C. C. ATKINSON.

MEANS FOR GENERATING POWER.

APPLICATION FILED MAY 7, 1910.

978,425.

Patented Dec. 13, 1910.

3 SHEETS—SHEET 1.

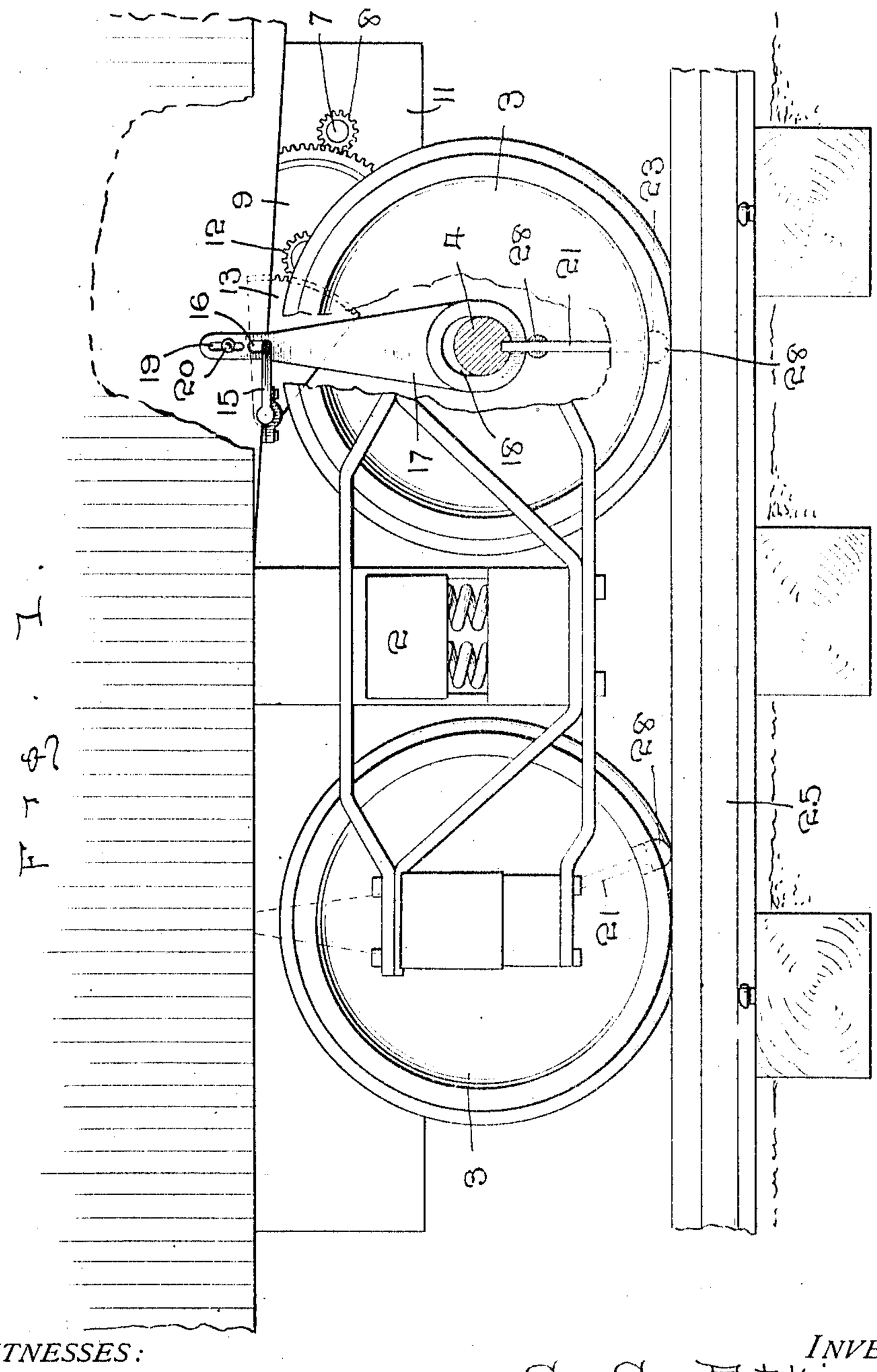

Fig. 1.

