

(No Model.)

J. I. CONKLIN.
ELECTRIC LOCOMOTIVE.

No. 473,693.

Patented Apr. 26, 1892.

Fig. I.

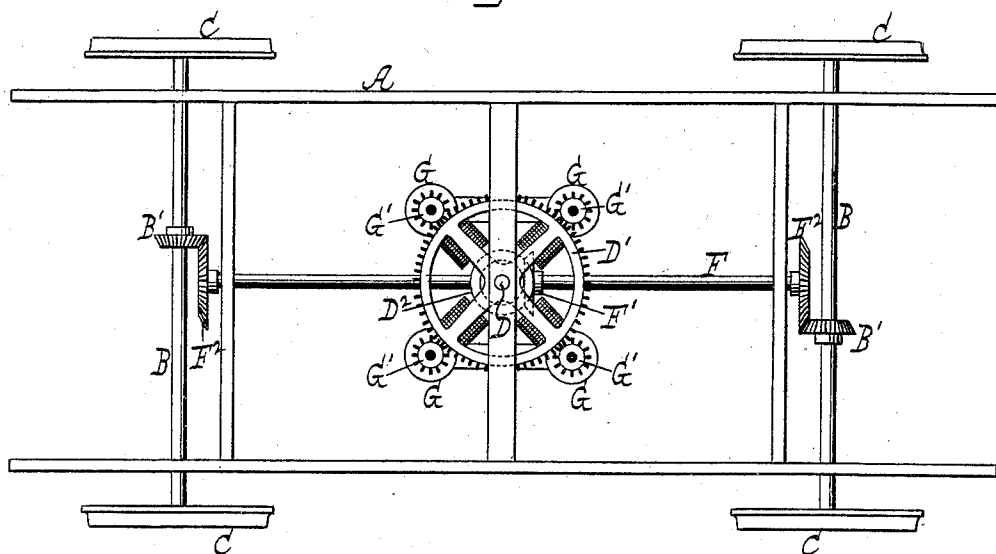
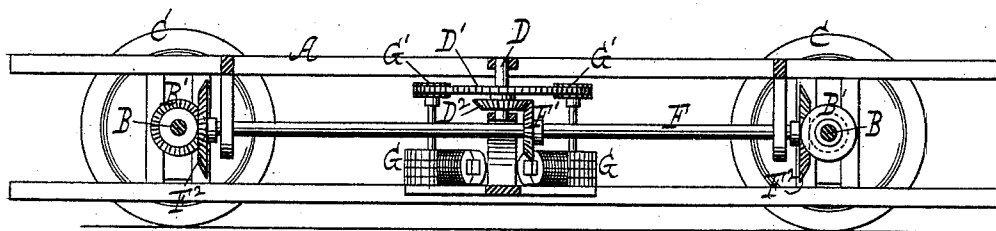


Fig. II.



WITNESSES:

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ELECTRIC LOCOMOTIVE.

SPECIFICATION forming part of Letters Patent No. 473,693, dated April 26, 1892.

Application filed March 4, 1891. Serial No. 383,701. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH I. CONKLIN, a citizen of the United States, residing at Brooklyn, county of Kings, and State of New York, have invented a new and useful Improvement in Electric Motors, of which the following, taken in connection with the accompanying drawings, is a full, clear, and accurate description.

My invention relates to electric motors for driving railway-cars and other general uses; and it consists in certain novel combinations of a series of motors with a main wheel constituting a main power-transmitting device, as hereinafter more fully described with reference to the accompanying drawings, and pointed out in the claims.

In the accompanying drawings, Figure 1 represents a plan view of a motor embodying my invention as applied to a railway-car. Fig. 2 represents a side view thereof.

Similar letters of reference indicate similar parts.

The letter A indicates the car-frame, B the car-axles, and C the car-wheels, these parts being arranged in any usual or suitable manner.

At a point approximately central to the car is a vertical shaft D, on which is mounted a cog-wheel D', which I denominate the "main wheel," on said shaft being also mounted a second cog-wheel D², engaging with a similar wheel F', mounted on a driving-shaft F, which serves to impart motion to both car-axles B through the medium of cog-wheels B' F².

The letter G indicates a series of electric motors, which may be of any usual or suitable construction, and on the armature-shaft of each of which is mounted a cog-wheel G', whereby each of said motors is geared with the main wheel D'. The several motors G and the main wheel D', together with its shaft D and wheel D², are supported in a framework, which, when the apparatus is applied to a car, is usually sunken below the floor or floor-frame, as shown in Fig. 2.

It is evident that the number of motors G may be varied, four being shown in the drawings, and when that number is used they are preferably arranged diametrically opposite to each other relatively to the main wheel D'.

By this arrangement of parts the operation is as follows: The current and the proper circuits to the motors G cause rotation of their armature-shafts, whence motion is imparted by the wheels G' to the main wheel D' for transmitting power to the car-axles or other desired place.

My invention can be used to great advantage for driving a railway-car, and by the gearing herein described of the main wheel D' with the car-axles, by means of the driving-shaft F and concomitant parts, the desired purpose is accomplished in a simple and effective manner, the assembled motors being common to both axles.

In almost, if not all, electric motors heretofore devised the armature and magnet have been so placed in relation to each other that the leverage from the point where the electro-motive force is exerted to move the armature to the point where the derived power is applied is comparatively short, which results in the requirement of greater power for a given velocity of the power-transmitting device than if the leverage were greater. Now the best results in motors are obtained when great velocity is given to the armature, and substantial benefits are derived from my arrangement, wherein the motors with a great velocity and powerful leverage move a wheel less swiftly, but with correspondingly greater power. Again, it is well known if but one magnet or armature is used there can be applied to the power-transmitting device a given power and speed, since a current of a higher electro-motive force than the capacity of the motor used will destroy the parts; but I obtain great power and great electro-motive force by arranging two or more motors about a greater gear-wheel to engage therewith, thereby attaining the same desired results—namely, the ability to use great velocity and also greater electro-motive force than can be employed in the ordinary apparatus.

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

1. In an electric motor for cars, the combination, with a frame, of a vertical shaft, a gear-wheel on said shaft, a series of motors around said shaft, the armature-shafts of said motors being extended upward and provided with

gear-wheels in position to engage the gear-wheel on said vertical shaft, a horizontal shaft provided with gearing at its extremities to connect with the car-axles, and gearing which
5 connects said horizontal shaft with said vertical shaft, substantially as and for the purposes described.

2. The combination, with a frame, of a central vertical shaft D, provided with gear-wheel
10 D' and gear-wheel D², a series of motors G, arranged around said vertical shaft, the ar-

mature-shafts of which motors extend upward and are in position to engage the larger gear-wheel D', a horizontal shaft provided with gear-wheel F' to connect with gear-wheel
15 D², and gearing at the extremities of said horizontal shaft to connect with the car-axles, substantially as set forth and described.

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Witnesses:

C. A. CONKLIN,
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