(No Model.)

A. C. REX.

COIN OPERATED TOY CAR.

No. 402,351. Patented Apr. 30, 1889.

FIG. 1.

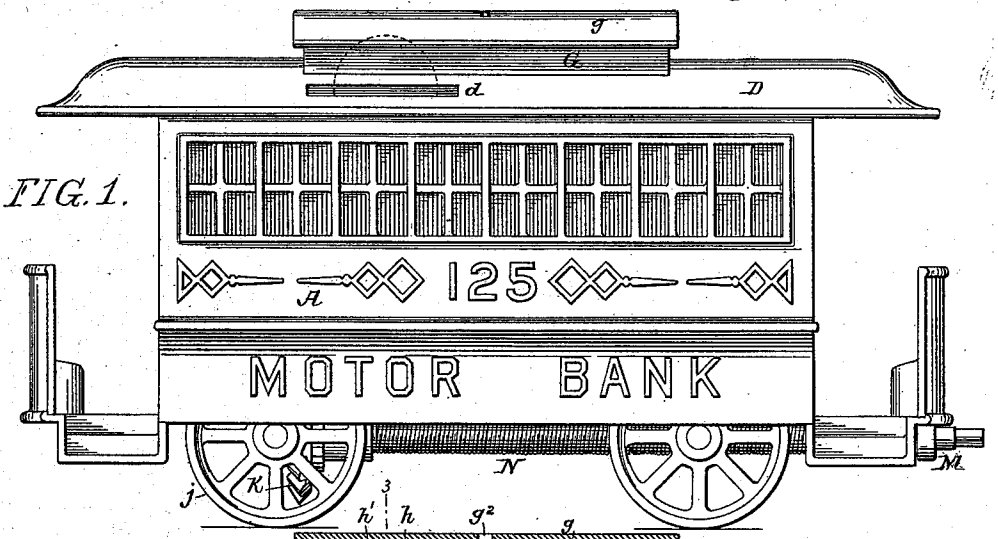


FIG. 2.

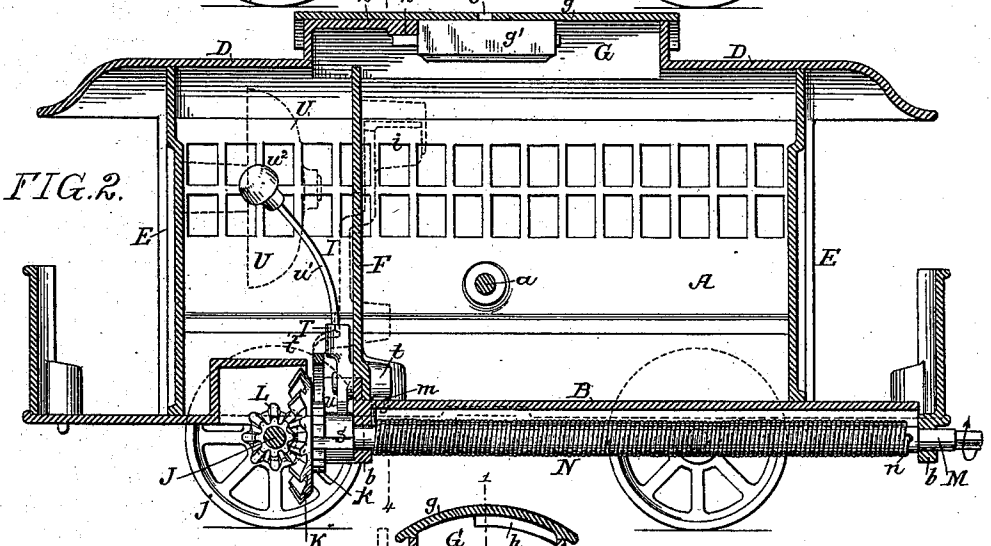
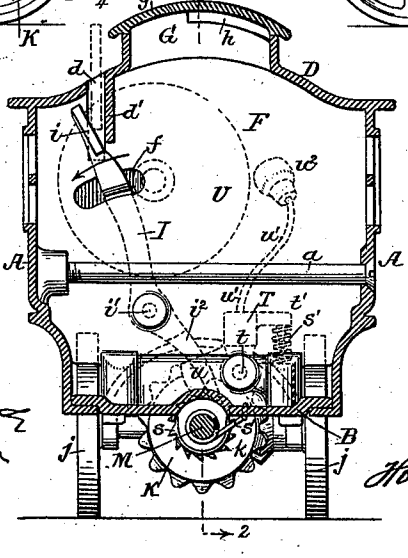


FIG. 3.



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UNITED STATES PATENT OFFICE.

ALFRED C. REX, OF PHILADELPHIA, PENNSYLVANIA.

COIN-OPERATED TOY CAR.

SPECIFICATION forming part of Letters Patent No. 402,351, dated April 30, 1889.

Application filed November 12, 1888. Serial No. 290,576. (No model.)

To all whom it may concern:

Be it known that I, ALFRED C. REX, a citizen of the United States, residing at Philadelphia, Pennsylvania, have invented certain Improvements in Coin-Operated Toy Cars, of which the following is a specification.

One object of my invention is to construct a simple form of spring-propelled toy car or other vehicle, a further object being to provide for the starting of the car or vehicle by the insertion of a coin in a coin-slot, as fully described hereinafter.

In the accompanying drawings, Figure 1 is a side view of a toy savings-bank in the form of a spring-propelled car in accordance with my invention. Fig. 2 is a longitudinal section on the line 1 2, Fig. 3; and Fig. 3 is a transverse section on the line 3 4, Fig. 2.