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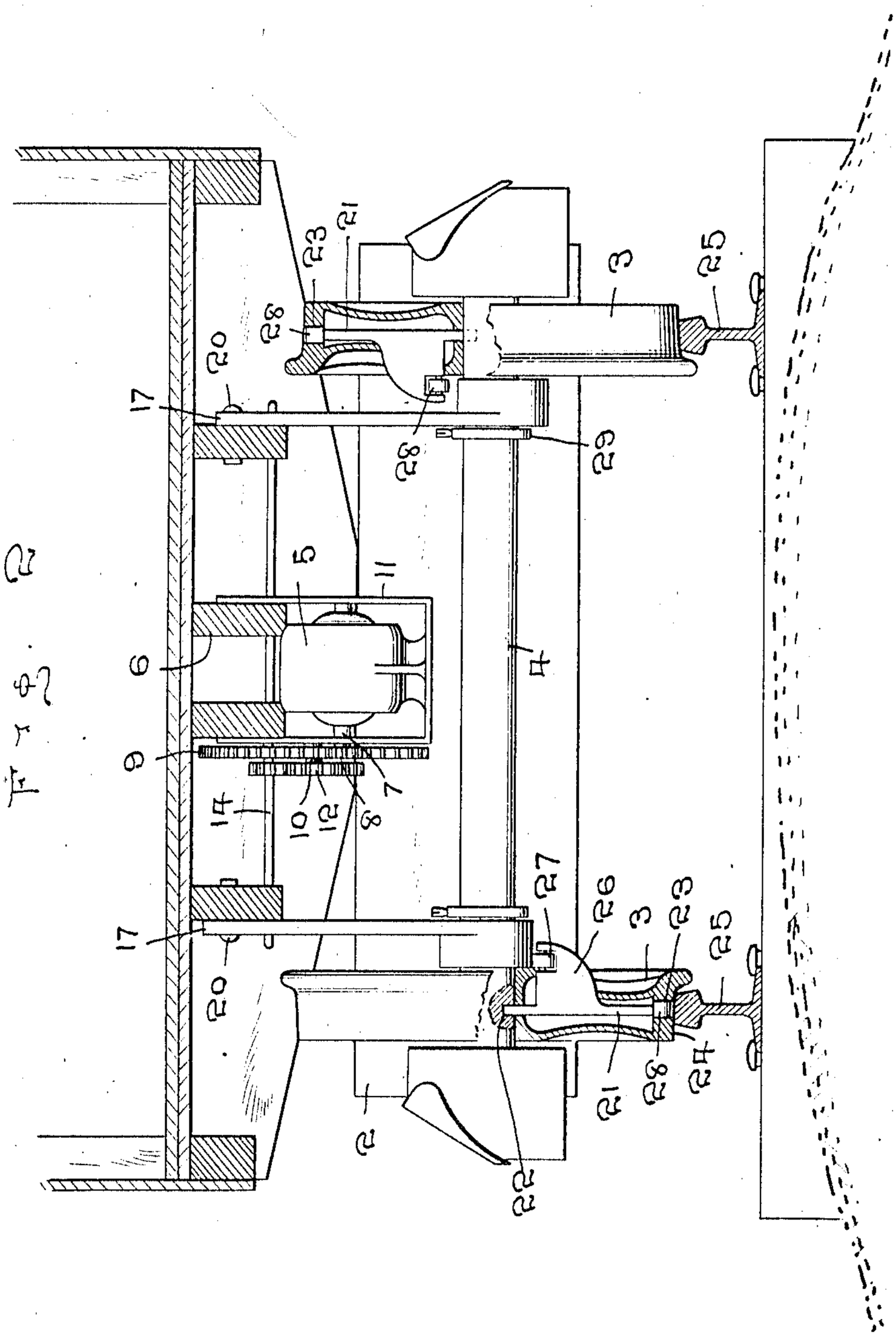

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3 SHEETS—SHEET 3.

