

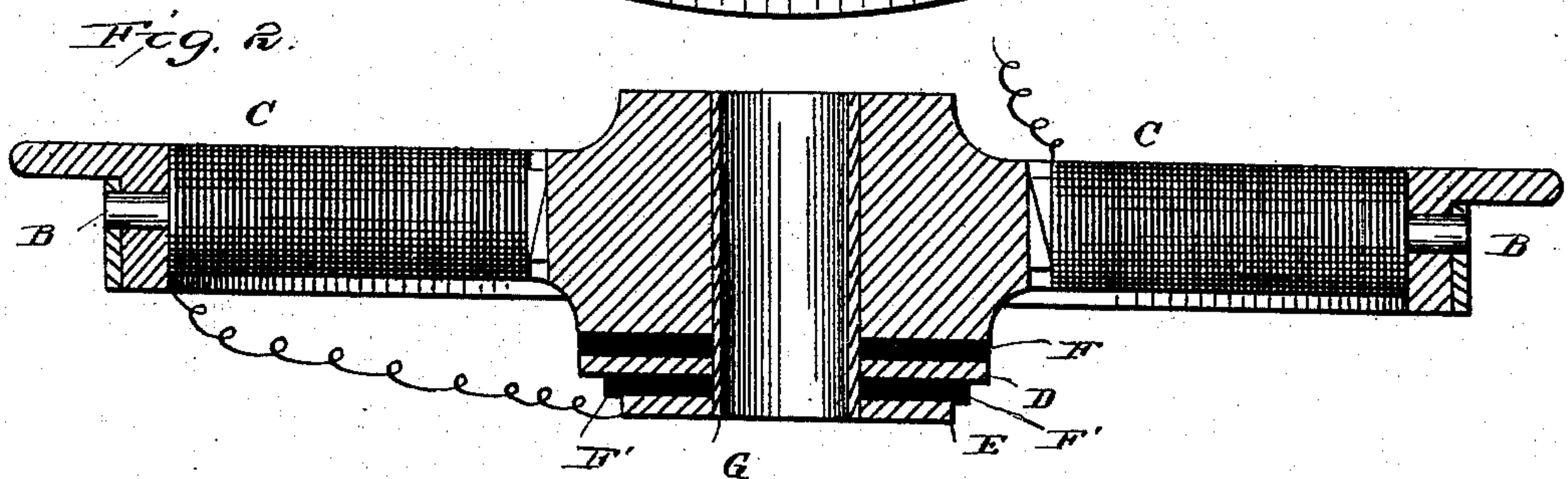
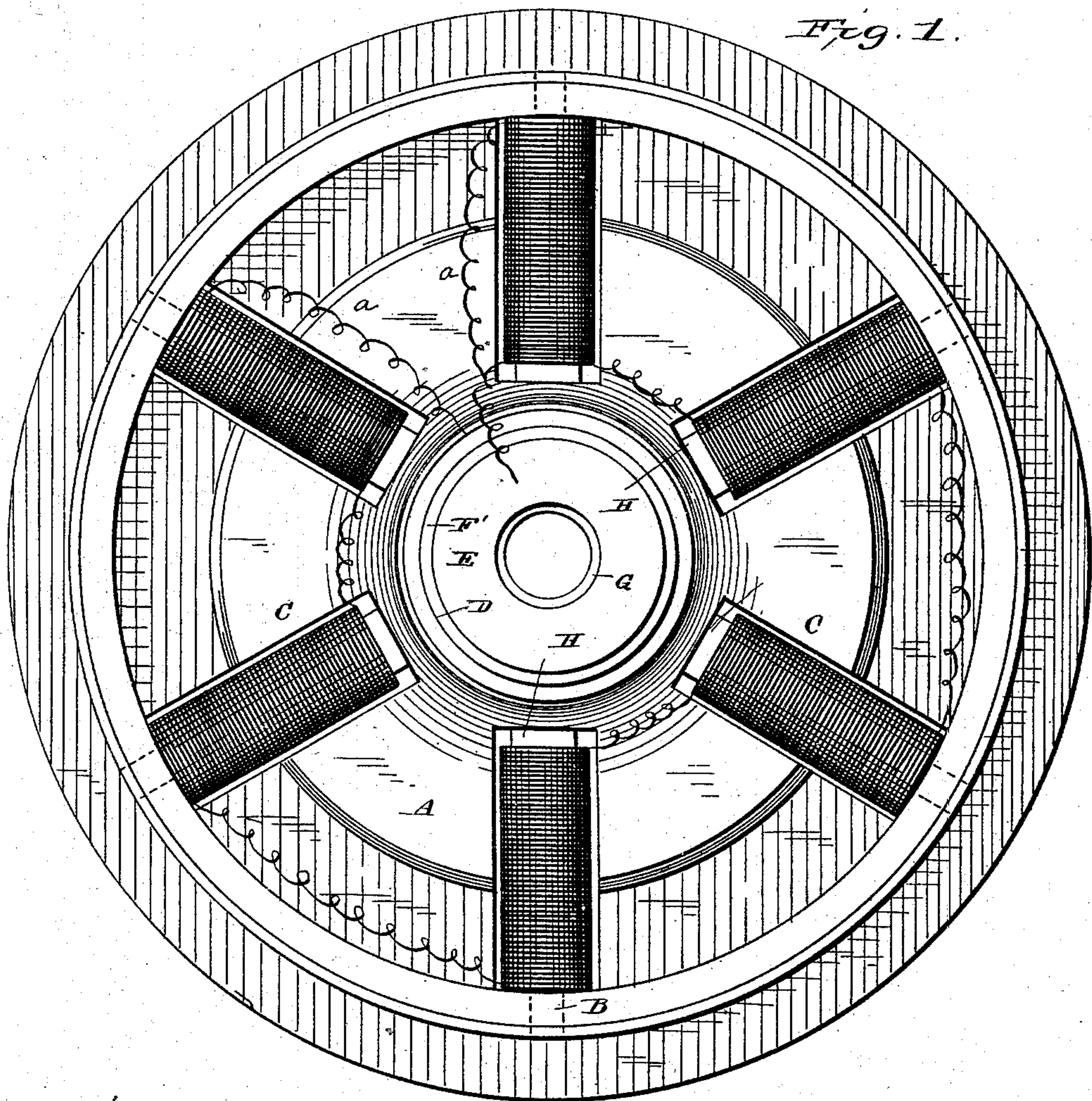
(No Model.)

