

R. McCULLY.  
Car-Registering Apparatus.

No. 200,075.

Patented Feb. 5, 1878.

Fig. 1.

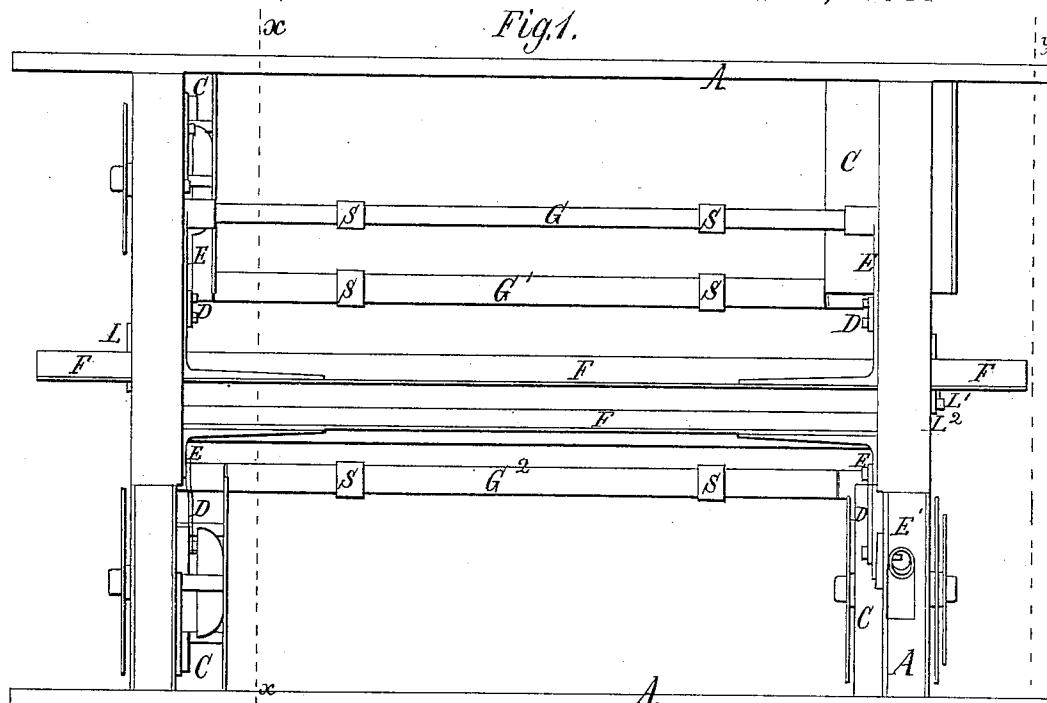


Fig. 2.

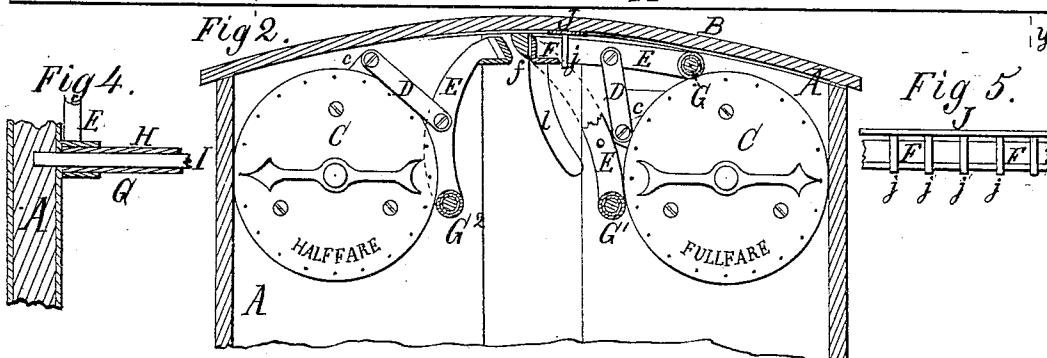


Fig. 5.



Fig. 3.

