

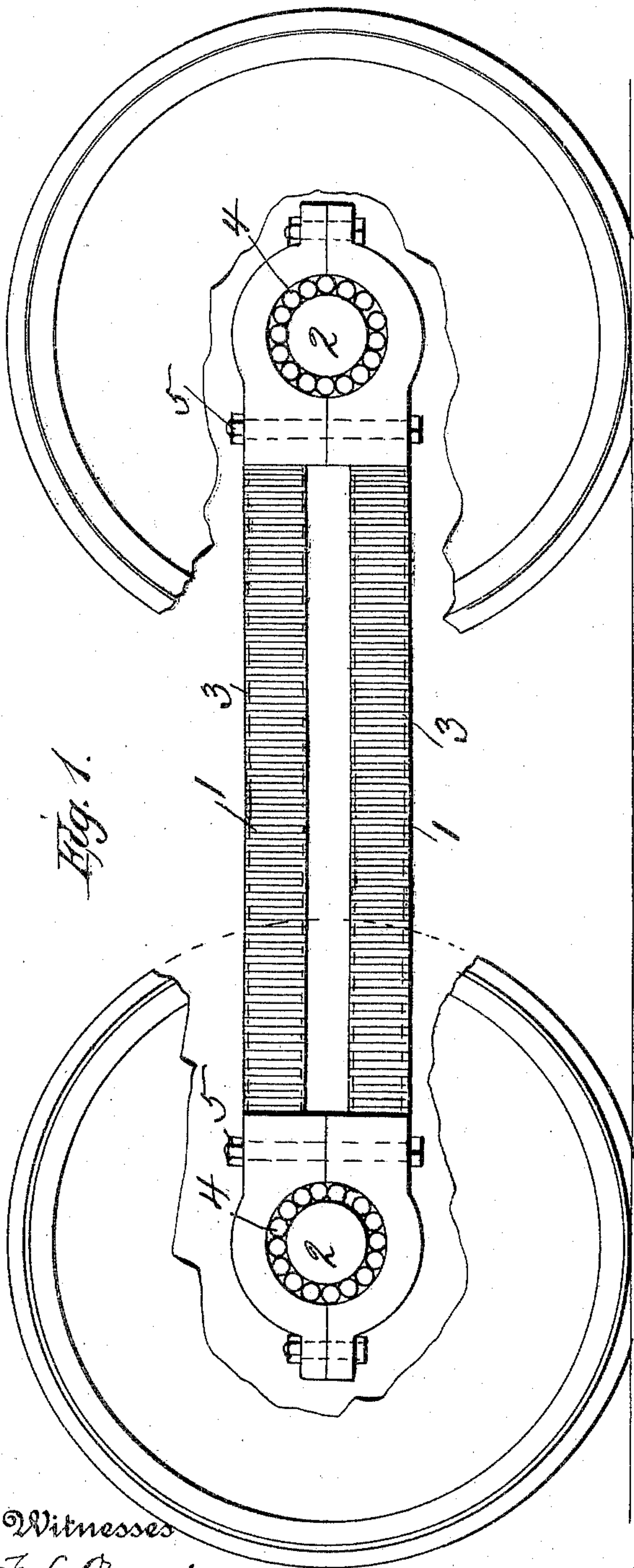
No. 775,837.

PATENTED NOV. 22, 1904.

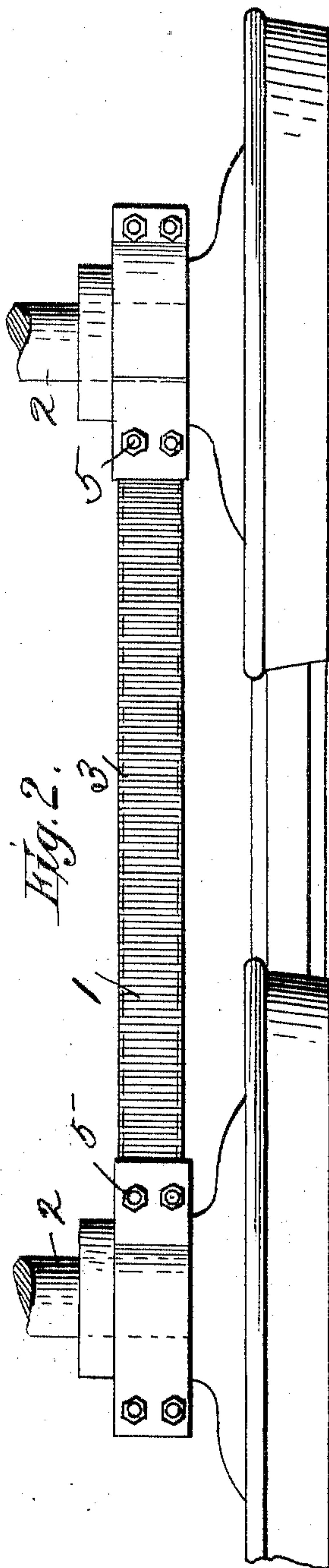
R. C. LOWRY.
TRACTION INCREASING DEVICE.