H. M. BEIDLER.

ELECTRO MAGNETIC CAR WHEEL AND BRAKE.

No. 284,365.

Patented Sept. 4, 1883.



Witnesses.
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UNITED STATES PATENT OFFICE.

HENRY M. BEIDLER, OF TEXARKANA, ARKANSAS.

ELECTRO-MAGNETIC CAR WHEEL AND BRAKE.

SPECIFICATION forming part of Letters Patent No. 284,365, dated September 4, 1883.

Application filed January 17, 1883. (No model.)

To all whom it may concern:

Be it known that I, HENRY M. BEIDLER, a citizen of the United States, residing at Texarkana, in the county of Miller and State of Arkansas, have invented certain new and useful Improvements in Electro-Magnetic Car Wheels and 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 appertains to make and use the same.

This invention relates to certain improvements in the construction of car-wheels; and it has for its object to create sufficient traction at any required time to cause the wheels to hold to the track to any desired extent, so as to prevent the wheel slipping in bad weather, or to operate as car-brakes, as more fully hereinafter specified. These objects I attain by the means illustrated in the accompanying drawings, in which—

Figure 1 represents an elevation of a car-wheel, showing my invention applied thereto; and Fig. 2, a sectional view thereof.

The letter A indicates an ordinary car-wheel, which is provided with a series of any desired number of radial slots in its web, six being shown in the present instance. In these slots are located the electro-magnets B, each consisting of a bar of soft iron wrapped with a suitable coil of wire, as indicated by the letter C. The ends of the coils are connected or form a continuous wire, as indicated in Fig. 1, and from either of two adjoining magnets the wires are extended toward the center of the wheel, as indicated by the letter a, and are permanently connected to the metallic annuli D E, which set loosely upon the shaft of wheel. Between the boss of the wheel and the first-mentioned annulus is interposed an insulating-annulus of hard rubber, F, and between the two metallic annuli is interposed a similar disk of hard rubber, F'. The annuli are mounted upon a sleeve of hard rubber, G, which sets on the shaft, so as to completely insulate the two disks. Other insulating material, it is evident, may be substituted for the hard rubber. The cores of the magnets preferably extend through to the periphery of the

wheel, as shown, and are clamped in position by means of wedges H. When in position, there are arranged to bear upon the metallic annuli above mentioned flat springs attached to insulated supports secured to the journal-box of the wheel. These springs are connected with wires running along the journal-box, and extending to the positive and negative poles of a voltaic battery, dynamo-electro machine, or other electric generator, in such manner as to pass a continuous current of electricity through the coils of the electro-magnets, so as to magnetize their cores, the circuit-wire having a suitable interposed key, by means of which the circuit may be made or broken by the engineer or other person in order to magnetize and demagnetize the cores when required.

The operation of my invention will be readily understood in connection with the above description, and is as follows: When any tendency of the wheels to slip, from any cause whatever, occurs, the current may be sent through the coils, rendering the cores magnetic and causing the wheel to adhere to the rail with any desired amount of traction, according to the strength of the current directed through the coils, which may be accomplished by the usual arrangement of switches under the control of the engineer or other person, and when required, by employing a current of unusual strength, the wheels may be operated as brakes to stop the train.

Having thus described my invention, what I claim, and desire to secure by Letters Patent, is—

The combination, in a car-wheel having a continuous rim and provided with radial slots, of the electro-magnets secured in said slots, having their cores extending through the rim, and the connections at the hub, whereby the current may be applied or cut off, substantially as specified.

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

HENRY M. BEIDLER.

Witnesses:

CHAS. DAVIS,

WM. D. ALEXANDER.