

(No Model.)

F. McDERMOTT.
SAFETY AND EMERGENCY BRAKE.

No. 548,581.

Patented Oct. 22, 1895.

Fig 1

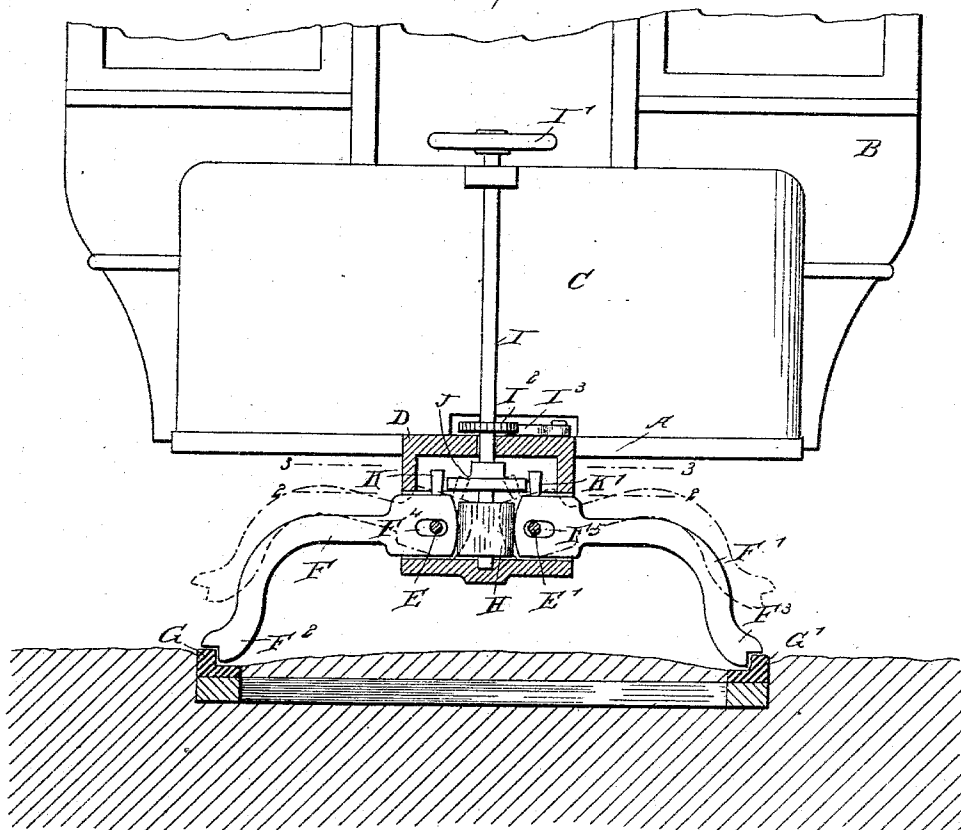
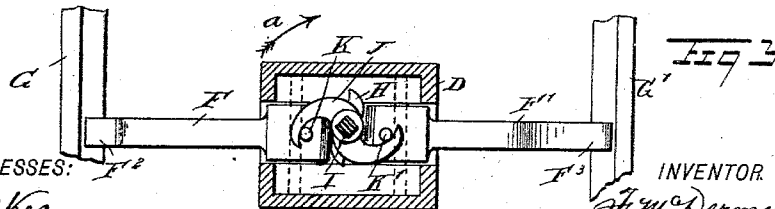
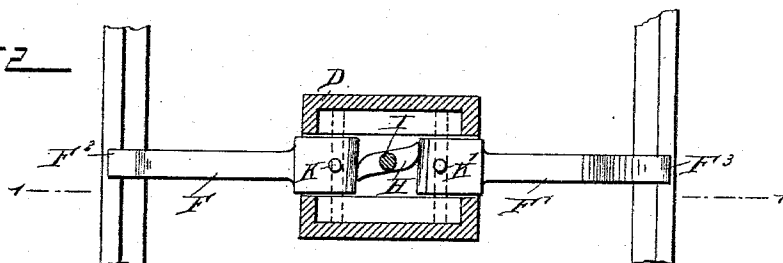


Fig 2



WITNESSES:

W. Walker

Rev. J. H. Foster

INVENTOR

F. McDermott

BY *Mum & Co*

ATTORNEYS.

UNITED STATES PATENT OFFICE.

FELIX McDERMOTT, OF WORCESTER, MASSACHUSETTS.

SAFETY AND EMERGENCY BRAKE.

SPECIFICATION forming part of Letters Patent No. 548,581, dated October 22, 1895.