Fig. 3.

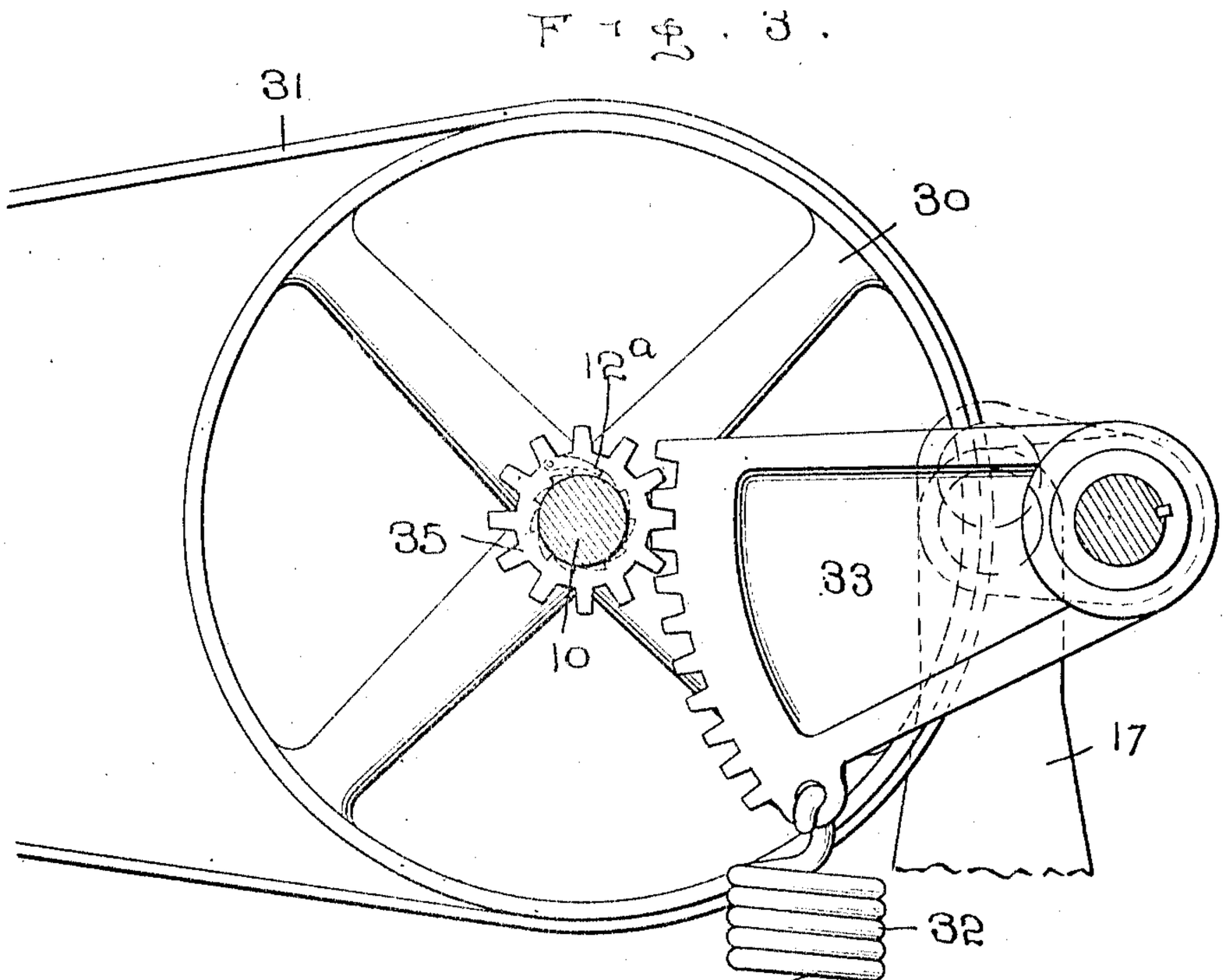

Fig. 4.

