No. 864,032. PATENTED AUG. 20, 1907.

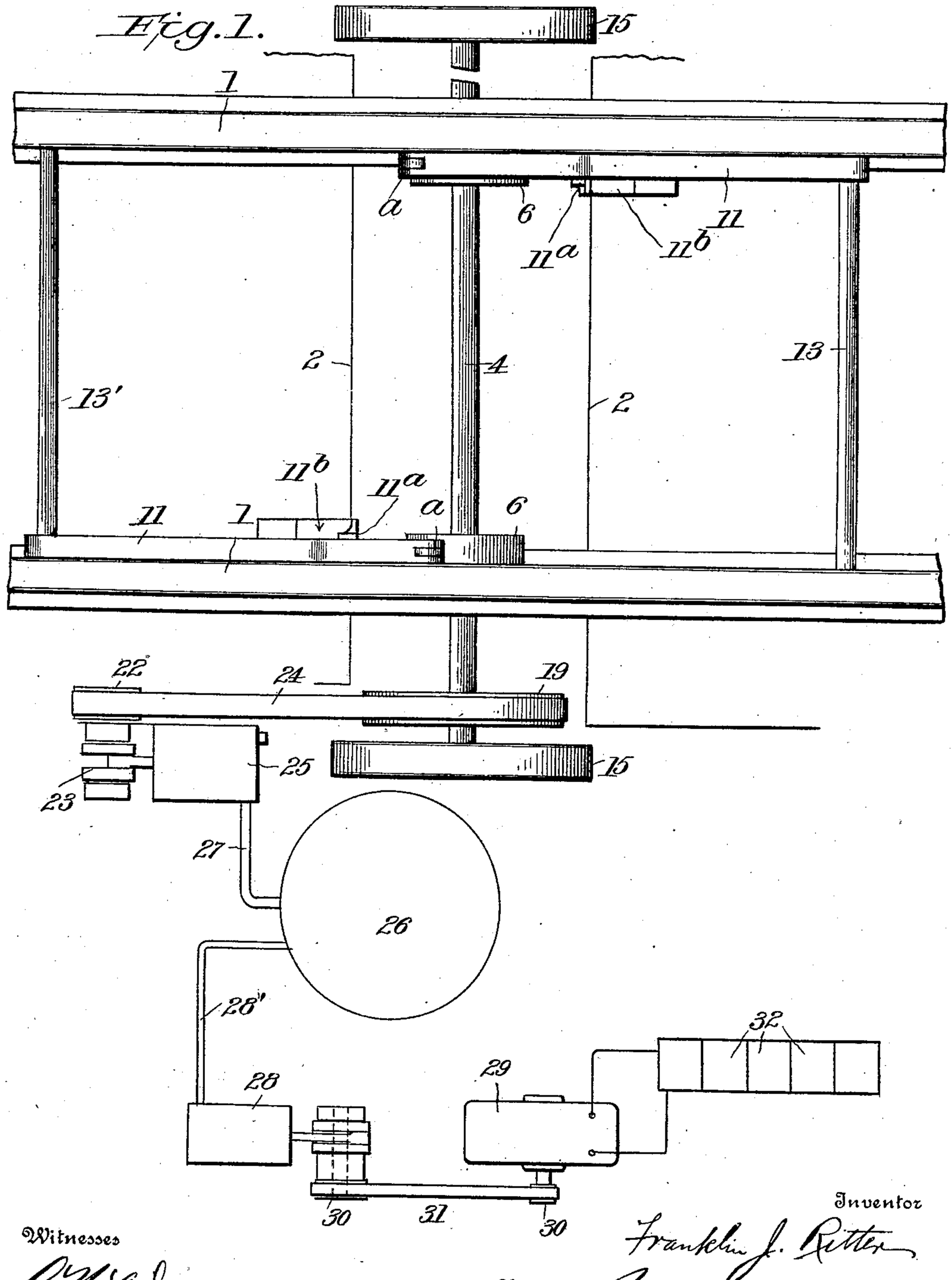
F. J. RITTER.

TRACK MOTOR.

APPLICATION FILED JUNE 6, 1907.

2 SHEETS—SHEET 1.

Fig. 1.



Witnesses

C. M. Walker.

M. R. Meacham.

Inventor

Franklin J. Ritter

By W. C. Thomas

Attorney

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2 SHEETS—SHEET 2.

Fig. 2.

