

(No Model.)

B. L. RANDALL.

CAR BRAKE.

No. 302,937.

Patented Aug. 5, 1884.

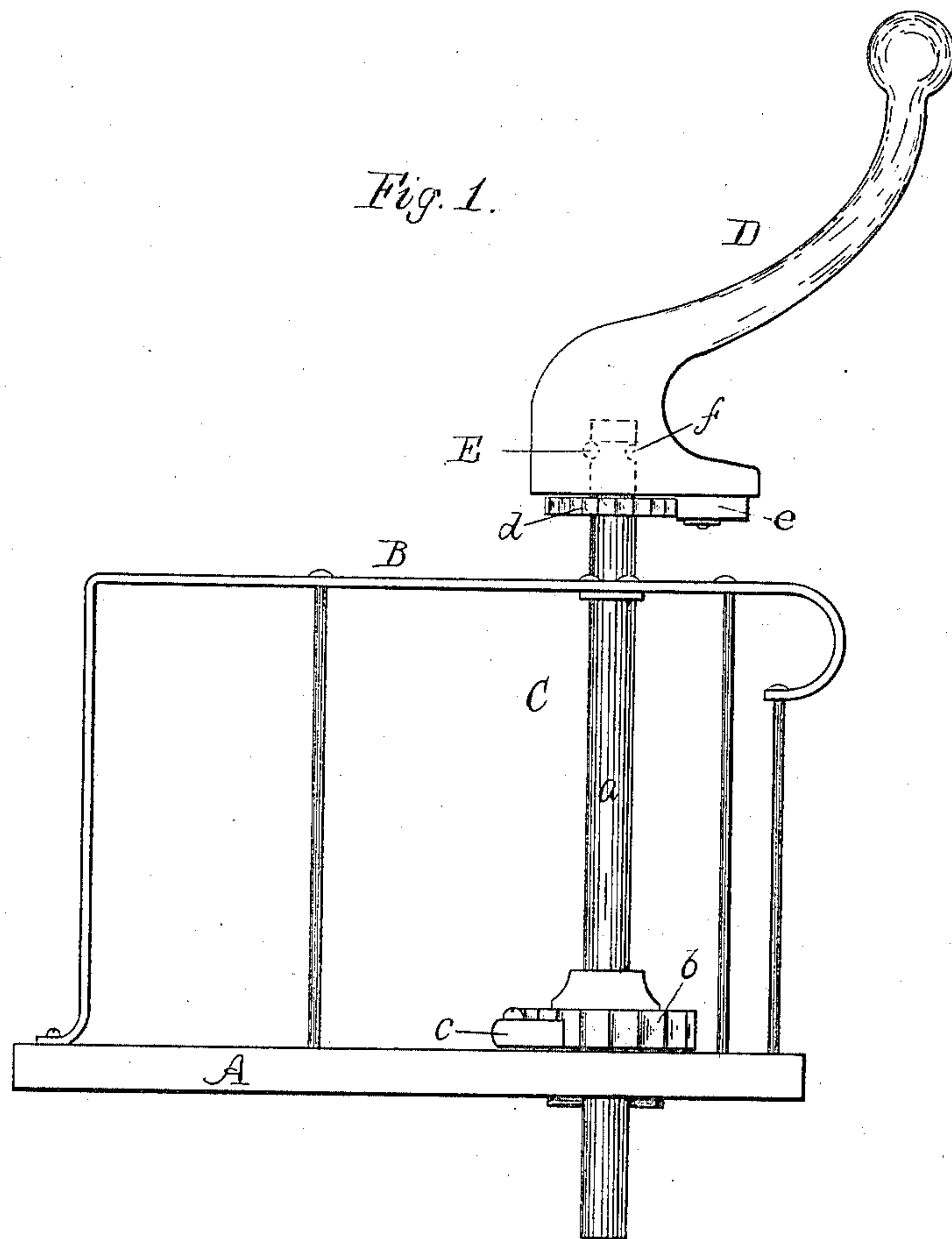
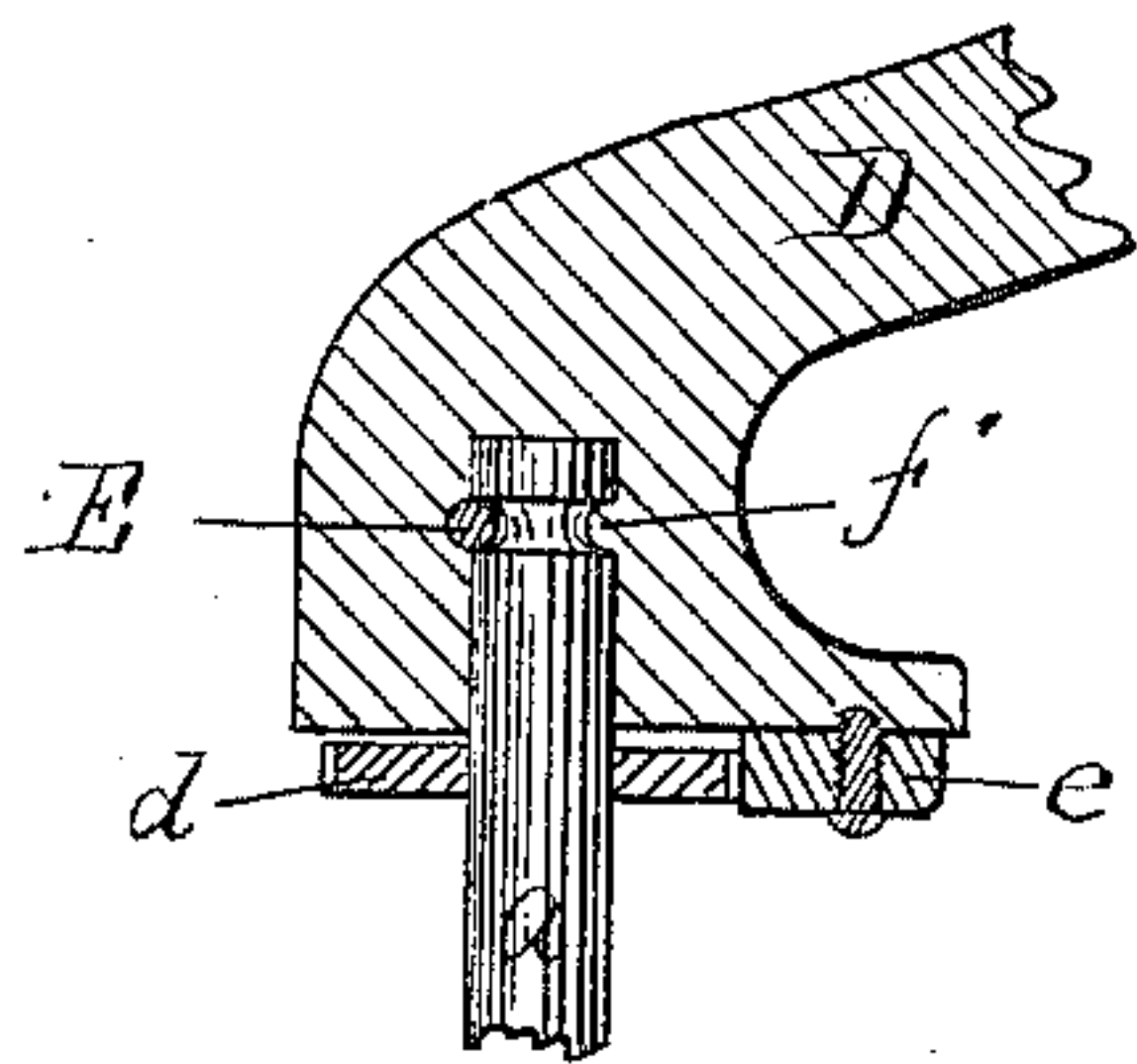


Fig. 2.



Witnesses.

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CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 302,937, dated August 5, 1884.

