

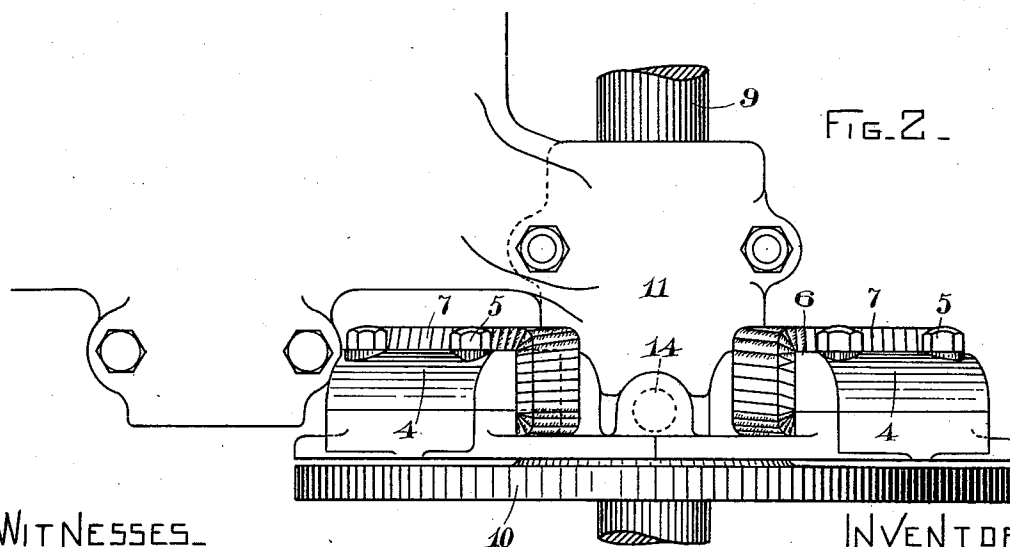
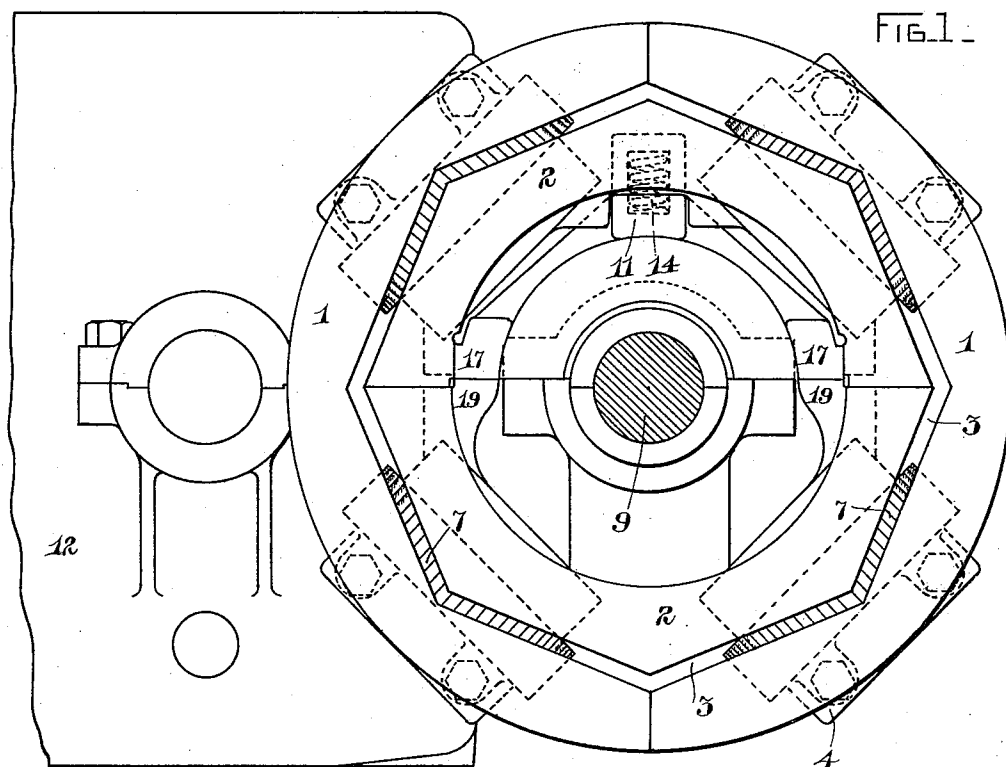
(No Model.)