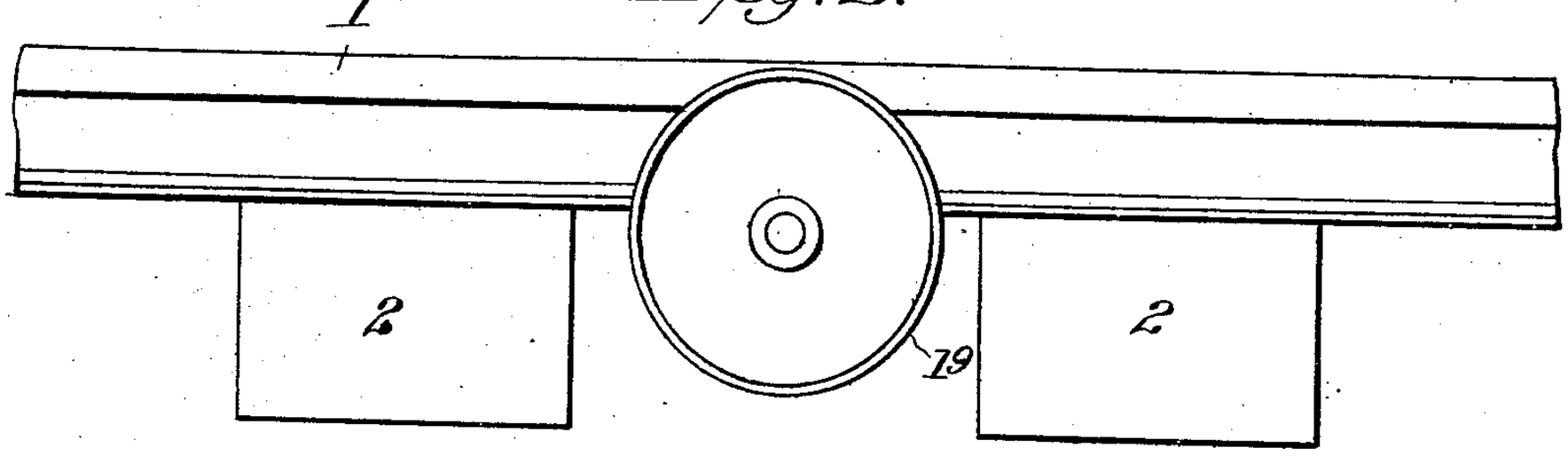


Fig. 3.