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UNITED STATES PATENT OFFICE.

CHRISTOPHER C. ATKINSON, OF HAWKINSVILLE, GEORGIA.

MEANS FOR GENERATING POWER.

978,425. Specification of Letters Patent. Patented Dec. 13, 1910.

Application filed May 7, 1910. Serial No. 560,081.

To all whom it may concern:

Be it known that I, CHRISTOPHER C. ATKINSON, a citizen of the United States, residing at Hawkinsville, in the county of Pulaski and State of Georgia, have invented certain new and useful Improvements in Means for Generating Power; 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.

My invention relates to new and useful improvements in means for generating power and my object is to provide means coöperating with the wheels of a train to operate a motor as the train moves over the track way.

A further object is to so arrange the motor operating mechanism that the wheels on opposite sides of the train will operate the same motor.

A further object is to provide means whereby the motor may be operated by a direct thrust or by spring power, and,

A further object is to so construct the device that one or a plurality of operating mechanisms may be attached to the wheels of the train.

Other objects and advantages will be hereinafter referred to and more particularly pointed out in the specification and claims.

In the accompanying drawings which are made a part of this application, Figure 1 is a side elevation of one truck of a railway coach showing parts thereof broken away, Fig. 2 is a transverse sectional view through the coach and track showing parts of the wheels of the coach broken away. Fig. 3 is a fragmentary sectional view of a modified form of means for operating the motor, and, Fig. 4 is a top plan view thereof.

Referring to the drawings in which similar reference numerals designate corresponding parts throughout the several views, 1 indicates the body of a railway coach, which may be constructed in any preferred manner and 2 indicates the trucks supporting the body, said trucks having the usual form of wheels 3 mounted upon the axle 4 carried by said trucks.

In order to employ the rotation of the wheels to generate power, a dynamo or other form of motor 5 is swung from the beams 6 of the coach, the shaft 7 of the dynamo having a pinion 8 at one end thereof, with which coöperates a gear 9, which gear is carried by a stub shaft 10 projecting outwardly from the housing 11, in which the dynamo is placed. Also mounted upon the stub shaft 10 is a pinion 12, which pinion coöperates with the gear 9 through the medium of any suitable form of clutch mechanism 12^a, as shown in Figs. 3 and 4, so that when the pinion 12 is rotated in one direction, the gear 9 will be positively driven, while said pinion 12 will run idle in the opposite direction. Coöperating with the pinion 12 is a segmental rack 13, the teeth of which coöperate with the teeth on the pinion 12, the opposite end of said rack being fixed to a rod 14 extending transversely of the coach and rotatably mounted in the beams below the coach. The ends of the rod 14 are formed into cranks 15, the free ends of which cranks enter slots 16 in pitmen 17, the lower ends of said pitmen having oblong openings 18 therein, which extend around the axle 4. The upper ends of the pitmen are provided with slots 19, which are above the slots 16 and are adapted to receive bolts 20, by means of which the pitmen are held in proper alinement, said bolts engaging one of the beams of the car body. The pitmen 17 are adapted to be moved vertically to raise and lower the segmental rack 13, whereby the dynamo or motor with which the rack is geared will be operated and to accomplish this result, the wheels are preferably formed hollow and in said wheels are placed plungers 21, the inner ends of which are adapted to project through the hubs of the wheels and enter seats 22 in the axle 4, while the outer ends of the plungers project through ways 23 in the tread 24 of the wheels, so that said outer ends will engage the track rails 25 as the wheels rotate. Each of the plungers is provided with a lateral extension 26, which extension projects through one face of the wheel and engages the end of the pitmen adjacent said wheel, the inner end of the lateral extension having a roller 27 mounted therein, which travels over the outer surface of the lower end of the pitmen. The outer end of the pitmen is provided with a head 28, the edge of which is curved so that when the head is moved into engagement with the track rail, no appreciable jar will occur. The pitmen are of sufficient weight to descend by gravity and the lower end thereof will engage the roller and thrust the plunger 21 outwardly,

so that the head 28 will project beyond the face of the tread of the wheel and as the head comes in engagement with the track rail and passes directly below the axle, the plunger will be moved inwardly and the pitmen vertically, thereby swinging the segmental rack upwardly and operating the gears and object connected thereto.

