(No Model.) 2 Sheets—Sheet 1.

R. ZINSMAIER & M. BURT.

MOTOR FOR USE NEAR RAILWAYS.

No. 272,012. Patented Feb. 6, 1883.

Fig. 1

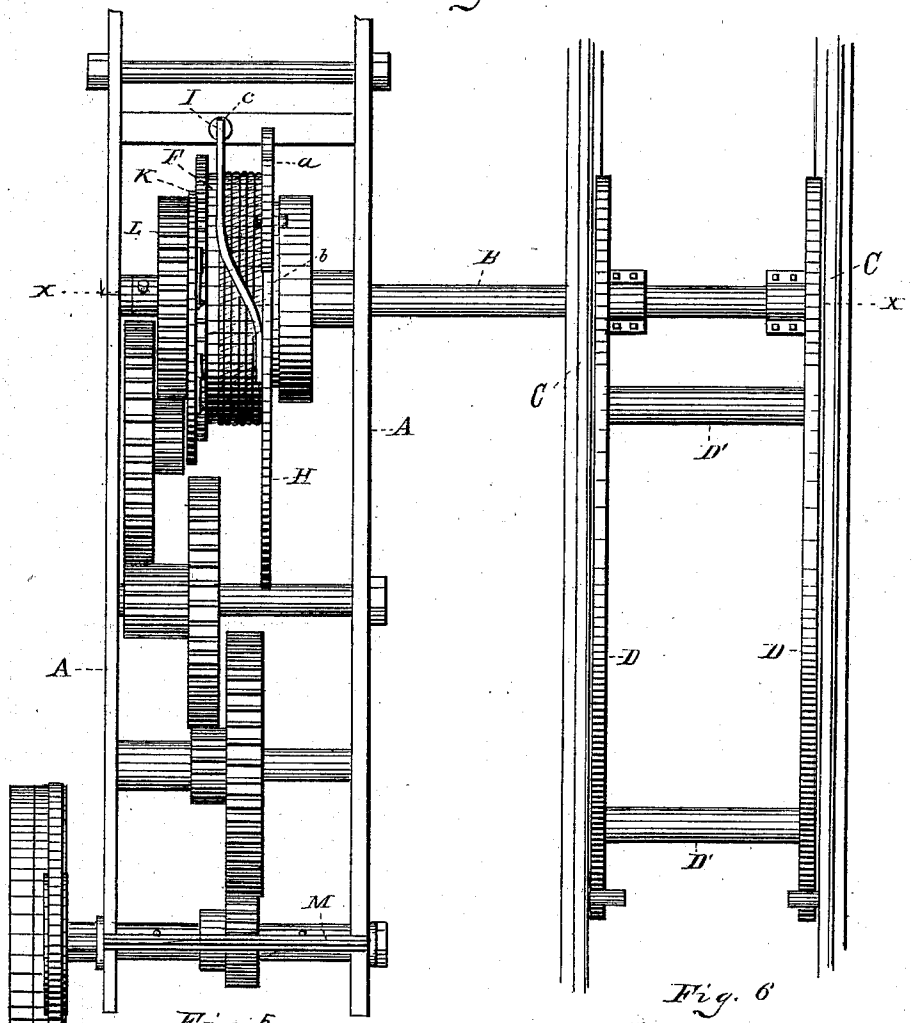


Fig. 5

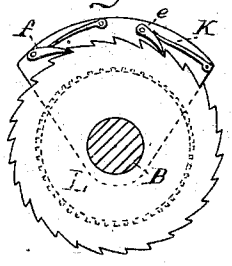
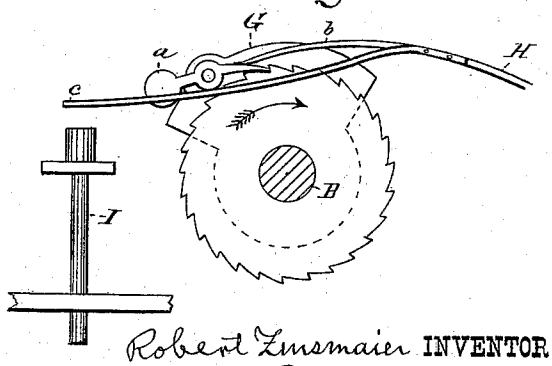


Fig. 6



WITNESSES

W. Engel

Ernest C. Orsburn.

Robert Zinsmaier INVENTOR

Merritt Burt

By

M. D. Leggett & Co.

Leggett & Legget ATTORNEYS

(No Model.) 2 Sheets—Sheet 2.

R. ZINSMAIER & M. BURT.

MOTOR FOR USE NEAR RAILWAYS.

No. 272,012. Patented Feb. 6, 1883.

Fig. 2.

