S. W. HEMENWAY.

Railroad Train-Indicators.

No. 136,242. Patented Feb. 25, 1873.

Fig. 1.

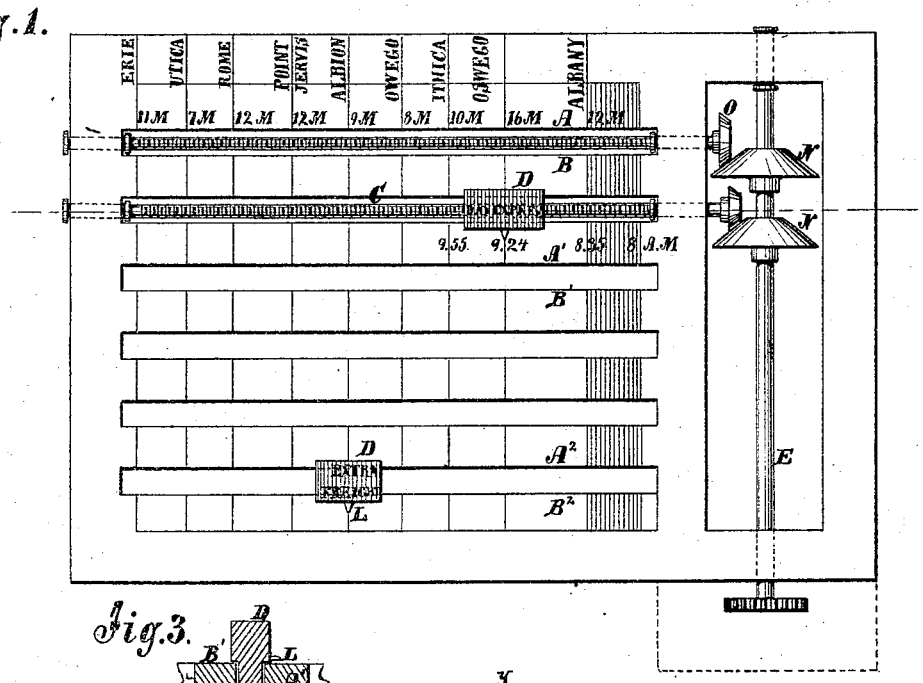


Fig. 3.

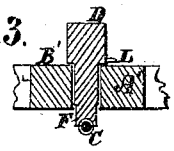


Fig. 2.

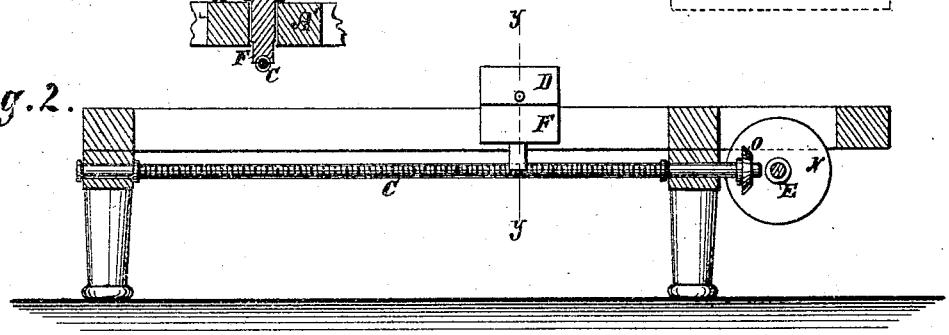


Fig. 4.

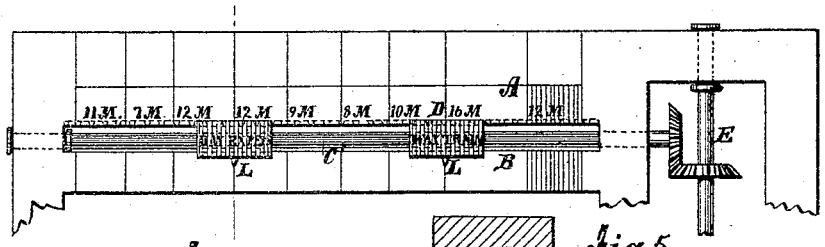


Fig. 6.

