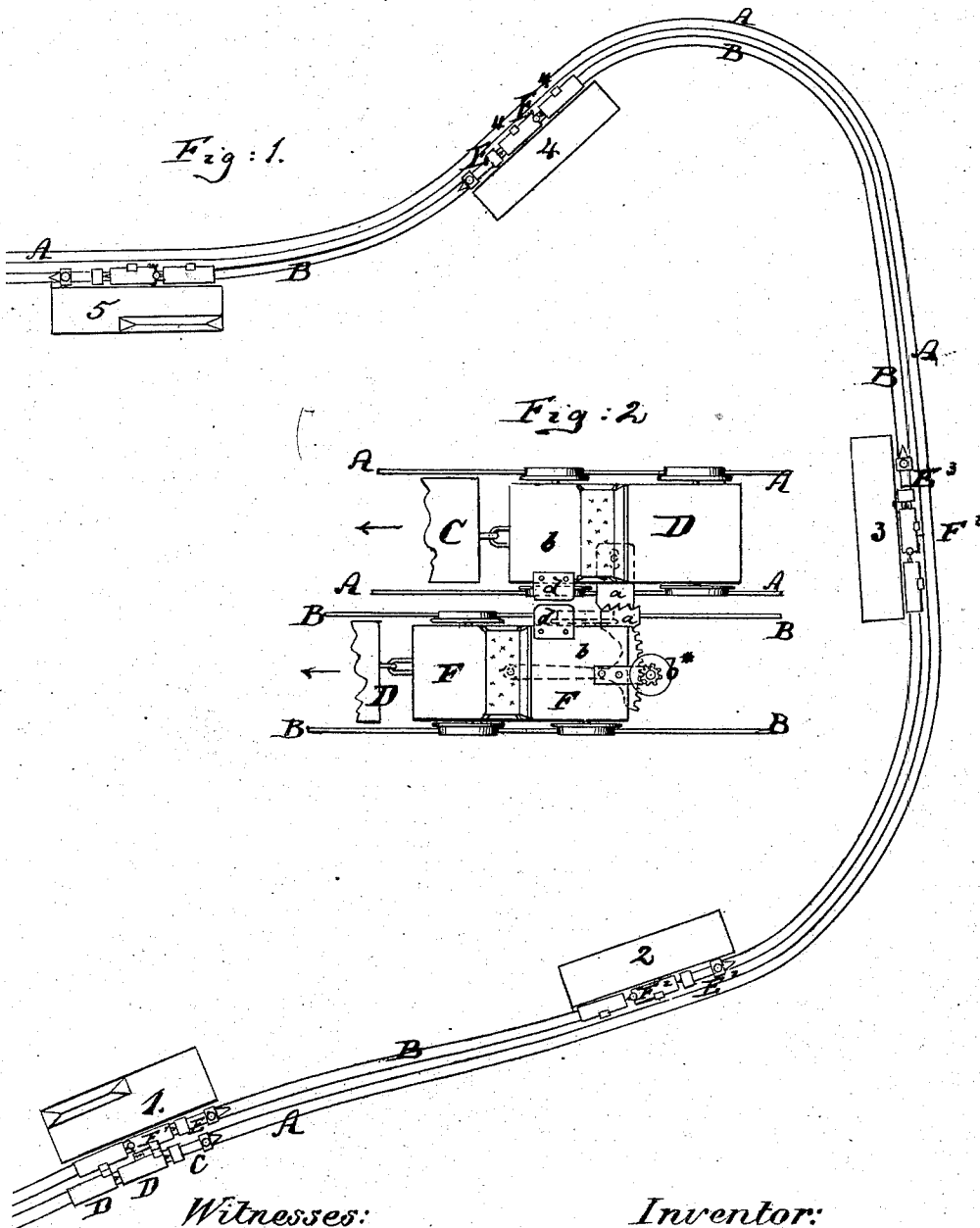


E. HAWKINS.
Railroad-Cars.

No. 157,514.

Patented Dec. 8, 1874.



Witnesses:

Chas. Raethig
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UNITED STATES PATENT OFFICE.

EBENEZER HAWKINS, OF ISLIP, NEW YORK.

IMPROVEMENT IN RAILROAD-CARS.

Specification forming part of Letters Patent No. **157,514**, dated December 8, 1874; application filed February 7, 1874.