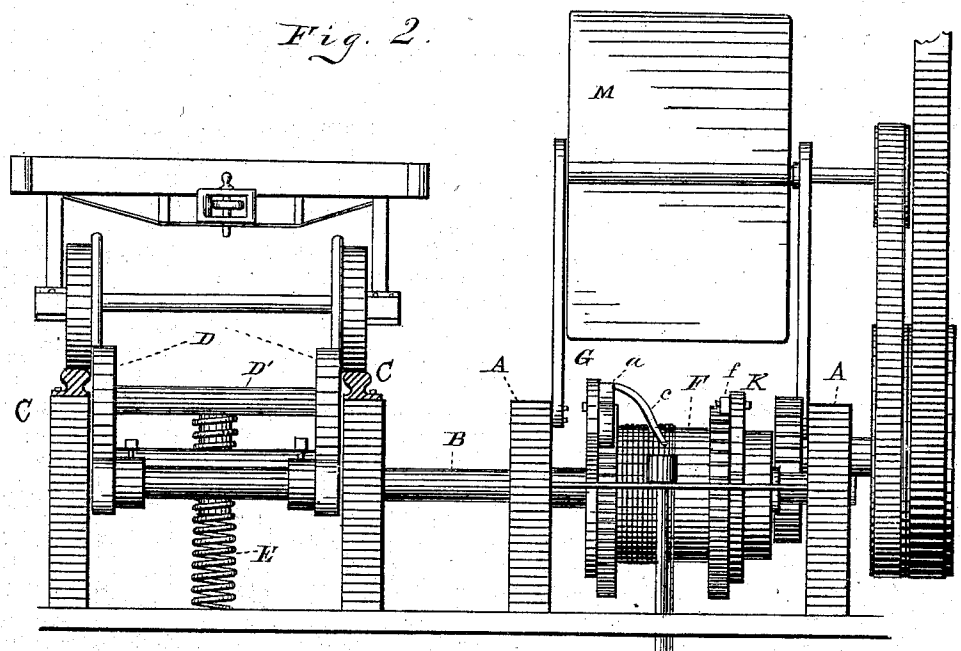


Fig. 3.

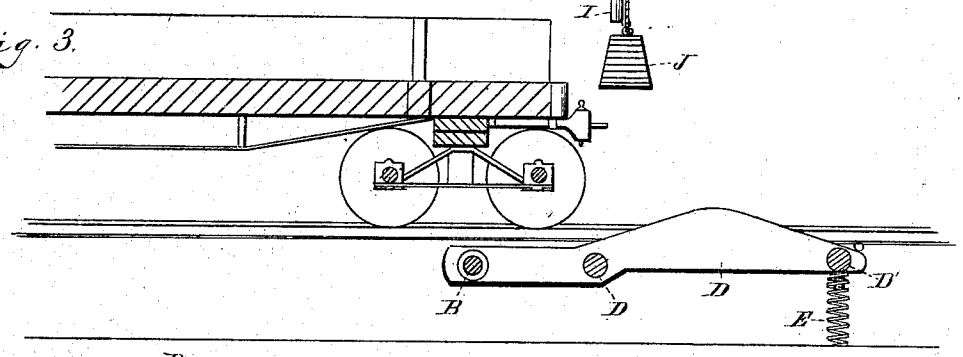
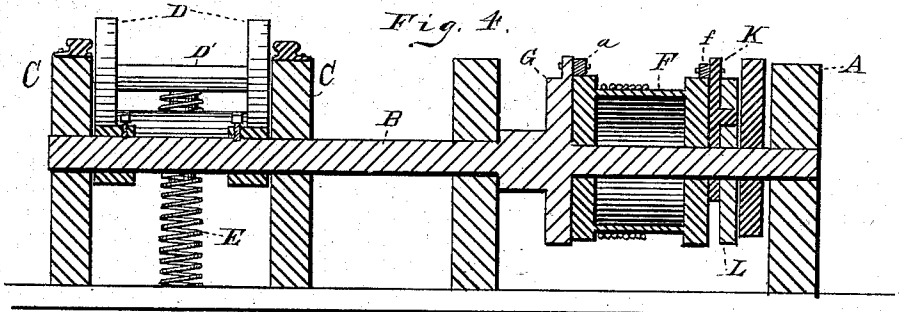


Fig. 4.



WITNESSES

H. L. Engel

Ernest C. Orsburn.

Robert Zinsmaier INVENTOR

Merritt Burt

Legget & Legget

ATTORNEYS

UNITED STATES PATENT OFFICE.

ROBERT ZINSMAIER AND MERRITT BURT, OF GALION, OHIO; SAID BURT ASSIGNOR TO I. B. GRANDY AND J. BINA BURT, BOTH OF SAME PLACE.

MOTOR FOR USE NEAR RAILWAYS.

SPECIFICATION forming part of Letters Patent No. 272,012, dated February 6, 1883.

Application filed February 11, 1882. (No model.)