Application filed March 15, 1884. (No model.)

To all whom it may concern:

Be it known that I, BELLVILLE LLEWELLYN RANDALL, of a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Car-Brakes; 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 appertains to make and use the same, reference being had to the accompanying drawings, and to letters or figures of reference marked thereon, which form a part of this specification.

This invention relates to car-brakes adapted especially to street-cars, and is for the purpose of enabling the driver, in case the brake is set a certain amount and in a position ill adapted for him to exert his strength further, to shift the brake-handle without effecting the main brake-shaft into such a position that he may be able to easily exert more strength and stop the car suddenly to prevent a collision, or when any sudden cessation of motion may be desired.

The drawings accompanying this specification represent in Figure 1 a side elevation, while Fig. 2 is a vertical section of the top portion of a car-brake embodying my invention.

In these drawings, A represents the car-platform, and B the rail, to which the upper portion of the brake C is attached. This brake is of the ordinary form, and consists of the primary elements usually embodied in articles adapted for similar purposes.

a represents the brake-shaft, which extends below the platform A, and is secured to the brake-chain. This shaft has attached to its lower portion and just above the floor the usual ratchet, *b*, operating with dog *c*, while its upper extremity is further provided with a similar but much smaller ratchet, *d*, securely fastened to it, and is made operative by means of a spring-actuated dog or pawl, *e*, carried by and attached to a brake-handle, D, of the ordinary shape now generally in use. This handle D, with its pawl *e*, is attached to the brake-shaft *a* by the pin E, fitting in an annular slot, *f*, formed in the top of said brake-shaft *a*, which permits of rotation of the han-

del D upon the shaft *a*, and yet secures them together.

The operation of this device is as follows, it being understood that the dog *c* is operated, as usual, by the foot of the driver, while the upper and spring-actuated pawl, *e*, is always in engagement with the teeth of the ratchet *d*; hence this entire mechanism acts like an ordinary brake, in which the brake-shaft *a* and brake-handle D are formed integral with each other, and is to be used as such, except on special and unusual occasions.

It very often happens that when a car is descending a grade with a heavy load, or in case the track is slippery, the brake is very often set quite hard and the brake-handle D standing at right angles to the guard B. Now, in case the driver desires, from some cause, to set the brake still harder, it is very evident that the position of the handle is such that the operator's strength is applied at a very great disadvantage, and it is for the purpose of altering the position of the brake-handle without affecting the brake that I have embodied together the various parts comprising this device. When this brake-handle is in a position for the operator, as above described, keeping his foot against the dog *c*, he draws the handle D in the reverse direction from that used in setting the brake, when the pawl *e* slides over the teeth of the ratchet *d* until the handle D is in a suitable position for him to apply his strength to an advantage, when he easily sets the brake still harder. Upon desiring to let off the brake, the driver operates the device, as shown in this specification, in the ordinary manner, by simply pressing upon the handle D until the pressure of the ratchet *b* upon the dog *c* is relieved, when the dog is thrown one side and the brake suddenly let off by releasing the hand from the brake-handle D.

I am aware that brakes of a very similar character have been described and shown previously; but there have been disadvantages connected with them, such as throwing up the handle D to disengage both upper and lower pawls simultaneously to let off the brake, which have prevented their general introduction into use. The essential feature in my invention is that the whole can be used as an ordinary brake without any unusual exertion

upon the part of the driver, while the brake-handle is to be shifted at any time the operator or occasion requires.

I claim—

- 5 In a car-brake, the brake-rod *a*, provided with the ordinary pawl and ratchet, *b c*, adapted to be operated or held by the foot of the driver, the ratchet *d*, arranged at or near the upper end of said rod, and the handle *D*, which
10 has rotary motion on said rod, but is other-

wise rigid thereon, and the pawl *e*, attached to said handle and adapted to engage with said upper ratchet, substantially as set forth.

In testimony whereof I affix my signature in presence of two witnesses.

BELLVILLE LLEWELLYN RANDALL.

Witnesses:

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