To all whom it may concern:

Be it known that I, EBENEZER HAWKINS, of Islip, in the county of Suffolk and State of New York, have invented a new and Improved Arrangement on Railroads for Running Accommodation-Trains without Stopping, of which the following is a specification:

Figure 1 is a diagram, showing my system of tracks, trains, and stations. Fig. 2 is a plan view of two adjoining cars that are provided with my improvement.

Similar letters of reference indicate corresponding parts in both of the figures.

This invention has for its object so to arrange railroads with regard to their tracks, stations, and cars, that trains which run without stoppage between terminal stations will be enabled to take up and discharge passengers at all intermediate stations. In this wise, especially in large cities and their suburbs, trains can be run with great speed from depot to depot without at all stopping at intermediate stations, and nevertheless take up and discharge passengers at such intermediate stations. This apparent impossibility I raise to the dignity of a practicable plan by arranging two parallel tracks, where heretofore but one track would have been used, and placing the through-train upon one track and a local train at each intermediate station upon the other track. The through-train, when it arrives at an intermediate station, is coupled to the local train of that station, and the two trains run side by side to the next station, where the local is detached from, and another local connected with, the continuously-proceeding through-train. While the two trains are running side by side the passengers from the through-train who desire to land at the next station step into the local train, while all passengers from the local train who are desirous of proceeding farther than the next station step into the through-train.

For permitting the passengers to step from train to train the latter must be coupled together; and my invention consists in the production of a coupling whereby two trains running side by side may be coupled together; but the platforms of the two trains must also be so placed with reference to each other that the passengers can conveniently step from one

train to the other. My invention also consists in enlarging the platforms or car-floors laterally to accomplish this object.

In the drawing, with reference to the diagram, Fig. 1, the letter A represents the track for the main train, and the letter B the track for the local trains. The two tracks may be of equal width, but, if not, I would prefer A to be the wider. 1 and 5 are the two terminal depots of a railroad. 2, 3, and 4 are intermediate stations along the road. The through-train C D is intended to run without stopping on the track A from the depot 1 to the depot 5. For return-trains from 5 to 1 another double track should be used, but the same is not shown in the drawing. The system is, of course, also applicable to belt-roads, where the train C D, by a circuitous route, arrives without intermediate stoppage at the same depot from which it started. E¹ F¹ E² F² E³ F³ E⁴ F⁴ are four local trains placed on the track B, respectively, at the depot 1 and stations 2 3 4.

When the main train C D leaves the depot 1 the train E¹ F¹ is coupled to it, containing the passengers for the station 2. Upon arriving at station 2 the train E¹ F¹ is left there, and E² F² is connected to C D and taken to station 3. While the trains pass from station 2 to 3 the passengers from E² F² enter the main train C D, except those wanting to leave at station 3, while all occupants of the train C D who want to get out at station 3 step into the train E² F². At station 3 this last-named train is uncoupled, and the train E³ F³ coupled to C D, and so forth. There is, therefore, a local train left at and one taken from every station, while the main train C D proceeds without stoppage. Through passengers will thus not lose time, and local passengers will obtain all advantages of speed, usually alone enjoyed by through passengers of express-trains.

The connection of the trains can be readily effected by causing the local trains, all of which have their own motive power, to proceed gradually, and effect the coupling while in motion, thus avoiding injurious shocks. For the coupling I intend to provide the locomotive or one or more cars of each train with a ratchet-plate, *a*, projecting toward the other train, one of the ratchet-plates being made movable sidewise by gearing into a pinion, *b**, as indicated in

Fig. 2; but any other suitable means for side coupling may be used on the trains in place of said ratchet-plates *a a*.

The floors *b b* of the cars D F, Fig. 2, are extended laterally toward each other, as at *d d*, to enable the passengers to step from one train to the other whenever the two trains are connected.

The value of my system for the solution of the rapid-transit problem in large cities will readily appear.

It is evident that in order to carry out the system of running connected railroad-trains side by side it becomes necessary to provide the cars of the trains with end couplings for connecting them with other cars of their respective trains or with their locomotives, and also with side couplings for connecting them with the cars of the other train; and

I therefore claim as my invention—

1. A car having combined therewith end couplings and side couplings, so that it may be connected to other cars on the same track, and also at the same time to other cars on an adjoining parallel track, substantially as and for the purpose specified.

2. A car having combined therewith a coupling or couplings at one or both of its ends, and a coupling or couplings at one or both of its sides, and also the lateral extensions *d d*, which enable passengers to step from one car into the other car while both cars are in motion and running side by side, substantially as described.

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Witnesses:

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