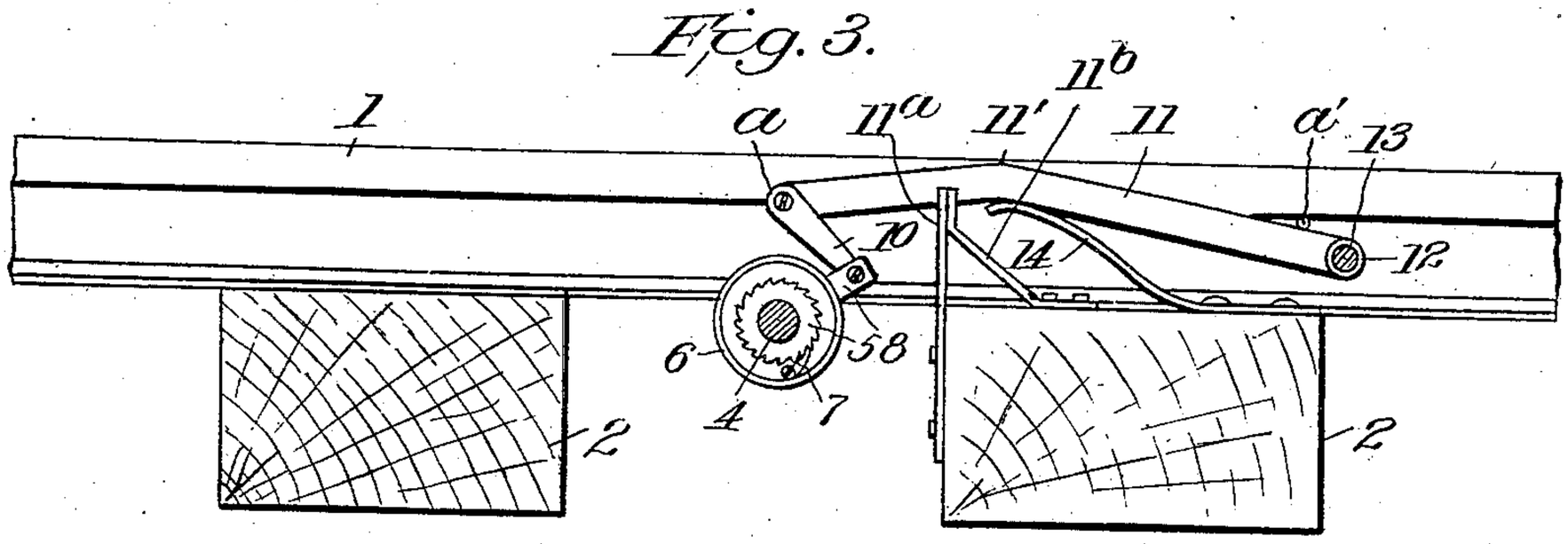


Fig. 4.

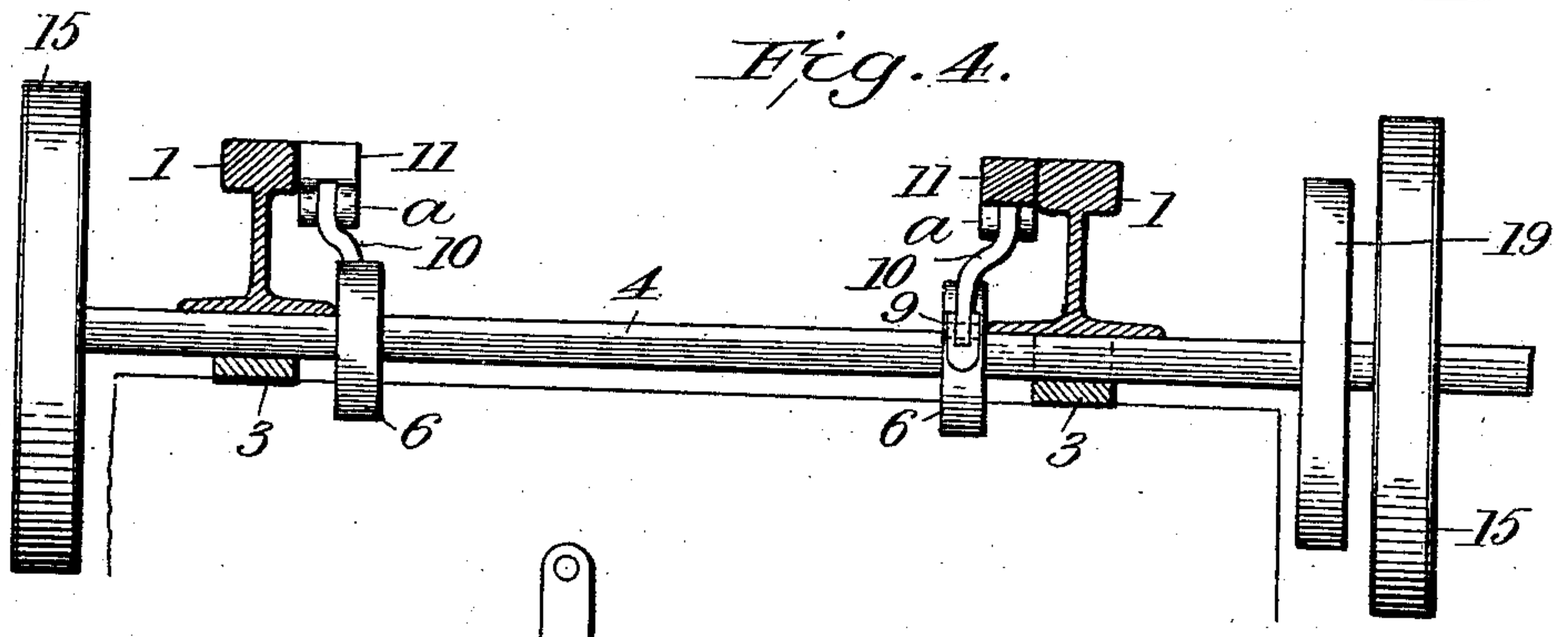


Fig. 5.