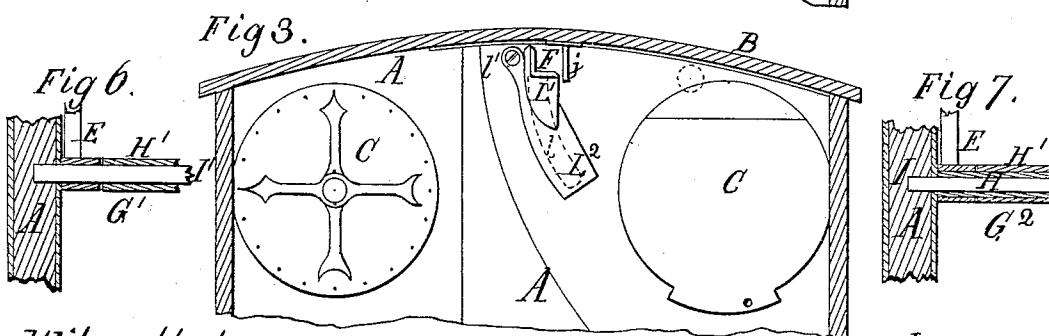


Fig. 6.

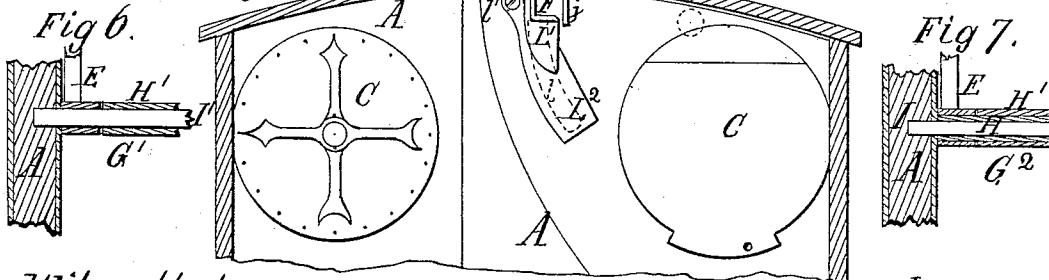
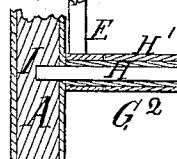


Fig. 7.



Witnesses:

James Martin Jr.  
J. P. Theodore Lang

Inventor:

Robert McCully  
by:  
Mason Fenwick Lawrence

Fig. 8 K

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Fig 9.

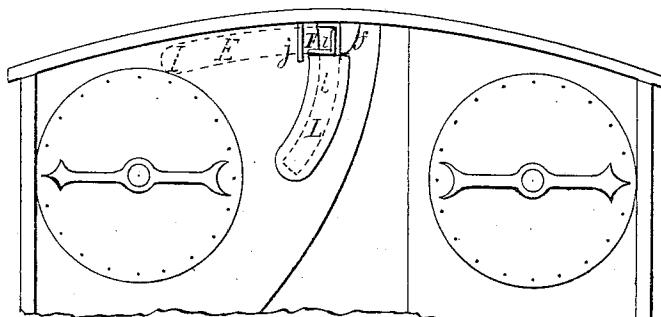


Fig 10.

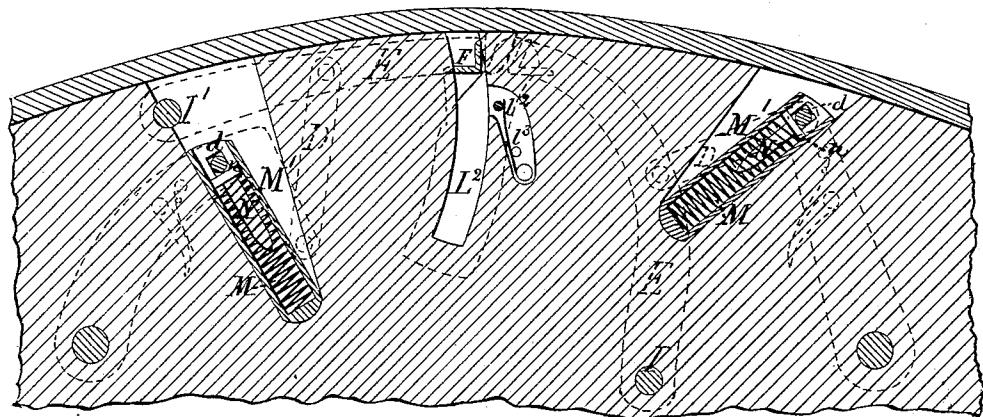
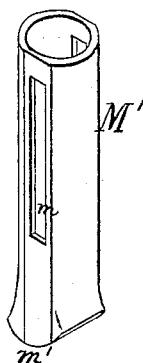


