B. B. HULL,

A. F. MACDONALD.