

No. 873,442.

PATENTED DEC. 10, 1907.

N. D. LEVIN.
LOCOMOTIVE.

APPLICATION FILED JAN. 28, 1907.

Fig. 1.

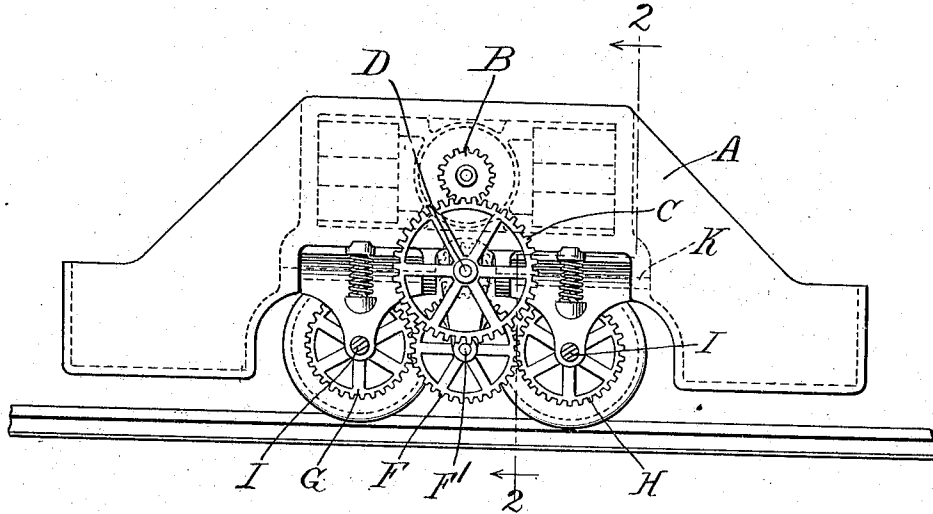
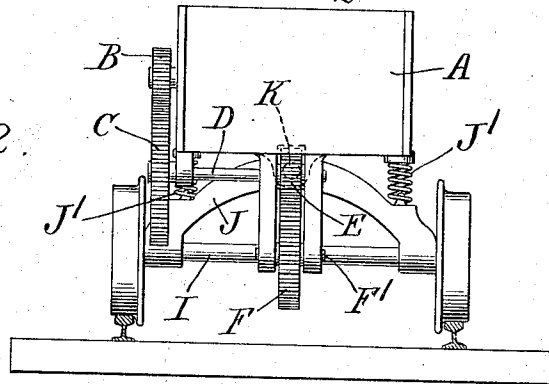


Fig. 2.



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LOCOMOTIVE.

No. 873,442.

Specification of Letters Patent.

Patented Dec. 10, 1907.

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To all whom it may concern:

Be it known that I, NILS DAVID LEVIN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a certain new and useful Improvement in Locomotives, of which the following is a specification.

This invention relates to improvements in locomotives, and has for its object to provide a new and improved device of this description.

The invention is illustrated in the accompanying drawings, wherein

Figure 1 is a side elevation of the locomotive embodying the invention; Fig. 2 is a sectional view taken on line 2—2 of Fig. 1.

The locomotive consists of a main frame A with the motor mounted thereon and forming a part of this main frame. Connected with the armature of the motor is a pinion B which connects with a gear C mounted on an intermediate shaft D. On this shaft is mounted the pinion E which drives the gear F mounted on the shaft F¹, said gear in turn driving the two gears G and H on the axles of the locomotive. The shaft D and the shaft F¹ are both mounted in journals fastened solidly to the main frame. The axles I are mounted in brackets J which are free to swing on the studs or pivots K. The gears G and H on the axles I are preferably at the middle of said axles, and this construction permits the axles and wheels to swing so that the wheels will be in contact with the rails in the event the track is uneven. This is very important in mine work, for the track is often in poor condition, and a locomotive with axles rigidly held in relation to each other would get off the track. Associated with the brackets J are springs J¹. These springs are only intended to steady the frame. Since the gears G and H are in the center of the machine under the pivots K, it will be seen that when the axles swing they will not come out of line sufficiently to interfere with their working. In this construction both axles are driven from one motor, and the axles are still free to move with relation to each other to compensate for inequalities in the track.

It will be noted that the gears and shafts and wheels of the locomotive, as shown in the

drawings, are mounted upon and carried by the motor itself.

I claim:

1. A locomotive comprising, a motor, an axle provided with supporting wheels, said axle mounted upon a substantially horizontal pivot, and an operative connection between said motor and said axle independent of said pivot.

2. A locomotive comprising a frame, a motor mounted thereon, two axles provided with supporting wheels both pivotally connected with said frame by means of a substantially horizontal pivot, and an operative connection between said motor and both of said axles independent of said pivot.

3. A locomotive comprising a frame, an axle provided with supporting wheels and pivotally connected with said frame so as to be free to move in a substantially vertical plane, a gear on said axle substantially in line with said pivot, and an operative connection between said motor and said gear.

4. A locomotive comprising a frame, a motor mounted thereon, two axles each pivotally connected with said frame by a substantially horizontal pivot, a driving connection on each of said axles near the middle thereof, and an operative connection between said motor and both of said driving connections independent of said pivot.

5. A locomotive comprising a frame, two axles provided with supporting wheels, said axles mounted in brackets which are pivotally connected to the frame, driving gears on said axles substantially at the middle thereof, and a driving connection between the motor and said gears whereby the axles are driven in all their various positions.

6. A locomotive comprising a frame, a motor mounted thereon, a shaft fixed with relation to said frame and operatively connected with said motor, a second shaft fixed to the frame and operatively connected to the first shaft, said second shaft provided near its middle with a driving gear, two axles connected with said frame each provided with driving gears near their middle operatively connected with the said second shaft whereby both axles are driven from said motor.

7. A locomotive comprising a frame, a

motor, a bracket pivotally connected to said frame so that it can move in a substantially vertical plane, an axle carried by said bracket, and a driving connection between
5 said axle and said motor.

8. A locomotive comprising a frame, a motor, a bracket pivotally connected to said frame so that it can move in a substantially vertical plane, an axle carried by said
10 bracket, a driving connection between said axle and said motor, and an elastic connection between said bracket and the frame.

9. A locomotive comprising a frame, a motor, an axle pivotally connected to said
15 frame so as to be free to move in a substantially vertical plane, and means for retarding the vertical movement of said axle.

10. A locomotive comprising a frame, a motor, an axle pivotally connected to said
20 frame so as to be free to move in a substantially vertical plane, and a retarding device associated with said axle on each side of its pivotal connection adapted to retard the
25 movement of said axle about the pivotal connection.

11. A locomotive comprising a frame, a motor, a bracket pivotally connected to said frame so as to be free to move in a substantially vertical plane, an axle carried by said bracket, a gear on said axle near the middle
30 thereof, a shaft carried by the frame and operatively connected with said gear, said shaft operatively connected with the motor.

12. A locomotive comprising a frame, a motor, a bracket pivotally connected to said
35 frame so as to be free to move in a substantially vertical plane, an axle carried by said bracket, a gear on said axle near the middle thereof, a shaft carried by the frame and operatively connected with said gear, said shaft
40 operatively connected with the motor, and means for retarding the vertical movement of said bracket.

Signed at Chicago, Illinois, this 10th day of January, 1907.

NILS DAVID LEVIN.

Witnesses:

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