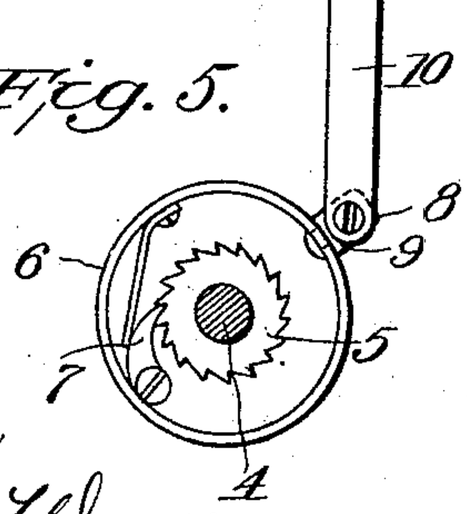
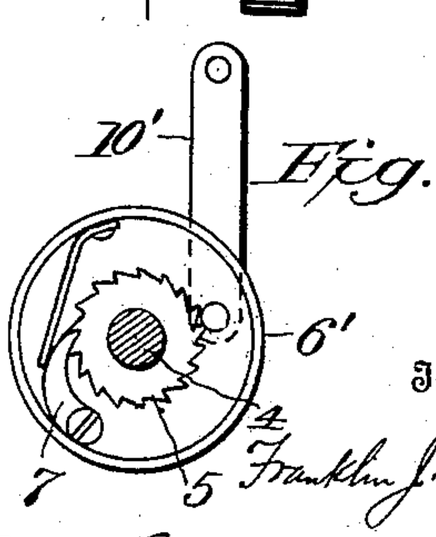


Fig. 6.



Witnesses,

C. H. Wacker,

M. R. Meacham.

Inventor

Franklin J. Ritter

By [signature]

Attorney

UNITED STATES PATENT OFFICE.

FRANKLIN JOHN RITTER, OF CHAPMAN, NEBRASKA.

TRACK-MOTOR.

No. 864,032. Specification of Letters Patent. Patented Aug. 20, 1907.

Application filed June 6, 1907. Serial No. 377,660.

To all whom it may concern:

Be it known that I, FRANKLIN JOHN RITTER, a citizen of the United States, residing at Chapman, in the county of Merrick and State of Nebraska, have invented certain new and useful Improvements in Track-Motors, of which the following is a specification.

This invention relates to railway track motors.

One object of the invention is to provide a railway track motor embodying such novel characteristics that power may be generated by passing trains and accumulated or stored for the purpose of furnishing power to distant mechanical or electrical machinery, apparatus, etc.

Another object of the invention resides in the provision of a track motor constructed and arranged whereby power will be generated and stored regardless of the direction of travel of a passing train.

With the above and other objects in view, the present invention consists in the combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings, and particularly pointed out in the appended claims, it being understood that changes may be made in the form, proportion, size and minor details without departing from the spirit or sacrificing any of the advantages thereof.

In the drawings:—Figure 1 is a plan view of my invention illustrating certain parts diagrammatically. Fig. 2 is a side elevation of the generating parts. Fig. 3 is a longitudinal sectional view. Fig. 4 is a transverse sectional view. Fig. 5 is an enlarged detail view of one of the ratchet wheels. Fig. 6 is a modified form of connection between the ratchet wheel and the depressible levers.

Referring now more particularly to the accompanying drawings, the reference character 1 indicates railway track rails and 2 the ties beneath the rails, these elements being of any construction and arrangement. Journaled in the brackets 3 secured in any suitable manner to the bottoms of the rails 2 is a rotatable shaft 4 having a pair of ratchet wheels 5 fixedly secured thereto, one adjacent the inner side of the base flange of each rail. These ratchet wheels are inclosed by the casings 6, in each of which latter is arranged a pivoted, spring actuated pawl 7, designed to engage the teeth of the corresponding ratchet wheel to prevent accidental backward movement of the rotatable shaft. If preferred, the rotatable shaft 4 may be journaled directly in the rails, thereby obviating the use of the brackets 3. Secured in any suitable manner to the periphery of each casing is a lug 8, each of which, if desired, may be bifurcated to provide the spaced ears 9 adapted to receive one end of a link 10, whose opposite end is pivotally connected in the spaced ears *a* of a depressible, substantially V-shaped track lever 11, pivotally mounted at 12, one upon each of the transverse shafts 13 and 13′, fixedly mounted in the rails 1. Thus there is a track lever 11 adjacent each rail and fixed transverse shafts 13 and 13′ are disposed upon opposite sides of the rotatable shaft 4, the depressible levers 11 thereby extending in opposite directions from the rotatable shaft. Each depressible lever is held in its normal position adjacent the upper edge of the corresponding rail through the instrumentality of a strong spring 14 which is secured at one end to one of the ties 2 with its opposite end bent upwardly into engagement with the under face of the corresponding depressible lever.

