

(No Model.)

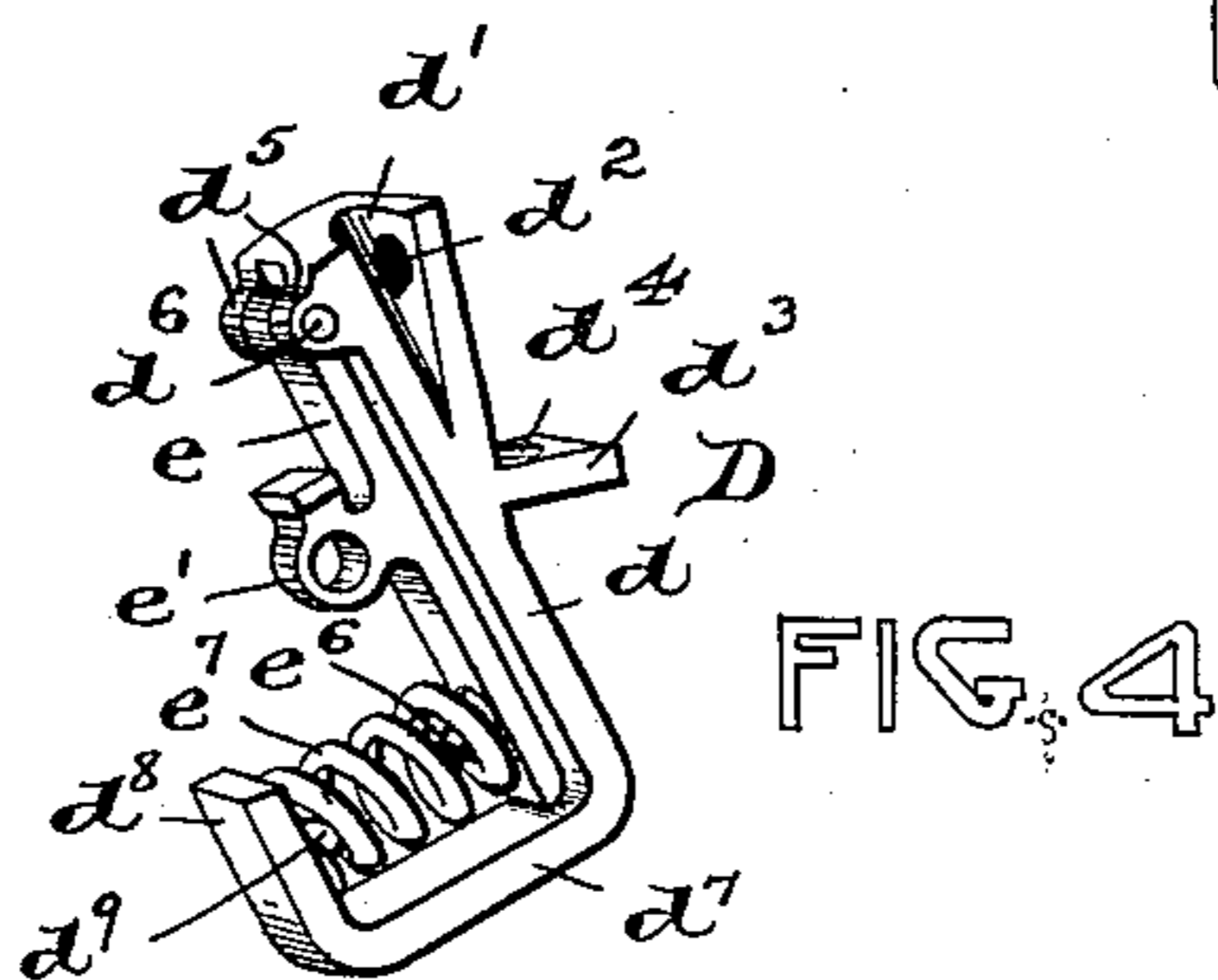
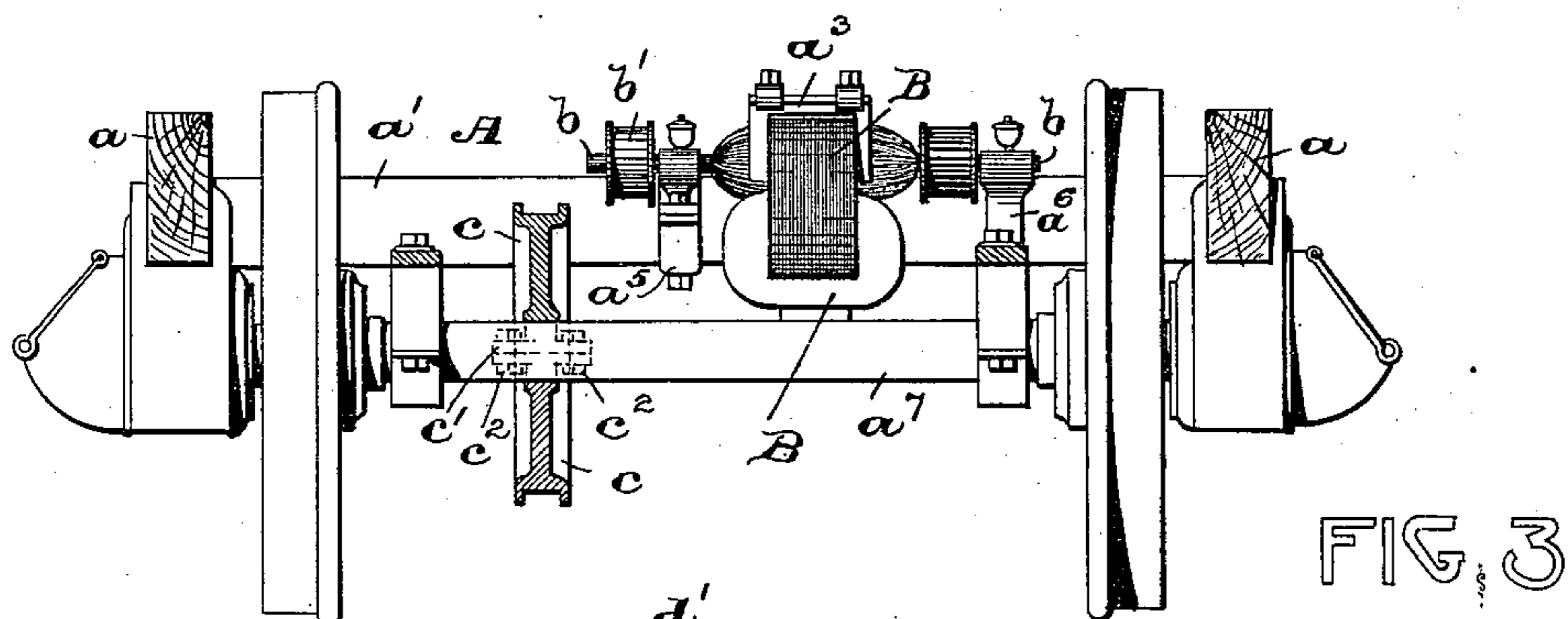