In the present construction, I have shown but one plunger for each wheel, but it will be readily understood that any number of plungers may be provided, thereby increasing the operation of the motor and it will further be understood that said plungers can operate in unison or independently of each other, if desired. As the lower ends of the pitmen fit loosely upon the axle 4, said lower ends are held in proper alinement to receive the rollers in any suitable manner, as by adjustably attaching collars 29 upon the axle.

In Figs. 3 and 4 instead of using the gear 9 and pinion 8, a belt wheel 30 is attached to the shaft 10 and power is applied from said belt wheel to the motor through the medium of a belt 31. In this construction, instead of employing the upward thrust of the pitmen for driving the motor, a spring 32 is attached to the segmental rack 33 adjacent the lower edge of the segmental rack, while the opposite end of the spring is attached to an eye 34 carried by a stationary part of the frame work of the car body or to other suitable stationary object. As the downward stroke of the segmental rack is employed in this instance to rotate the pinion 35, the ratchet mechanism 12^a is reversed from that employed for operating the construction shown in Figs. 1 and 2 and it will be readily seen that as the pitmen move the segmental rack upwardly, the pinion 35 will run idle on the shaft 10, but will cause the belt wheel to rotate when said rack is drawn downwardly by the spring.

By this construction, it will be readily seen that as the car is moved in either direction, the plungers will be successively operated to operate the motor or other object geared to the pitmen. It will further be seen that in view of the simplicity of the device, it can be readily attached to the car and will be positive in its operation. It will further be seen that by arranging the pitmen and plungers in the manner shown, the weight of the train will be employed for operating said plungers and pitmen and it will further be seen that the power generated by the motor can be stored in a battery for future use.

What I claim is:—

1. The herein described means for generating power, comprising the combination with the supporting wheels of a vehicle and a motor having gears thereon, of plungers carried by said wheels and adapted to move longitudinally therein, a rack coöperating with the gears of the motor and means cooperating with said plungers adapted to operate said rack to rotate the motor.

2. In a device for generating power, the combination with a car body and supporting wheels therefor, a motor construction carried by the car body and gears for the motor construction, of a rod, a segmental rack fixed to said rod and coöperating with the gears on the motor construction, pitmen connected to said rod and means carried by the supporting wheels adapted to move said pitmen lengthwise and operate the motor construction.

3. A power generating mechanism, comprising the combination with a vehicle body, supporting wheels for said body, a motor construction carried by the body and gears connected to said motor construction, of plungers carried by said wheels and adapted to move longitudinally, a segmental rack cooperating with the gears of the motor construction, a rod to which said rack is secured, pitmen connected to the ends of said rod and means carried by the plungers adapted to engage said pitmen and move the same longitudinally, whereby the segmental rack will be moved to operate the gears of the motor construction.

4. In a power generating mechanism, the combination with a vehicle body, supporting wheels for the body, an axle for said wheels and track rails, upon which said wheels travel, of a segmental rack adapted to coöperate with power producing mechanisms, a rod to which said rack is connected, said rod having cranked ends, pitmen coöperating with said cranked ends, plungers carried by the wheels and adapted to project through the tread of the wheels, said plungers being moved longitudinally by engagement with the track rails and means carried by the plungers engaging the pitmen to move said pitmen and rock the rod and segmental rack attached thereto.

5. In a power generating mechanism, the combination with a power producing means having gears, of wheels, track rails upon which said wheels travel, plungers carried by the wheels, said plungers being operated when moved into engagement with the rails and means interposed between said plungers and said gears adapted to be operated by the plungers, whereby rotating action will be imparted to said gears.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHRISTOPHER C. ATKINSON.

Witnesses:

J. B. Lewis,

T. J. Holder.