2 Sheets—Sheet 1.

M. T. A. KUBIERSCHKY.
BRAKE SHOE.

No. 541,099.

Patented June 18, 1895.



WITNESSES.

A. F. Macdonald.

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Att'y.

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FIG. 3.

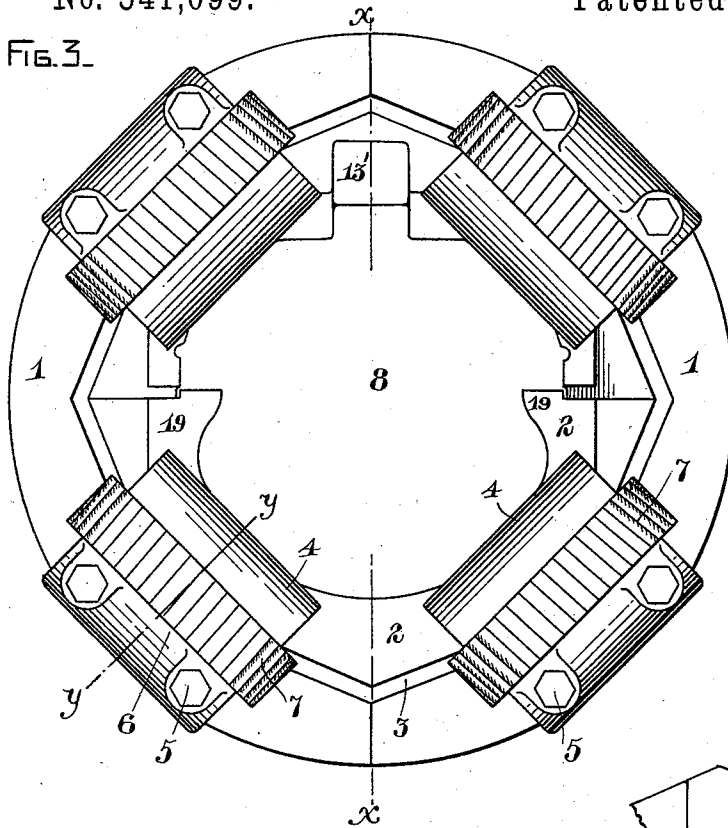


FIG. 4.