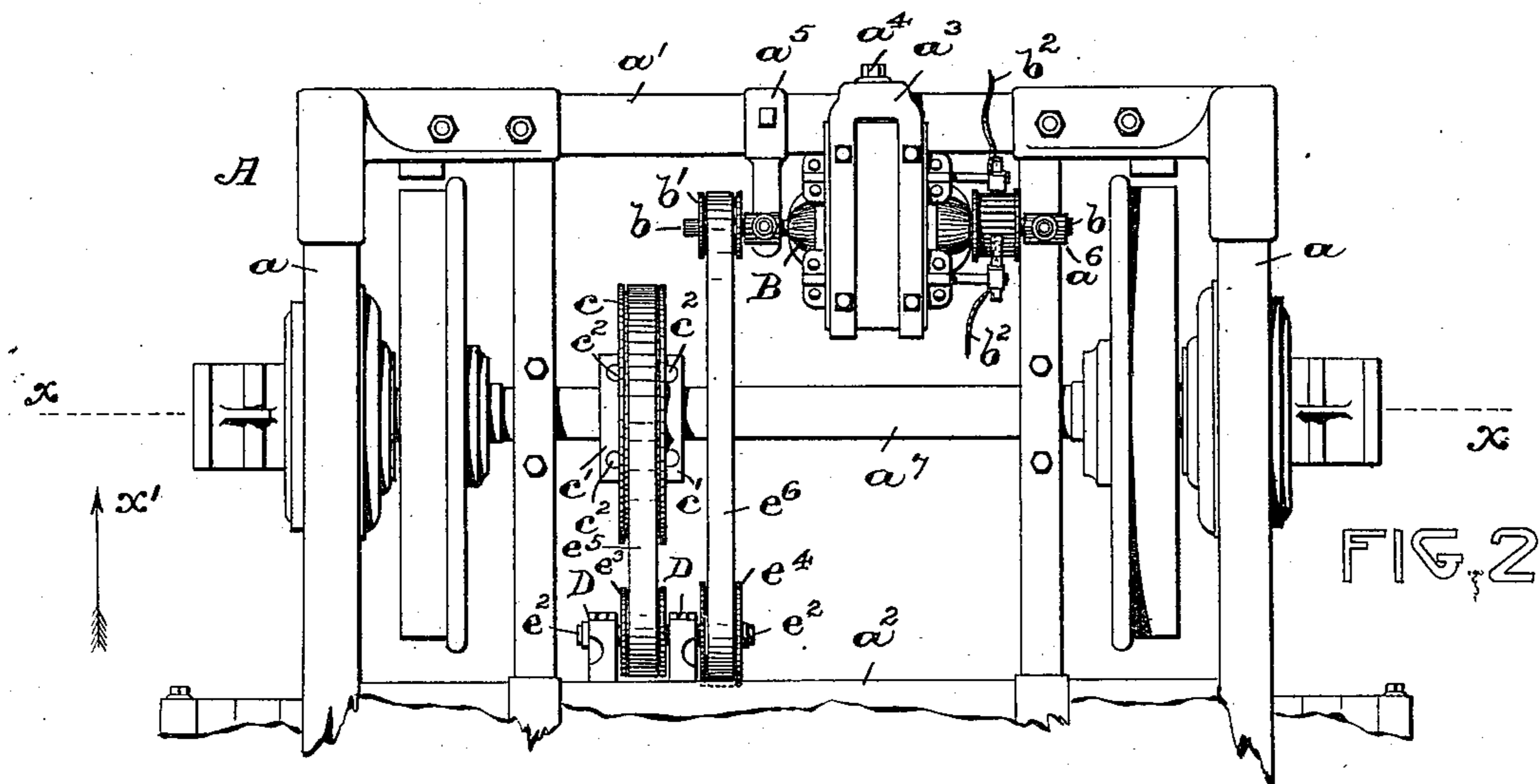
2 Sheets—Sheet 2.