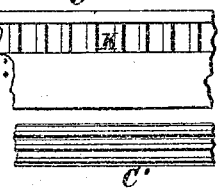
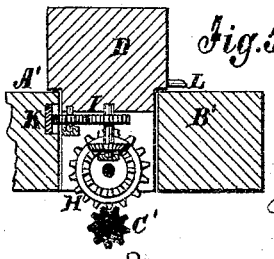


Fig. 5.



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UNITED STATES PATENT OFFICE.

SAMUEL W. HEMENWAY, OF LANSING, IOWA.

IMPROVEMENT IN RAILROAD-TRAIN INDICATORS.

Specification forming part of Letters Patent No. **136,242**, dated February 25, 1873.

To all whom it may concern:

Be it known that I, SAMUEL W. HEMENWAY, of Lansing, in the county of Allamakee and State of Iowa, have invented a new and Improved Railway-Train Indicator, of which the following is a specification:

My invention consists of one or more miniature ways constructed on a scale proportioned to the real railway as to the stations and distances between them, with the time of starting from the end and the time the trains are due at the stations marked opposite them; also cars or blocks representing them and a screw with each way for actuating the cars, the screw being worked by a clock, all so that a car or block being put on the track at the time for the starting of a real train will show to the eye the position of the train on the railway at any time during the trip.

Figure 1 is a plan view of my improved train-indicator. Fig. 2 is a longitudinal sectional elevation of Fig. 1 on the line *x x*. Fig. 3 is a section of Fig. 2 on the line *y y*. Fig. 4 is a plan view of a part of an indicator with a modified arrangement of some of the apparatus for actuating the cars. Fig. 5 is a transverse section of Fig. 4 on the line *z z*, and Fig. 6 represents some of the parts of Figs. 4 and 5 in side elevation.

Similar letters of reference indicate corresponding parts.

A B A^1 B^1 A^2 B^2 represent, say, the track of the railroad on a greatly-reduced scale, with the names of the stations marked on it; also the time the trains are due at the several stations, and also the scale of miles. C represents a revolving screw arranged with each track to move a car, D, or a block which stands for a car, the screws being geared with a shaft, E, to be turned by a clock. The block D, representing the car, is so constructed that, when resting on the rails or ways, the lower end of an extension, F, which is suitably shaped and threaded to gear with the screw C, connects with it so as to move the car along the way.

The screw will be so arranged as to speed and pitch that the car will move along the miniature way relatively as the real train moves along the railway, and thus show the position of the train at any time. The car D will be placed on the way at the time the train is dispatched.

Two or more of these miniature ways and cars may be employed in connection to have one for each train dispatched, if preferred; but by a slight modification of the method of gearing and actuating the cars or blocks one may answer for several cars or blocks, representing as many trains dispatched, one after another, and running at different speeds; for instance, instead of the screw-threaded rod C, a rod, C′, with long flutes or teeth extending the whole length, will be used, and the block or car D will gear with it by a wheel, H, which will gear by a suitable train, I, with a rack, K, on the side of one of the rails of the way, to move the block. These trains I will be geared for different rates of speed, according to the train the car to which they belong is to represent.

By another plan for the train of gearing I the toothed rack may have inclined teeth and the wheel gearing with it a screw-threaded face, and turn on an axis parallel with rod C′ and wheel H. The way A^2 B^2 will be in all respects like the others, but without the screw-rod C, and the blocks or cars will be shifted on it by hand from time to time as the trains which have no schedule time are moved along the road from station to station as ordered from the head office by telegraph, and stopped to allow the passage of regular trains. Each block or car D will have a pointer, L, which will indicate exactly the position of the train on the scale. This pointer may be fixed on the block with a screw for shifting it slightly to regulate any variance that may occur in case the clock which drives the shaft E should vary; also to adjust it, as may be required, if it does not come exactly right when the block is put on, owing to the position of the threads of the screw. The gear-wheels N O, for transmitting the motion from shaft E to the screw C, will be so arranged that the speed of the screws may be varied by shifting the wheels; for instance, the wheels N will have very wide faces, so that the wheels O may be worked at

different distances from the axis; or, if preferred, other wheels of different sizes may be used.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

A revolving screw, C, provided with pointer-nut D F L and geared to a shaft, E, driven by suitable mechanism, when combined with an indicator-board having guiding-ways and bearing the station, time, and distance scales, arranged as and for the purpose described.

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Witnesses:

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