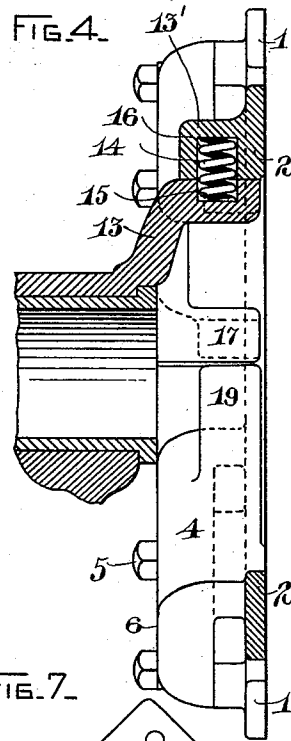
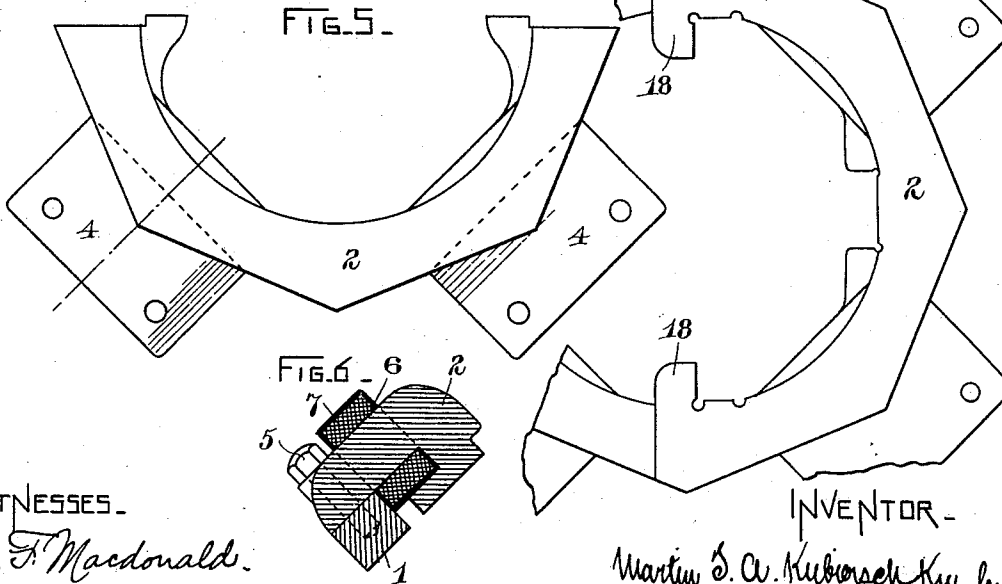


FIG. 7.



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UNITED STATES PATENT OFFICE.

MARTIN T. A. KUBIERSCHKY, OF SCHENECTADY, NEW YORK, ASSIGNOR TO
THE GENERAL ELECTRIC COMPANY, OF NEW YORK.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 541,099, dated June 18, 1895.

Application filed March 30, 1895. Serial No. 543,806. (No model.)

To all whom it may concern:

Be it known that I, MARTIN T. A. KUBIERSCHKY, a subject of the Emperor of Germany, residing at Schenectady, county of Schenectady, State of New York, have invented certain new and useful Improvements in Brake-Shoes, of which the following is a specification.

This invention relates to electric brakes; and has especial reference to magnetic brakes in which a magnet is energized by the electric current to operate the brake.

The invention has for its object to provide an efficient construction of the parts of the brakeshoe whereby it may be readily mounted in place and taken apart, and will be durable and economical.

The invention consists of an electric brake, as hereinafter set forth and claimed.

In the accompanying drawings, Figure 1 is a front view in elevation of a brake-shoe constructed in accordance with this invention mounted on the car-axle and a side view of a motor-casing, showing the relative positions of the brake-shoe and motor-casing. Fig. 2 is a plan view of the construction shown in Fig. 1, including a portion of a car-axle and a disk fixed thereto against which the brake-shoe is adapted to be applied. Fig. 3 is a rear face view in elevation of the brake-shoe. Fig. 4 is a vertical section thereof on the line xx of Fig. 3. Fig. 5 is a front face view of one of the parts of the brake-shoe detached. Fig. 6 is a detail in cross-section on the line yy of Fig. 3, and Fig. 7 is a modification in which the inner pole-pieces are jointed on a horizontal line below the center.

In carrying out this invention, the brake-shoe in the form of a disk and constituting a magnet is formed of a number of outer metallic pieces 1, and inner metallic pieces 2, located within the outer pieces 1, and having their outer faces, or the faces which are brought, in operating the brake, in contact with a disk or car-wheel fixed to its axis, in the same plane. The pieces 1 and 2 are slightly spaced apart from each other, which leaves the aperture 3, affording an air gap between the poles of the magnet, and also a passage for dust, &c. The metallic pieces 1

and 2 are connected together by means of the yokes 4 projecting radially from the inner pieces 2 and secured by screw-bolts 5, or other suitable means to the outer pieces 1. About the portion 6 of the yokes 4, which serves as a core, is wound a coil 7. It will thus be seen that the outer and inner pieces 1 and 2 and the yokes 4 and wound cores 6 form the brake shoe magnet, the pieces 1 and 2 being the pole-pieces. The coils 7 constitute a number of separate coils. The magnet so formed may be suitably connected with and supplied with current from any of the usual sources.