I do not limit myself to the particular form of spring or means for holding the track levers in their normal positions, but do prefer that the upper or apex portion 11′ of each depressible lever lie even with the upper face of the rail and not project above the same, there being a stop *a′* to limit the upward movement of the track levers. Each lever should lie so close to the tread surface of the rail that the flange of the wheels of the rolling stock will ride upon it, gradually or quickly depressing same, according to the speed of the train. The levers should be so arranged that the flange of the wheels cannot get between them and the rails and so that one will be up while the other is down. One means of preventing the flange of the rolling stock wheels from passing between the track levers and the rails resides in the guide 11^a supported by the brace 11^b, there being a guide arranged near the inner end of each track lever 11, as shown. By virtue of the disposition of the depressible track levers 11, the rotatable shaft 4 will be rotated in the same direction regardless of which track lever is depressed and also regardless of the direction of travel of the train. Furthermore, the rotatable shaft will be acted upon by the wheels upon both sides of the rolling stock. It is obvious that if desired, the track levers 11, instead of being arranged upon opposite sides of the shaft 4 could be arranged upon the same side thereof and directly opposite each other.

Secured to each end of the shaft 4 is a fly wheel 15 designed to prevent jar occasioned by the sudden and rapid depression of the track levers 11. By disposing a fly wheel upon each end of the shaft the strain or pulling weight upon each end is equalized, although if preferred, under certain conditions, one fly wheel will serve the desired purpose. Fixedly mounted upon the rotatable shaft 4 between one of the fly wheels and the track rail is a drive wheel 19 which is connected to a pulley 22, fixedly mounted upon one end of a shaft 23, by means of a belt or other suitable connection 24. As the rotatable shaft 4 is rotated it causes operation of the crank shaft 23 through the belt connection 24 to operate the air or other pump 25 of any suitable type to

generate and force air or liquid into the compressor or reservoir 26 by way of the pipe connection 27. This compressor or reservoir communicates with the engine 28 of any suitable type by way of a pipe 28′. This engine drives a dynamo 29 through the instrumentality of the pulleys 30 and belt 31 or in any suitable manner. The dynamo charges the storage batteries 32.

I have shown my improved track motor connected up with the dynamo 29 particularly for the purpose of disclosing the fact that the invention may be used to advantage in the storing or charging of storage batteries 32 with which latter automatic electric block signals are operated. Thus storage batteries may be automatically charged so that they will always be at the maximum power or voltage, rendering block signaling and other apparatus safe and positive in operation.

Instead of changing dynamos, my motor may be used to feed and maintain motive power for use in running fans, electric lighting or other apparatus in railway and other buildings at distant points from the track.

In certain instances machinery or apparatus may be driven directly from the pulley 22 dispensing with the reservoir 26, engine 28 and the dynamo 29. It will therefore be understood that I do not limit myself to any particular use of my track motor, as the same may satisfactorily generate power for the driving of different types of machinery and apparatus.

The speed of the motor will depend upon the amount of traffic over the rails and the adjustment of the track levers 11 with the rotatable shaft 4. In the connection of the links 10 between the track levers and the ratchet wheel casings 6 the rotation of the shaft 4 would not be as great as would be the rotation if said links were connected near the center of the casings. Therefore, to provide for greater rotation of said shaft, if such should be needed, I illustrate in Fig. 6 a link 10′ which is secured to the casing 6′ near the periphery thereof, thereby obviating the use of the aforesaid lug 8.

My improved motor will not interfere in the least with the rolling stock, and in the event of breakage of any part of the motor incident to wear and tear, the broken part may be readily remedied. Moreover where parallel sets of rails are used the rotatable shaft may be arranged transversely to all of them with the track levers and intermediate connections between the same and the rotatable shaft disposed between each set of rails, thereby increasing the creation and storage of power due to more traffic over sets of rails than over one set only. In this latter arrangement the depressible levers of each set of tracks would be independent of the other levers and operate the rotatable shaft in the same direction. This arrangement of sets of rails and instruments of the motor is a mere duplication of one set herein shown and described in detail and therefore too obvious for illustration.

What is claimed is:—

1. In a track motor, track rails, a depressible track lever arranged adjacent each rail, a rotatable shaft, and independent connections between the levers and the shaft controlled by the levers whereby the shaft may be rotated upon depression of said levers.