Application filed May 13, 1895. Serial No. 549,146. (No model.)

To all whom it may concern:

Be it known that I, FELIX McDERMOTT, of Worcester, in the county of Worcester and State of Massachusetts, have invented a new and Improved Safety and Emergency Brake, of which the following is a full, clear, and exact description.

The object of the invention is to provide a new and improved safety and emergency brake which is simple and durable in construction, very effective in operation, and more especially designed for use on street-cars for quickly stopping the car in case of an emergency.

15 The invention consists principally of levers extending transversely and adapted to engage the rails, and a staff under the control of the operator and provided with means for holding the levers out of contact with the rails and with means for pushing the levers into braking contact with the rails.

20 The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter, and then pointed out in the claims.

25 Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

30 Figure 1 is a sectional front view of the improvement as applied and on the line 1 1 of Fig. 2. Fig. 2 is a sectional plan view of the same on the line 2 2 of Fig. 1, and Fig. 3 is a similar view of the same on the line 3 3 of Fig. 1.

35 On the platform A of the car B, and immediately under the dashboard C, is arranged a casing D, carrying the pivots E and E', on which are hung the transversely-extending brake-levers F and F', respectively, formed at their outer ends with brake-shoes F² and F³, respectively, adapted to engage the inside of the rails G and G', respectively, of the track on which the car B travels. The pivots E and E' extend through elongated slots F⁴ and F⁵ in the pivot ends of the brake-levers, as is plainly shown in Fig. 1, so that the said levers can be pushed outwardly to firmly engage the brake-shoes F² F³ with the rails G and G' to stop the car. Now in order to impart this motion to the levers F F', I provide

a cam H, (shown in Figs. 1 and 2,) held on a staff I, mounted to turn in suitable bearings on the casing D and on the dashboard C, the said staff being provided at its upper end 55 with the usual hand-wheel I', under the control of the operator, for turning the staff. The ends of the cam H are adapted to engage the pivot ends of the levers F F', so that when the staff is turned both levers are simultaneously forced outward to engage the rails. Normally, however, the said brake-levers F F' are held out of contact at their brake-shoes with the rails, and for this purpose an S-shaped cam J is employed, (see Fig. 3,) likewise secured on the brake-staff I above the cam H, and adapted to engage pins K and K', held on the top of the levers F F' at their pivot ends. Now it will be seen that the cam H and the S-shaped cam J are so arranged 70 relative to one another that when the S-shaped cam J engages the pins K K' to hold the levers F F' in an uppermost position then the cam H stands approximately longitudinal, as indicated in Fig. 3, but when the staff I is 75 turned in the direction of the arrow *a* the S-shaped cam J permits the levers F and F' to swing downward to move with their brake-shoes F² and F³ upon the rails G and G', and then upon a further turning of the staff I the cam H acts on the pivot ends of the said levers to move the latter transversely outward to make a braking contact with the shoes F² and F³ and the rails G and G'.

80 It will be seen that by having the brake-levers engage the rails in the manner described the car is brought to a standstill in a very short time.

The brake-staff I is provided with the usual ratchet-wheel I², adapted to be engaged by a 85 pawl I³ under the control of the operator to lock the brake-staff and the cams thereon in either of the positions above mentioned.

Having thus fully described my invention, I claim as new and desire to secure by Letters 95 Patent—

1. A safety and emergency brake, comprising brake levers extending transversely and mounted to swing and to slide, a staff under the control of the operator, a cam held on the 100 staff and adapted to engage the pivot ends of the said levers, to force the latter outward,

and an S-shaped cam engaging the said levers, to hold the latter in an uppermost position, substantially as shown and described.

2. The combination with a frame, of two
5 brake levers, a mounted cam co-operating with the levers and alone capable of forcing them into a braked position, and a second and mounted cam moving in unison with the first
10 cam and alone capable of returning or releasing the brake levers, substantially as described.

3. The combination of two brake levers longitudinally aligned and arranged with their inner ends adjacent, a staff, an operating cam
15 carried by the same, and a returning cam also carried by the staff, substantially as described.

4. The combination of two brake levers lon-

gitudinally aligned and having their inner ends adjacent, a staff, an operating cam thereon, an S-shaped returning cam, and a pin on
20 the inner end of each lever, substantially as described.

5. The combination of a casing having oppositely located openings therein, a pivot for each opening, a brake lever for each pivot and
25 having slots receiving the same, a staff, an operating cam carried thereby, and a returning cam also carried by the staff, substantially as described.

FELIX McDERMOTT.

Witnesses:

PETER LYNCH,
JOHN RICE.