In the arrangement of the metallic pieces 1 and 2, the inner pieces 2 are preferably made to break joint with the outer pieces 1. Within the inner pieces 2, a sufficient space 8 is afforded to admit of the shoe being suspended about a car axle.

Referring to Fig. 2, 9 indicates a car axle, about which the brake shoe may be suspended in proximity to a car wheel, or, as shown, to a disk 10 fixed to the car axle. The brake shoe is preferably suspended at a single point above the car axle and independently thereof, in such proximity to the disk 10 as to be readily attracted thereto when the brake magnet is energized and clear of the same when not applied. The brake shoe may be suspended at a single point above the axle in any suitable manner.

As shown, the brake shoe is suspended from a bracket 13 on the projection 11 of the motor casing 12, in which is located the car axle bearing, by means of a lug 13' on the upper pole-piece 2 resting on the bracket 13, and is adapted to slide thereon when the shoe is attracted to and released from the disk 10.

To hold the shoe in its normal position and also cause it to move back to said normal position when released from the disk 10, and relieve it from friction in its sliding movement, the following construction is preferably employed: A coiled spring 14 is located at an angle in the meeting sockets 15 and 16 in the bracket 13 and lug 13' respectively, and acts to bring back the shoe to its normal position when the latter is released from the disk 10. The brake shoe is held against lateral movement by means of lugs or projections 17 on

the projection 11, and against vertical movement by means of lugs 19 on the lower inner piece 2, which abut against the projections 17.

For convenience of manufacture, the upper
5 inner piece 2 may be made larger than the lower inner piece 2, so as to bring their abutting ends on a horizontal line below the center, and formed with lugs 18 in lieu of the lugs 19 on the lower inner piece 2, all as shown
10 in the modification in Fig. 7.

By means of the construction hereinbefore set forth, the brake shoe may be readily suspended about a car axle and removed, and a brake shoe provided which will be simple in
15 construction, economical and durable.

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

1. In an electric brake, a brake-shoe consisting of a magnet formed with pole-pieces
20 arranged in the circumference of a circle and forming inner and outer poles, having their surfaces, which are adapted to contact with a revolving part, located in the same plane, said pole pieces being connected together by a
25 number of yokes on which the coils of the magnet are wound.

2. In an electric brake, a brake-shoe consisting of a magnet formed with inner and outer metallic pieces having their faces, which
30 are adapted to contact with a revolving part, arranged in a circle and in the same plane, said metallic pieces serving as the poles of the magnet and being connected together by yokes on which the coils of the magnet are
35 wound.

3. In an electric brake, a brake shoe consisting of a magnet formed with inner and outer pole-pieces arranged in a circle and in

the same plane, the inner pole pieces formed of plates extending in a circle, and breaking
40 joints with the plates forming the outer pole pieces.

4. In an electric brake, a brake-shoe consisting of an inner pole piece extending in the circumference of a circle and formed in sections, having radial yokes wound with coils,
45 an outer pole piece extending in the circumference of a circle and formed in sections, the latter being secured to the yokes of the inner pole piece, and having their faces which contact with a revolving part located in the same
50 plane.

5. As a new article of manufacture, a section of a pole-piece for an electric brakeshoe, consisting of a metallic piece extending in the
55 direction of a segment of a circle, having one of its faces formed in a certain plane and with integral radially projecting yokes in a different plane from that of the shoe.

6. An electric brake-shoe consisting of sectional inner and outer pieces having their
60 contacting surfaces in the same plane and encircling a rotary shaft, one of said pole pieces having radial yokes wound with coils and connecting it with the other pole piece, the
65 brake-shoe being suspended at a single point above the rotary shaft, in combination with a rotary disk or wheel fixed to the shaft, against which the brake-shoe is moved.

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

MARTIN T. A. KUBIERSCHKY.

Witnesses:

B. B. HULL,

A. F. MACDONALD.