Fig 11.



Witnesses:  
James Martin Jr.  
J. P. Theodore Lang.

Inventor:  
Robert McCully  
by  
Mason, Lewis & Lawrence

# UNITED STATES PATENT OFFICE.

ROBERT McCULLY, OF PHILADELPHIA, PENNSYLVANIA.

## IMPROVEMENT IN CAR REGISTERING APPARATUS.

Specification forming part of Letters Patent No. 200,075, dated February 5, 1878; application filed May 7, 1877.

*To all whom it may concern:*

Be it known that I, ROBERT McCULLY, of the city and county of Philadelphia, and State of Pennsylvania, have invented certain new and useful Improvements in Car Registering Apparatus, which improvements are fully set forth in the following specification and accompanying drawings, in which latter—

Figure 1 is a top view of a car provided with one of my improved registering apparatuses, the main parts of which are exposed to view by having the car-roof removed. Fig. 2 is a vertical cross-section of the same in the line *x x* of Fig. 1. Fig. 3 is a vertical cross-section of the same in the line *y y* of Fig. 1. Fig. 4 is a sectional view, in detail, of the strap-rail of the car, constructed to serve as arbors of the operating mechanism. Fig. 5 is a detailed view of the swinging hand-bar used for operating my invention. Figs. 6 and 7 are modifications of the strap-rail and arbor shown in Fig. 4. Fig. 8 is a perspective view of an operating hand-tool for the use of the conductor. Fig. 9 is an end view of the car. Fig. 10 is a cross-section of the car through the center of the end wall, exposing the tension-springs of the operating-levers. Fig. 11 is a detailed perspective view of one of the tubular receptacles of the above-said tension-springs.

My invention relates to operating mechanisms for car-fare registers and alarms; and it consists of certain constructions, combinations, and arrangements of parts, hereinafter fully described and specifically claimed, whereby a car is provided with an operating mechanism of novel and simple construction and operation, and which is guarded against being interfered with by persons not authorized to manipulate it.

In the drawings, A represents the upper part of a car-body; B, the roof thereof, and C C the registering mechanisms, which latter may be suitably provided with alarm mechanisms.

The said registering mechanisms may be of any known construction which admits of their being operated by connecting-rods D from the arms E of a swinging bar, F, as hereinafter described. I make use of the usual hand or strap rails, located as at G G<sup>1</sup> G<sup>2</sup>, of the car for arbors of my operating mechanism, irrespect-

ive of their location and the location of the registers in the car. I have therefore shown one such hand or strap rail, G, close to the roof, which is one of the older arrangements, and two, G<sup>1</sup> G<sup>2</sup>, in places where they are generally fastened at the present time. The hand-rail G consists of a tube, H, which has an arm, E, permanently fastened to each end, and which oscillates around and upon a rigid center shaft, I. The hand-straps S are directly attached to the tube H; but they may be protected against premature wear upon the said tube by a suitable metal or other lining.

A connecting-rod, D, is attached to the arm E, and to the operating pawl-lever e of the registering apparatus C, and a hand rod or bar, F, connects both arms E, and extends through and beyond the end walls of the car, so that the conductor may be enabled to operate it also on the platforms outside of the car.