To all whom it may concern:

Be it known that we, ROBERT ZINSMAIER and MERRITT BURT, of Galion, in the county of Crawford and State of Ohio, have invented certain new and useful Improvements in Motors for Use near Railways; and we 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 pertains to make and use the same.

Our invention relates to motors for use near railroads; and it consists in the peculiar construction of the same, as will be hereinafter fully set forth and claimed.

In the drawings, Figure 1 is a plan view of a railway and also of our motor. Fig. 2 is an end elevation of the same. Fig. 3 is a side elevation of a car and track in section. Fig. 4 is an elevation in section of a car-track and motor. Figs. 5 and 6 are enlarged detached views of some of the parts of our motor.

A is the frame of our motor.

B is a shaft, which extends out from the frame A and under the tracks C.

D are two levers resting between the tracks C, and secured together by means of cross-bars D'. One end of the levers D is secured to the shaft B, and the other or free ends are held up by means of a spring, E. Instead of two levers, however, there may be but one. These levers are constructed as shown in Fig. 3—viz., in the form of a double incline, the upper part extending a short distance above the rails, and in such a manner that as the car-wheels pass along the rails the levers D will be depressed.

F is a drum, which is journaled loosely on the shaft B. This drum is provided at both its ends with ratchet-teeth.

G is a disk, which is securely fastened or keyed to the shaft B. This disk is provided with a pawl or pawls, *a*, which engage with the ratchet-teeth on one end of the drum F. These pawls are pivoted near their center to the disk G—one a short distance in advance of the other—and are weighted at their outer ends, (see Fig. 6,) for the purpose that will be hereinafter fully explained.

H is a spring, which is secured at one end to any suitable part of the motor, and at its free end is provided with two arms, *b* and *c*, the arm *b* acting, while in operation, to keep the pawls *a* in contact with the ratchet-teeth on the drum F. The arm *c* extends to a considerable distance past the pawl and directly over an upright or vertical bar, I, the lower end of said bar I being adapted to engage with the weight J, which, when sufficiently wound up, pushes the bar I up, and its upper end, coming in contact with the arm *c* of the spring H, acts to raise the arm *b* of said spring, and the weights on the ends of the pawls are thus allowed to disengage the said pawls from the ratchet.

K is another disk, (see Fig. 5,) which is provided with a pawl or pawls, *e* and *f*, which engage with the teeth of the ratchet at the other end of the drum F. This disk K is secured to a spur or gear wheel, L. Said disk K and spur-wheel L are loosely journaled on the shaft B and revolve freely around it. The spur-wheel L is geared to one of a train of multiplying gearing, and when in operation imparts motion thereto.

M is a governor of any suitable construction, which may be secured and operated in any suitable manner, one manner being shown in the drawings, Fig. 2.

The operation of our motor is as follows: The wheels of a train of cars, passing over the lever or levers D, depress said levers, which in turn act to give to the shaft B a rocking movement, which is imparted to the disk G, and drives it forward in the direction of the arrow, Fig. 6. Now, as this disk G is driven forward the point of the pawl *a* is driven under the arm *b* of the spring H, which depresses said point and causes it to engage with one of the ratchet-teeth on the end of the drum F, and thus as the disk G is driven still farther forward the drum F is given a partial revolution, which acts to wind up the weight J. After the wheel has passed over the levers D the spring E acts to raise the forward ends of the levers, which operate to give the shaft B a partial revolution in the opposite direction. This movement, being also imparted to the disk G, drives it in an opposite direction to that of the arrow, Fig. 6. This movement of the disk G acts to pull the point of the pawl *a* from un-

der the arm *b* of the spring H, and its other end being heavier by means of the weight, the pawl is automatically disengaged from the teeth of the ratchet. While the pawl is held in this position it allows of the drum F being turned by means of the weight J, the drum F in turn imparting motion to the gearing by means of the pawls *e* and *f* on the disk K and the spur-wheel L. When the weight J is wound up nearly as far as it can go it comes in contact with the lower end of the vertical bar I, which acts to push the bar I up, as hereinbefore explained.

The motor may be employed for actuating a pump and elevating water to a tank; or it may be used for sawing wood; or it may be used for any of the many purposes for which motors are employed.

What we claim is—

1. In a motor, the combination, with a car-track, of the lever or levers, constructed substantially as described, the shaft B, reciprocating disk G, weighted pawl or pawls *a*, and spring H, substantially as set forth.

2. In a motor, the combination, with a reciprocating disk, G, of the weighted pawl or pawls *a* and spring H, constructed and operating substantially as set forth.

3. In a motor, the combination, with drum and weight, of the weighted pawls *a*, spring H, and vertical sliding bar I, substantially as set forth.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

ROBERT ZINSMAIER.
MERRITT BURT.

Witnesses:
W. H. W. NICHOLS,
OSMYN P. SPAULDING.