(No Model.)

R. COLLINS.

INCLINED PLANE RAILWAY.

No. 262,643. Patented Aug. 15, 1882.

Fig. 1.

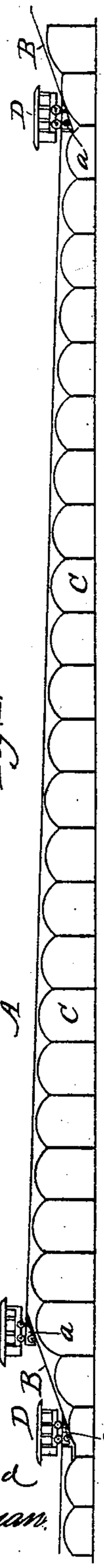


Fig. 2.

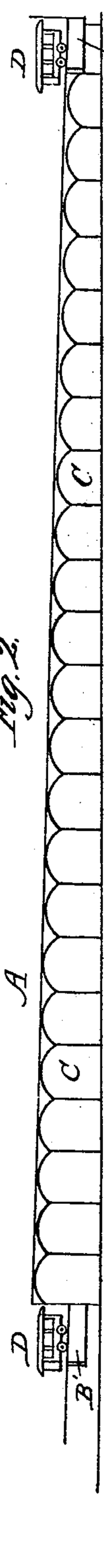
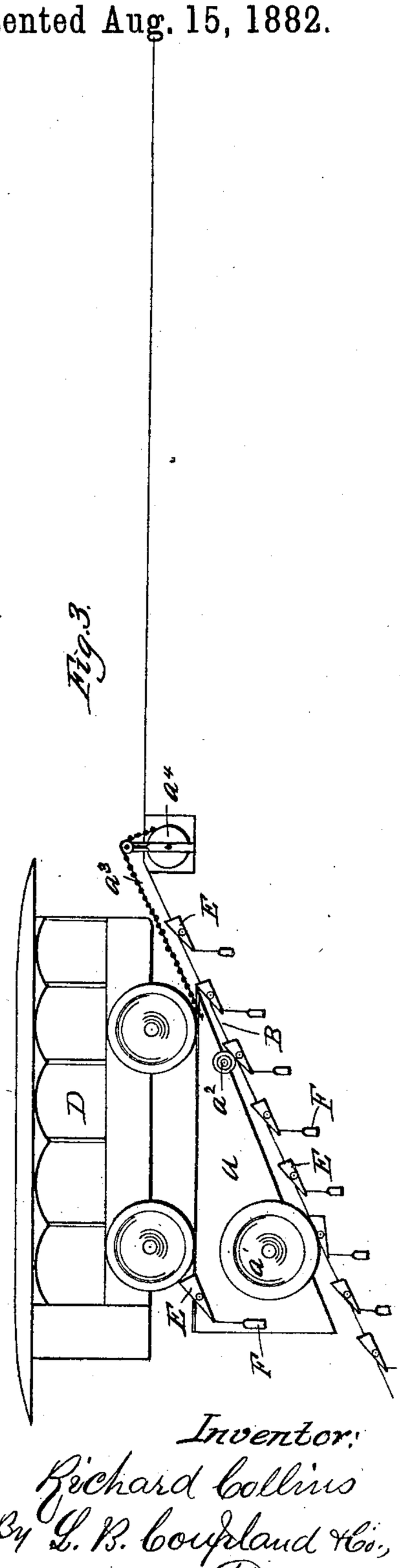


Fig. 3.



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UNITED STATES PATENT OFFICE.

RICHARD COLLINS, OF CHICAGO, ILLINOIS.

INCLINED-PLANE RAILWAY.

SPECIFICATION forming part of Letters Patent No. 262,643, dated August 15, 1882.

Application filed March 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, RICHARD COLLINS, of Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in an Inclined-Plane Railway; and I do hereby declare the followng to be a full, clear, and exact description thereof, that will enable others to construct and operate the same, reference being had to the accompanying drawings, and to letters of reference marked thereon, forming a part of this specification.

Figure 1 shows a section of the inclined-plane railway; Fig. 2, a modification of Fig. 1, and Fig. 3 an enlarged view of the ascending plane truck and car.

The object of this invention is to provide a system for operating elevated railways, relating more especially to the movement of street-cars; and it consists of having a series of inclined planes arranged to form a continuous road, the cars to descend by force of gravity, and are elevated or transferred from the lowest point on one section to the highest point on the adjoining section by being drawn up a short ascending plane or by a direct lift, the exact arrangement and operation of which will be hereinafter more fully described in detail.

Referring to the drawings, A represents the line of the ascending plane; B, the short ascending plane connecting the sections; C, arches supporting the road-bed, and D car or cars.

Fig. 1 shows a section of the inclined railway, which, by way of illustration, we may suppose to be four blocks in length. The cars are shown in position at the highest and lowest points of elevation, the descending sections being connected to form a continuous line by the short ascending planes, the cars being elevated or transferred from one section to the next by being drawn up the short ascending plane B, as more clearly illustrated in Fig. 3 of the drawings. The triangular truck *a* is a continuation of the track or road-bed, and on which the car is stopped at the lowest point of the descending plane. The rear wheels, a', on the truck *a* are of a much larger diameter than the front wheels, a^2, for the purpose of keeping the car in a horizontal plane, and the track on the truck to have the same incline as the track proper. The truck carrying the car is drawn up by steam or other motive power through the medium of the chain or cable a^3, one end of which is attached to the front end of the truck *a*, and the opposite end being attached to the drum a^4, which is adapted to be rotated in either direction, so as to wind or unwind the cable a^3, as may be required.

The short ascending plane B is provided with a number of automatic catches, E, which form a part of the track, and are pressed down on a level with the rest of the track by the pressure of the wheels. These catches have a pivotal action, and are thrown into a locking position back of the wheels when released from the pressure of the same by the suspended weights F, all as shown in Fig. 3 of the drawings. These catches guard against the danger of the car running backward should an accident occur to the elevating mechanism. The track on the truck is also provided with the catches E, which are arranged to securely lock the hind wheels of the car.

Fig. 2 shows another plan for elevating the cars. In place of the short ascending plane, the cars run onto the elevator-platform B′ at the terminus of each section, and are raised vertically to connect with the descending track on the next section.

The cars used in connection with this road will be bow-shaped at the front end, so as to meet with as little resistance from the atmosphere as possible. The doors will open at the rear on the side, there being no platform for passengers to stand on. The car will be controlled by suitable brake mechanism, which will permit of the car being stopped at any point. The stations will be at the terminus of each section of the road, where the motive power will be located used in elevating the cars to the adjoining section.

The supports of the elevated road-bed may be of any particular form or construction, and may be much lighter than ordinarily used, from the fact that no engine is run over the track or other weight heavier than the ordinary car.

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

1. An inclined-plane railway consisting of

a series of sections, as described, connected by a short ascending plane, forming a continuous line or road, in combination with a truck or series of trucks operated by suitable motive power, whereby the cars are transferred from the lowest point or terminus of one section to the highest point of the succeeding section, substantially as set forth.

2. In an inclined-plane railway, the combination, with the car or cars D, of the triangular truck *a*, the series of catches E, and the weights F, substantially as described.

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