M. MOSKOWITZ.

MEANS FOR GENERATING ELECTRICITY FROM CAR WHEEL AXLES.

No. 564,336.

Patented July 21, 1896.



WITNESSES:

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UNITED STATES PATENT OFFICE.

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MEANS FOR GENERATING ELECTRICITY FROM CAR-WHEEL AXLES.

SPECIFICATION forming part of Letters Patent No. 564,336, dated July 21, 1896.

Application filed April 23, 1896. Serial No. 588,697. (No model.)

To all whom it may concern:

Be it known that I, MORRIS MOSKOWITZ, a citizen of the United States, residing at Newark, in the county of Essex and State of New Jersey, have invented certain new and useful Improvements in Means for Generating Electricity from Car-Wheel Axles; 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, reference being had to the accompanying drawings, and to letters of reference marked thereon, which form a part of this specification.

This invention has reference to a novel arrangement of a dynamo secured to a car-truck and a means for operatively connecting the dynamo with a car-wheel axle of the truck to drive the dynamo.

The invention therefore has for its primary object to provide a dynamo to be secured on the car-truck, an operating device arranged and secured upon the car-wheel axle, and a mechanical means, also secured on the car-truck, provided with an operating-shaft arranged in adjustable bearings to automatically maintain the proper tautness of the belt connecting the device on the car-wheel axle with said mechanical means, and also of the belt which connects said mechanical means with the said dynamo.

The invention therefore consists in the novel arrangements and combinations of parts to be hereinafter fully described, and finally embodied in the clauses of the claim.