APPLICATION FILED AUG. 13, 1903.

NO MODEL.



Witnesses
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UNITED STATES PATENT OFFICE.

ROBERT C. LOWRY, OF NEW WESTMINSTER, CANADA.

TRACTION-INCREASING DEVICE.

SPECIFICATION forming part of Letters Patent No. 775,837, dated November 22, 1904.

Application filed August 13, 1903. Serial No. 169,390. (No model.)

To all whom it may concern:

Be it known that I, ROBERT C. LOWRY, a subject of the King of Great Britain, residing at New Westminster, British Columbia, Canada, have invented certain new and useful Improvements in Traction-Increasing Devices, of which the following is a specification.

My invention relates to electromagnetic adhesive devices for railway-cars, locomotives, and other such vehicles; and among the objects in view is to provide an extremely simple, compact, and efficient device for increasing the adhesion of the wheels of such cars, &c., to the rails on which they move and which device may be constructed at a small cost.

The invention consists in the novel construction, arrangement, and combination of parts as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the appended claims.

In the drawings, Figure 1 is a side elevation of two wheels of a truck, partly broken away, with my improved traction device applied thereto. Fig. 2 is a plan view of the parts seen in Fig. 1.

My device comprises an attachment for magnetizing two supporting-wheels of a truck on the same side or rail, whereby said wheels may exert a powerful magnetic attraction for the rail, which latter acts as an armature.

In carrying out my invention I provide two bars 1, substantially similar in shape and of sufficient length to extend from one axle of a car-truck to the other. These parts, which may be made of mild cast-steel or malleable iron, constitute a yoke connecting the axles 2.

Each bar carries a coil of insulated electric wire 3, and the coils are wound in the same direction, so as to form a north pole at one end and a south pole at the other end of the yoke, where the latter passes around the axles of the car. Each of the two bars constituting the yoke is so shaped as to provide a semi-cylindrical bearing-surface adapted to embrace one-half of the car-axle, and when the bars are applied the axles will be entirely surrounded by the said bearing-surfaces of the bars. Instead of constructing the ends of the bars so as to come into direct contact with the axles a rolling bearing on the axle may be

provided, and for this purpose rollers 4, of steel, between the car-axles and the bearing-surfaces of the bars, are represented in Fig.

1. Thus the yoke may or may not have a rolling bearing at the points where it is connected with the axles.

The yoke-bars may be detachably secured in place by means of bolts 5. Thus the bars may be readily attached to existing cars and readily detached therefrom, when desired. While I show the yoke as being composed of two bars or sections bolted together and prefer this construction, as affording greater mechanical strength and utility, it will be understood that I may use the one bar and dispense with that portion of the other bar upon which the coil is directly wound. The coils will of course be connected with a suitable source of electrical supply and a controller. When the magnetizing-current is turned into the coils, the wheels and yoke form a horse-shoe-magnet and the rail between the wheels acts as an armature and completes the magnetic circuit. It will be seen that the car-wheels will then exert a strong tractive force upon the rails, thus increasing the adhesive power upon such rails of the car or locomotive to which they may belong. The coils on the yoke connecting the axles on the opposite or farther side of the truck should be wound (and the electric current in them should flow) in the same direction as that adopted for the coils on yoke adjacent to the truck-wheels on the near side. If desired, the bars may be bent intermediate of the axles, one up and the other down, whereby to provide an intermediate space between those portions of the bars which carry the coils for the interposition of springs for supporting the body of the car or locomotive or other vehicle.

What I claim as new, and desire to secure by Letters Patent, is—

1. In an electromagnetic adhesive device, the combination with car-axles, of a yoke extending between said axles adjacent to the wheels and having its ends encircling said axles and a wire coil mounted on said yoke.

2. In an electromagnetic adhesive device, the combination with car-axles, of a yoke extending between said axles adjacent to the

wheels and having its ends encircling the same, rollers interposed between each of the axles and the end of the yoke and a wire coil mounted on the yoke.

5 3. In an electromagnetic adhesive device, the combination with car-axles, of a yoke made in sections and extending between said axles adjacent to the wheels and encircling at their ends the said axles and wire coils mounted on the sections of the yoke and wound in the same direction.

10 4. In an electromagnetic adhesive device, the combination with car-axles, of a yoke made in sections and extending between the axles adjacent to the wheels and having their ends encircling said axles, as described, means for detachably connecting the sections to-

gether and wire coils mounted on the sections and wound in the same direction.

5. In an electromagnetic adhesive device, 20 the combination with car-axles, of a yoke formed in sections and extending between the axles adjacent to the wheels and having their ends encircling said axles, roller-bearings interposed between the axles and the ends of the 25 yoke-sections and coils mounted on the sections of yoke and wound in the same direction.

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

ROBERT C. LOWRY

Witnesses:

WALTER B. WHITCOMB,
ROLLO WHITCOMB.