A longitudinal bar, f, behind the bar F protects the back of the said bar F against attempts to operate it from that side. The front of the said bar F is protected against similar attempts by a row of pins, j, in front of it, which are fastened to the roof of the car, or to a rod, J, running along the said bar. The pins j are so arranged that neither a person's finger, a cane, or an umbrella-handle, could be introduced between them to operate the bar F. The conductor is therefore supplied with an operating-tool, K, Fig. 8, which is a hook, k, suitably attached to an ordinary handle, the hook being made strong enough to easily operate the bar F when inserted between the pins j. The slot l in the end wall of the car, necessary for the swinging movement of the bar F, may be closed by a shield, L, fastened to the bar F, as seen in Fig. 9, and moving with it, or by a swinging shield, L<sup>2</sup>, which has a fulcrum, l<sup>1</sup>, on the car, and a pin, l<sup>2</sup>, upon which a spring, l<sup>3</sup>, in the end wall of the car bears, and thereby always keeps the shield L<sup>2</sup> over the slot l, as shown in Fig. 10. When the bar F is moved down it pushes the shield L<sup>2</sup> aside, and by a lap, L<sup>1</sup>, attached to its bottom it prevents the shield L<sup>2</sup> from being deflected from the car.

The strap-rails G G<sup>1</sup> G<sup>2</sup> show some slight modifications of construction without departing

from the principle of my invention,  $G^1$  consisting of an oscillating shaft,  $I'$ , to which the arms are fastened, and which is protected by a loose revolving outer tube,  $H'$ , as shown in Fig. 6, against improper operation, and  $G^2$  consisting of a rigid center shaft,  $I$ , with a fulcrum-tube,  $H$ , to which the arms  $E$  are fastened, and which is protected by a loose outer tube,  $H'$ , against improper operation, as shown in Fig. 7.

The arms  $E$  are held in their normal position by means of springs  $M$ , which are inclosed in oscillating tubes  $M'$ . One of the wrist-pins  $d$  of the connecting-rod  $D$  is elongated, and extends through an end of the car into the tube  $M'$ , inserted therein, for which purpose the tube is provided with a straight slot,  $m$ . The elongated pin  $d$  bears upon the head  $n$  of a central pin,  $N$ , which rests upon spring  $M$ . The foot  $m'$  of the tube  $M'$  is closed, and of cylindrical shape, as shown in Fig. 11, so as to form a convenient bearing upon which to rock in its bed in the end car-wall. This rocking motion is caused by the swinging movement of the pin  $d$ , and there is room provided for the extreme swing of the tube, as seen in Fig. 10.

It is immaterial if the spring  $M$  is immediately connected with the lever-arm  $E$ , or the pawl-lever of the registering apparatus, or their connecting-rod, and, therefore, I prefer to put the spring  $M$  in the most suitable place at first, and then attach the pin  $d$  to the most convenient part of the said levers or connecting-rod.

Having described my invention, what I

claim as new, and desire to secure by Letters Patent, is—

1. In a car or other vehicle, the combination of alarm and registering mechanisms, having their own independent fulcra, with a mechanism which operates the same, and has as its fulcrum the usual hand-rail or strap-rail of the car, substantially as set forth.

2. The combination of the swinging operating-bar  $F$  and the guard-pins  $j$ , substantially as set forth.

3. The combination of the swinging operating-bar  $F$  and the guard-bar  $f$ , substantially as set forth.

4. The combination of the extended swinging operating-bar  $F$ , the slot  $l$ , and a shield for closing the slot, substantially as described.

5. The combination of the bar  $F$ , extended beyond the ends of the car, the lap  $L^1$ , and the swinging shield  $L^2$ , substantially as set forth.

6. The combination of the oscillating slotted tube  $M'$ , spring  $M$ , and the pin  $d$  of the operating mechanism, substantially as set forth.

7. The combination of the arbor  $I$ , having a tube,  $H$ , and the arms  $E$ , substantially as set forth.

8. The tubular spring-case  $M'$ , having parallel slots  $m$ , and a cylindrical bearing,  $m'$ , at the bottom, substantially as set forth.

Witness my hand, in the matter of my application for a patent for a car-registering apparatus, this 23d day of April, 1877.

ROBERT McCULLY.

Witnesses:

Wm. M. McKNIGHT,  
CHAS. LUKENS.