The invention is illustrated in the accompanying sheets of drawings, in which—

Figure 1 is a sectional view of portions of a railway-car and one of its car-trucks, said view also illustrating in side elevation one form of dynamo, a bracket provided with automatically-adjustable bearings having a shaft rotatively arranged therein, and a pulley-wheel on said shaft, a pulley-wheel on the car-wheel axle, and connecting-belts for operating, first, said pulley-wheel on the shaft in the adjustable bearings, and, secondly, the dynamo from a second pulley-wheel on said shaft in the adjustable bearings. Fig. 2 is a

plan view of a portion of the car-truck and of the dynamo and its operating mechanism. Fig. 3 is a vertical section taken on line x in Fig. 2 when looking in the direction of the arrow x' . Fig. 4 is a perspective view of one of the brackets provided with the hereinabove-mentioned adjustable bearing.

Similar letters of reference are employed in all of the above-described views to indicate corresponding parts.

In said drawings, A indicates the car-truck; a , the equalizing-bars; a' , the cross-beams at the ends of the truck, and a^2 are other cross-beams which are connected with the equalizing-bars a in any well-known manner.

As will be seen more especially from Figs. 1 and 2, the dynamo B, which may be of any of the well-known forms of construction, is supported in a suitable frame or bracket a^2 , which is secured to the end beam a' by means of suitable bolts a^4 or in any other suitable manner. The armature-shaft b of said dynamo is supported and rotates in suitable brackets or supports a^5 and a^6 , which are secured to the end beam a' of the car-truck, as clearly illustrated in Figs. 2 and 3. Said armature-shaft b is provided with a pulley-wheel b' , and b^2 are the circuit-wires, which extend from the dynamo to suitable lamps b^3 or other electrical translating devices on or in the body of the car.

Upon the car-wheel axle a^7 I have arranged a pulley-wheel c , which is preferably made in halves and is provided with suitable flanges c' and bolts c^2 , whereby the two halves can be secured together and firmly clamped in the desired position upon the car-wheel axle, as will be clearly evident.

Secured directly to the cross-beam a^2 of the car-truck A are a pair of brackets D, as will be clearly seen from an inspection of Figs. 1, 2, and 4, each bracket consisting, essentially, of a main or body portion d , having the grooved part d' , provided with a hole or perforation d^2 , substantially as illustrated in Fig. 4. Extending at a right angle, or approximately so, from the back of said portion d is a lip or projection d^3 , provided with a hole d^4 , whereby said brackets D can be made to embrace the said

cross-beam a^2 on two sides and can be firmly secured thereto by means of suitable bolts, as clearly represented in Fig. 1, but said bracket D may be otherwise secured to said cross-
5 beams, as will be evident.

At or near the top of the body portion d of each bracket D are a pair of lugs or ears d^5 , provided with holes or perforations for suitable pins or bolts d^6 , and pivotally arranged
10 on said pins or bolts d^6 , and between the said ears or lugs d^5 , are certain swinging bars or plates e , each plate being provided with a bearing e' , in which is rotatively journaled a shaft e^2 , provided with a pulley-wheel e^3 between
15 said brackets D and a second pulley-wheel e^4 at or near the one end of said shaft, substantially as illustrated in said Fig. 2. Said pulley-wheel e^3 is in alinement with the pulley-wheel c upon the car-wheel axle, and a belt
20 e^5 is employed which passes over said pulley-wheels and thereby causes the rotation of said shaft e^2 when the car-wheel axle is operated. The pulley-wheel e^4 on said shaft e^2 is in alinement with the pulley-wheel b' on the armature-
25 shaft b of the dynamo, a belt e^6 being passed over said pulley-wheels, substantially as shown, and thus it will be evident that the dynamo can in this manner be operated from the rotating car-wheel axle.

