W. W. WYTHE.

Reciprocating Pencil-Carrier for Speed-Recorders.

No. 198,232. Patented Dec. 18, 1877.

Fig. 1.

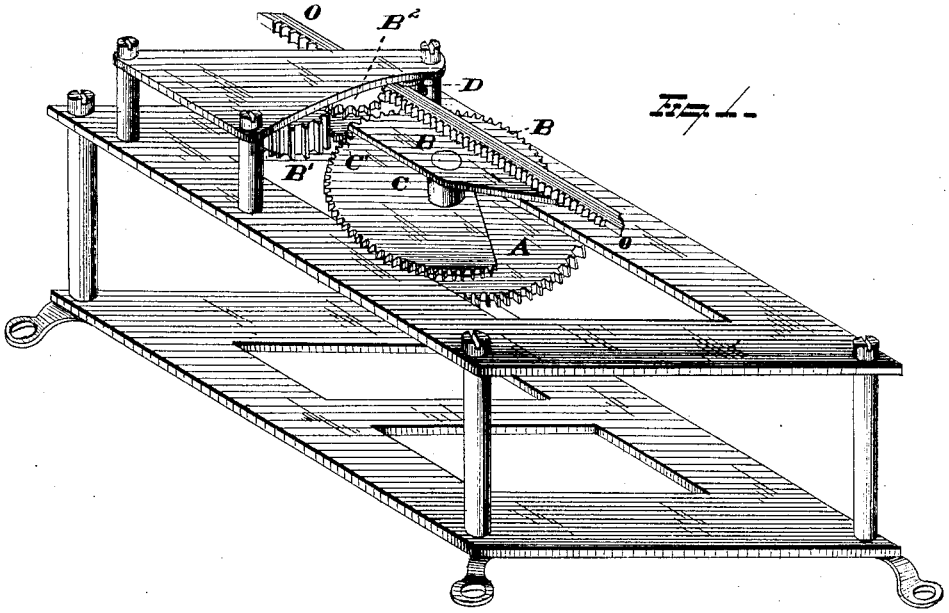
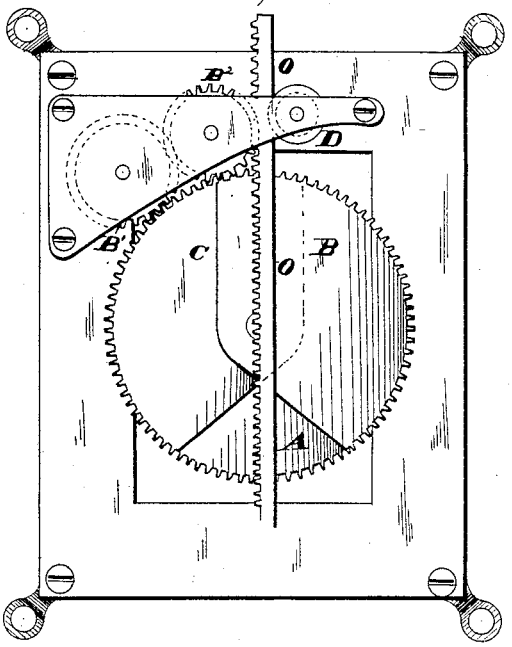


Fig. 2.



WITNESSES

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WILLIAM W. WYTHE, OF ERIE, PENNSYLVANIA.

IMPROVEMENT IN RECIPROCATING PENCIL-CARRIERS FOR SPEED-RECORDERS.

Specification forming part of Letters Patent No. **198,232**, dated December 18, 1877; application filed May 5, 1877.

To all whom it may concern:

Be it known that I, WILLIAM W. WYTHE, of Erie, in the county of Erie and State of Pennsylvania, have invented certain new and useful Improvements in Speed-Recorders for Railroad-Trains; 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 pertains to make and use it, reference being had to the accompanying drawings, which form part of this specification.

My invention relates to a speed-recorder, &c., for railroad-trains, and is designed as an improvement upon the machines patented to me July 28, 1874, No. 153,470, and February 8, 1876, No. 173,251.

My invention consists in improved means for giving a reciprocating movement to the pencil-bar by a continuous rotary movement, effected by clock-work.

In my said patent granted February 8, 1876, No. 173,251, I accomplished this reciprocating movement of the pencil-bar by means of a mutilated gear-wheel, Q, to which is given a regular uniform motion by clock-work. Into this mutilated gear-wheel Q alternately mesh pinions P^2, and as one or the other of these pinions engages with the gear-wheel Q, an alternate motion is given to a central pinion, P, upon the shaft P^1, and the pencil being held by the rack O, which meshes into the central pinion P, a reciprocating motion is given to said rack and its pencil, as above specified.

My present invention consists in an improved method of imparting a reciprocating motion to this pencil-bar.

In the drawings, Figure 1 is a perspective view, showing my invention; Fig. 2, a plan view of the same.

A is a gear-wheel, driven by suitable clock-work. Upon the end of its shaft are fixed two segmental gears, B C. B^1 is a pinion, suitably placed in the general frame-work of the mechanism to engage with the segment B. The pinion B^1 engages with the pinion B^2. Upon the shaft of the pinion B^2 is fixed the pinion C′. The pinions B^2 C′ are so rigidly connected as that both shall move alike.

The segmental gears B C are so constructed and placed in relation to each other that while the segment B is engaged with the pinion B^1 the segment C shall perform no function; but immediately upon the cessation of the segment B in its operation with the pinion B^1, the segment C shall engage with the pinion C′. It will thus be seen that with every revolution of the segments B C or the gear-wheel A, a reverse or reciprocating motion is imparted to the pinions B^2 C′.

The pinion B^2 engages with the rack-bar carrying the indicating-pencil, corresponding to the rack-bar O and its attached pencil mechanism, as shown in my said Patent No. 173,251, of date February 8, 1876. It will thus be seen that a reciprocating motion is given to the said pencil by a continuous rotary movement of the gear-wheel A or the segments B C.

D is a guide-roller, serving to keep the rack-bar meshing into the pinion B^2 in place, and to prevent it from displacement.

What I claim is—

1. The combination, with the gear-wheel, actuated by suitable clock-work and the segmental gears fixed upon its axial shaft, of the two independent gears, respectively engaging with the said segments in alternate succession, substantially as described.

2. In a speed-recorder, the main gear, adapted to be actuated by suitable clock-work, and carrying, in a common axial movement, the two segmental gears, in combination with intermediate gearing, respectively engaged by said segments, and the single gear adapted to reciprocate the rack-bar, substantially as described.

3. In a speed-recorder, the combination, with the gear adapted to reciprocate the pencil-bar, formed with a single rack side, of the gear fixed to its axial shaft, and the independent gear meshing with its teeth, substantially as described.

4. In a speed-recorder, the combination, with the pencil rack-bar, single gear reciprocating the same, and the two gears independently actuating said single gear, of the segmental gears, the latter adapted to move in common with the main gear, actuated by clock-work, substantially as described.

5. The combination, with the main gear,

actuated by suitable clock-work, and the segmental gears moving in common therewith, of the two gears respectively engaging in alternate succession with said segments, the rack-bar, and the intermediate single gear, substantially as described.

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

WILLIAM W. WYTHE.

Witnesses:
FRANCIS TOUMEY,
THOMAS B. HALL.