The toy car I prefer to make of metal, the parts of the same comprising the sides A A, bottom B, a top or roof, D, and ends E E. In the interior of the car, as shown in Fig. 2, is a partition, F, extending to or nearly to the top of the car and serving to divide the car into two parts, one containing the clutching mechanism, while the other forms a receptacle for coins when the device is used as a savings-bank. The structure is held together by a transverse bolt passing from side to side of the car, and being tapped in the present instance into one of the side frames, as shown in Fig. 3; but other means of fastening may be employed without departing from my invention. The top *g* of the raised portion G of the roof representing the ventilator of an ordinary car, is detachable, and is provided with a lock, *g'*, which is opened by inserting a key in the key-hole g^2, so that by removing the top *g* the coins in the coin-receiving compartment can be removed at pleasure.

In the roof D of the car is a slot, *d*, through which the coin is passed, as shown in Figs. 1 and 3, and on one side of the slot *d* depends a fixed lip, *d'*, integral with the roof D, and on the opposite side is the upper end, *i*, of a lever, I, which is pivoted at *i'* to the partition F. This lever I passes through an opening, *f*, in the partition F, as shown in Fig. 3, so as to prevent the introduced coins from interfering with the driving mechanism of the car. The lever I has an arm, i^2, which engages with a ratchet-wheel, *k*, on the hub of a bevel-wheel, K, mounted on a longitudinal shaft, M, adapted to bearings *b b* on the bottom plate, B, of the car. The bevel-wheel K meshes with a bevel-pinion, L, on the axle J of the car, and to this axle are secured the traction-wheels *j j*, so that on turning the shaft M the wheels *j j* will be rotated through the medium of the bevel gear-wheels K and L and axle J.

Wound around the shaft M is a spiral spring, N, secured at *n* to the shaft M and at *m* to the bottom plate, B, of the car. The outer end of the shaft M projects beyond the rear of the car, and is squared for the reception of a suitable key, so that on turning the shaft in the direction of the arrow, Fig. 2, the spring N will be wound up tightly on the shaft M, the arm i^2 of the lever I acting as a pawl in connection with the ratchet-wheel *k*, so as to prevent reverse movement of the shaft.

It will be noticed on referring to the drawings that the arm *i* of the lever is heavier than the arm i^2, so that when it is desired to wind up the spring the car is turned upside down, the long arm of the lever I then acting as a weight and forcing the short arm of the lever into engagement with the ratchet-wheel *k*, with which, owing to the tension of the spring, it remains in engagement when the car is turned right side up. It will be noticed, however, on reference to Fig. 3 that when the long arm of the lever is in this position it is across the path of a coin passed through the slot *d;* hence when a coin is inserted into the slot the lever I is pushed away in the direction of the arrow, Fig. 3, thus causing the arm i^2 of the lever to free itself from engagement with the ratchet-wheel *k*, and as the long arm is heavier than the short arm of the lever it drops so as to hold the short arm clear of the ratchet-wheel, and the car will then be propelled by the spring until the strength of the spring is exhausted.

On the hub of the bevel-wheel K are two lugs, *s s*, and pivoted to the partition F at *t* is a lever, T, having one arm, *u*, which is acted upon by the lugs *s s*, while the arm *u'* is in the shape of a tappet-rod, having a hammer, u^2, at its extreme end, which, as the lever is vibrated by the action of the lugs *s* thereon,

strikes a bell, U, mounted on a stud projecting from one of the frames E of the car. (See dotted lines, Figs. 2 and 3.)

A spring, s', acting on a projection, t', of the arm u', forces the arm u into engagement with the lugs s, so that as the shaft M revolves the lugs come into engagement with the arm u and cause compression of the spring, which recoils as soon as the lug passes the arm, thus causing a quick stroke, by which the bell is tapped, imitating the tapping of the bell on the cars used in cable railways. This bell, however, may be dispensed with without departing from my invention.

In some cases the lever may be in different position from that shown in the drawings, and may be moved by the fingers instead of by the dropping of a coin into the slot; but I prefer to construct the device as shown.

I claim as my invention—

1. The combination of the wheels and axle geared to a longitudinal shaft driven by a spring, with a ratchet-wheel secured to said shaft and a lever, one arm of which forms a pawl for retaining the ratchet-wheel, the other arm being adapted to be moved so as to throw the pawl out of engagement with the ratchet-wheel, and thus start the car, substantially as described.

2. The combination of the driving-wheels and axle, with a longitudinal shaft geared to said axle, a spring on said longitudinal shaft acting to drive the same, a lever having a short arm engaging with a ratchet-wheel on the spring-shaft, and a car-body provided with a coin slot or chute through which a coin may be passed, the long arm of the lever being in the path of the coin when the short arm is in engagement with the ratchet-wheel, so that as the coin is inserted the long arm will be moved and the short arm will be thrown out of engagement with the ratchet-wheel, substantially as described.

3. The combination of the driving-wheels and axle, a spring-actuated longitudinal shaft geared to said axle and having lugs s s, a lever having two arms, one arm acted on by the lugs and the other arm carrying a hammer, and a bell against which the hammer strikes, substantially as described.

4. The combination of the receptacle made in the form of a car or other vehicle, a spring-actuated propelling device for said car, and a lever governing said propelling device and terminating near the coin-slot, whereby, when a coin is inserted in said slot, the motor mechanism is released and the car started, substantially as described.

5. The combination of the driving-wheel and axle, the spring-actuated shaft geared to said axle and having a ratchet-wheel, and a governing-lever having one arm forming a pawl for said ratchet-wheel, and another and preponderating arm, the normal tendency of which is to hold said pawl out of engagement with the ratchet-wheel, all substantially as specified.

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

ALFRED C. REX.

Witnesses:

WILLIAM D. CONNER,

HARRY SMITH.