2. In a track motor, track rails, a depressible track lever arranged adjacent each rail, a rotatable shaft, and connections between the levers and shaft whereby the latter may be rotated in one direction only.

3. In a track motor, track rails, depressible track levers arranged adjacent each rail, a rotatable shaft, and connections between the levers and shaft whereby the latter may be rotated in one direction only upon depression of either lever.

4. In a track motor, track rails, a depressible track lever arranged adjacent each rail, a rotatable shaft, and independent means between the lever and the shaft controlled by the lever whereby the shaft may be rotated upon depression of the lever.

5. In a track motor, track rails, substantially V-shaped depressible track levers arranged between the rails, a rotatable shaft, and independent means between the levers and the shaft controlled by the levers whereby the shaft may be rotated upon depression of the levers.

6. In a track motor, track rails, V-shaped depressible track levers arranged between the rails, a rotatable shaft, and independent means between the levers and the shaft controlled by the lever whereby the shaft may be rotated in one direction only.

7. In a track motor, track rails, V-shaped track levers arranged between the rails, a rotatable shaft and independent means between the levers and the shaft controlled by the levers whereby the shaft may be rotated in one direction only, upon depression of either lever.

8. In a track motor, track rails, depressible track levers arranged between the rails, means for holding the levers normally in one position, a rotatable shaft, and independent means connecting the levers and the shaft controlled by the levers whereby the shaft may be rotated upon depression of the levers.

9. In a track motor, track rails, depressible track levers arranged between the rails, means for holding the levers normally in one position, a rotatable shaft, and independent means connecting the levers and shaft controlled by the levers whereby the shaft may be rotated in one direction only upon depression of either lever.

10. In a track motor, track rails, depressible track levers arranged between the rails, a rotatable shaft, pawl and ratchet mechanisms mounted upon the shaft between the rails, and means connecting the levers with the ratchet mechanisms whereby the latter may be controlled by the former and the shaft rotated upon depression of the levers.

11. In a track motor, track rails, depressible track levers arranged between the rails, a rotatable shaft, pawl and ratchet mechanisms mounted upon the shaft between the rails, and means connecting the levers with the ratchet mechanisms whereby the shaft may be rotated in one direction only upon depression of either of the levers.

12. In a track motor, the combination with track rails; of a rotatable shaft arranged transversely of the rails; means constructed and arranged whereby the shaft may be rotated upon passage of the rolling stock over the rails; a drive wheel mounted upon the shaft; an air pump; connections between the drive wheel and air pump to operate the latter; a compressor tank communicating with the air pump, an engine communicating with the compressor tank; and a dynamo driven by the engine.

13. In a track motor, the combination with track rails; a rotatable shaft arranged transversely of the rails; driving connections driven from said shaft; and means constructed and arranged whereby the shaft may be rotated in one direction only.

14. In a track motor, the combination with track rails; of depressible levers arranged between the rails; a rotatable shaft mounted transversely of the rails and having independent connection with said levers whereby the shaft may be rotated in one direction only upon depression of the levers; and driving connections driven by the rotatable shaft said independent connection being controlled by said levers.

15. In a track motor, the combination of track rails and machinery arranged distantly from the rails; of a rotatable shaft arranged transversely of the rails; depressible levers having independent connection with the shaft to rotate the latter upon depression of the former; and connections between the drive shaft and said machinery to operate the latter upon rotation of the shaft said independent connection being controlled by said levers.

16. In a track motor, track rails, depressible levers arranged between the rails; a rotatable shaft arranged transversely of the rails; independent connections between the shaft and levers, whereby the former may be rotated upon depression of the latter in one direction only; a fly wheel upon the shaft; and a drive wheel carried by the shaft said independent connections being controlled by the levers only.

17. In a track motor, track rails; a rotatable shaft arranged transversely of the rails; a rod arranged transversely of the rails upon each side of the shaft; depressible track levers mounted one upon each rod; means between the shaft and track levers whereby the former may be rotated upon depression of the latter; and a drive wheel carried by the rotatable shaft.

18. In a track motor, track rails, a depressible track lever arranged adjacent one of the rails, a rotatable shaft, and a connection between the levers and shaft controlled by the lever to rotate the shaft in one direction only.

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

FRANKLIN JOHN RITTER.

Witnesses:

E. ANDERSON,

JOHN L. RITTER.