As will be seen from Figs. 1 and 4, each body portion d of said brackets D is provided with a forwardly-extending arm d^7 , having an upwardly-projecting end piece d^8 . In order to maintain both of said belts e^5 and e^6 taut,
30 to properly operate the dynamo, I have provided the upwardly-projecting end piece d^8 and the swinging plates e of each bracket D with suitable teats or holding-lugs d^9 and e^7 , respectively, and upon these I have arranged
35 the ends of a coiled spring e^8 , substantially as illustrated in said Fig. 4. When the belts e^5 and e^6 are first placed over their respective pulley-wheels, then the said springs e^8 are compressed and said swinging plates or bars e
40 made to incline forwardly, which readily enables the placing of the two belts over the respective pulley-wheels, but after both belts have been properly arranged over their pulley-wheels then the said plates or bars e are
45 released and the coils of the spring e^8 will then tend to resume their normal inoperative positions, and the result is that both belts will at all times be maintained taut and any vibratory motion of the car-wheel axle in its
50 bearings will be compensated for by the spring-actuated bars or plates e , whereby an operative connection for driving the dynamo, arranged on a car-truck, from a car-wheel axle will be the result.

The operation of the several parts is practical and in construction very simple, and a noiselessly-operating mechanism has thus been provided for operating a dynamo from a rotating car-wheel axle. Of course it will
60 be understood that I may use in connection

with the said dynamo and its circuits any of the well-known forms and constructions of pole-changers, acting automatically or otherwise, whereby the current generated by the
70 said dynamo can be made to travel in either direction, according to the direction of the travel of the car.

Having thus described my invention, what I claim is—

1. The combination, with a car-wheel axle
75 and truck-frame, of a dynamo on said frame, a pulley-wheel on said car-wheel axle, a bracket D on said frame, a swinging bar or plate e on said bracket, a shaft e^2 , pulley-
80 wheels e^3 and e^4 on said shaft, and belts e^5 and e^6 , arranged substantially as and for the purposes set forth.

2. The combination, with a car-wheel axle and truck-frame, of a dynamo on said frame, a pulley-wheel c , made in halves and having
85 flanges c' and bolts c^2 for securing said halves in position on said car-wheel axle, a bracket D on said frame, a swinging bar or plate e on said bracket, a shaft e^2 , pulley-wheels e^3 and e^4 on said shaft, and belts e^5 and e^6 , all ar-
90 ranged substantially as and for the purposes set forth.

3. The combination, with a car-wheel axle and truck-frame, of a dynamo on said frame, a pulley-wheel on said car-wheel axle, a pair
95 of brackets D on said frame, comprising therein, a main or body portion d , and means for securing the same to the truck-frame, ears or lugs on said portion d , plates or bars e pivotally arranged on bolts or pins in said ears
100 or lugs, bearings e' on said plates or bars, a shaft e^2 in said bearings, pulley-wheels e^3 and e^4 on said shaft, and belts e^5 and e^6 , all arranged, substantially as and for the purposes set forth.

4. The combination, with a car-wheel axle and truck-frame, of a dynamo on said frame, a pulley-wheel c made in halves, and having
105 flanges c' and bolts c^2 for securing said halves in position on said car-wheel axle, a pair of brackets D on said frame, comprising therein, a main or body portion d , and means for securing the same to the truck-frame, ears or
110 lugs on said body portion d , plates or bars e pivotally arranged on bolts or pins in said ears or lugs, bearings e' on said plates or bars, a shaft e^2 in said bearings, pulley-wheels e^3 and e^4 on said shaft, and belts e^5 and e^6 , all arranged, substantially as and for the purposes set forth.

5. The combination, with a car-wheel axle and truck-frame, of a dynamo on said frame, its armature-shaft b and pulley-wheel b' thereon, a pulley-wheel c on said car-wheel
115 axle, a pair of brackets D on said truck-frame, each comprising therein, a main or body portion d , and means for securing the same to the truck-frame, ears or lugs on said portions d , portions d^7 and d^8 on said body portions d , plates or bars e pivotally arranged on bolts or
120 125 130

pins in said ears or lugs, bearings e' on said plates or bars, springs e^7 between said portions d^8 and said plates or bars, a shaft e^2 in said bearings e' , pulley-wheels e^3 and e^4 on
5 said shaft e^2 , and belts e^5 and e^6 , all arranged, substantially as and for the purposes set forth.

In testimony that I claim the invention set forth above I have hereunto set my hand this 6th day of April, 1896.

MORRIS MOSKOWITZ.

Witnesses:

FREDK. C. FRAENTZEL,
LEON T. ADLER.