2 Sheets—Sheet 1.

J. H. BROWN & J. GOODFELLOW.

PASSENGER-REGISTER.

No. 183,119. Patented Oct. 10, 1876.

Fig. 1.

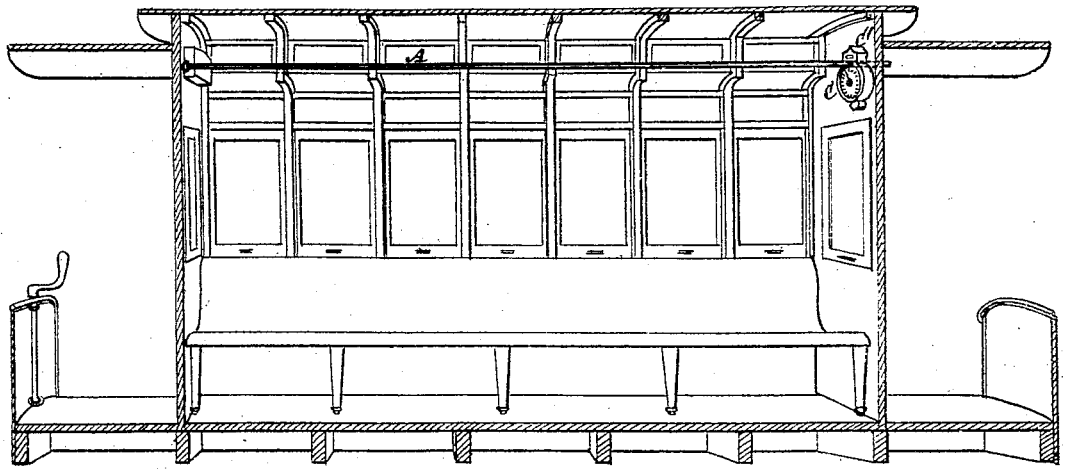
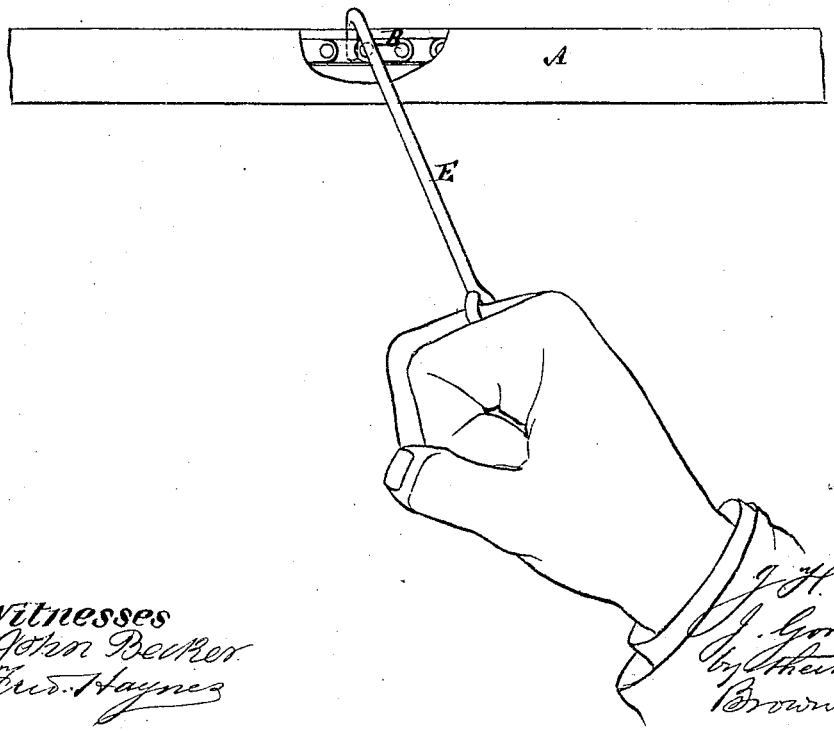


Fig. 6.



Witnesses
John Becker
Fred. Haynes

J. H. Brown
J. Goodfellow
by their Attorneys
Brown & Allen

JAMES R. OSGOOD & CO. BOSTON.

2 Sheets—Sheet 2.

J. H. BROWN & J. GOODFELLOW.

PASSENGER-REGISTER.

No. 183,119. Patented Oct. 10, 1876.

Fig. 2.

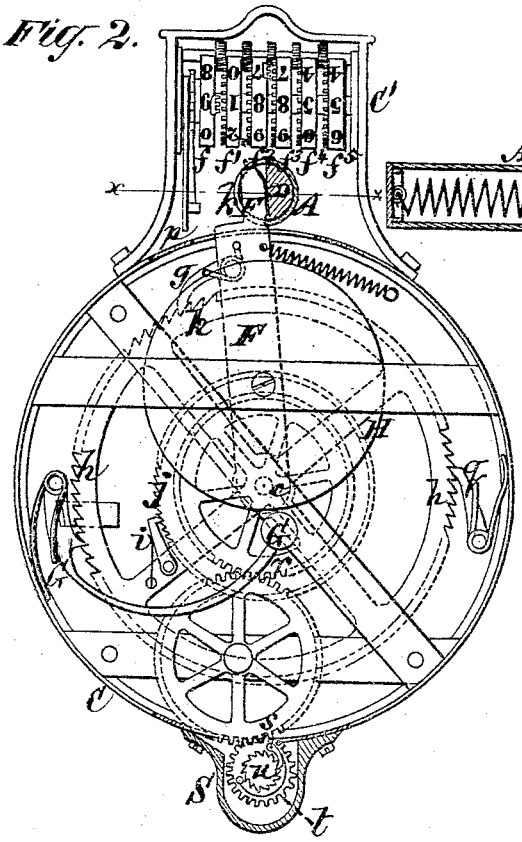


Fig. 3.

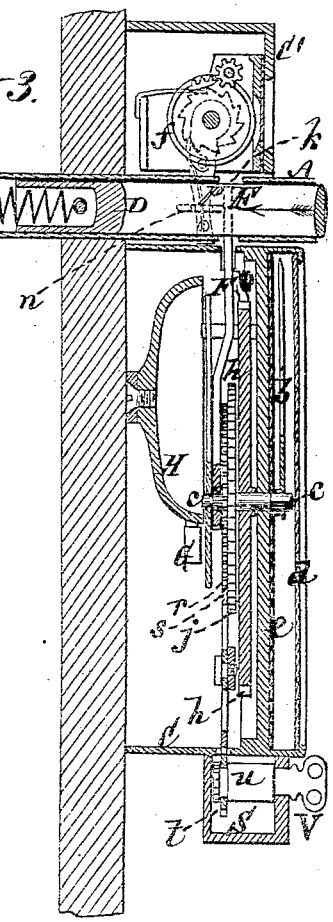


Fig. 5.

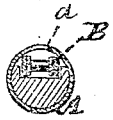
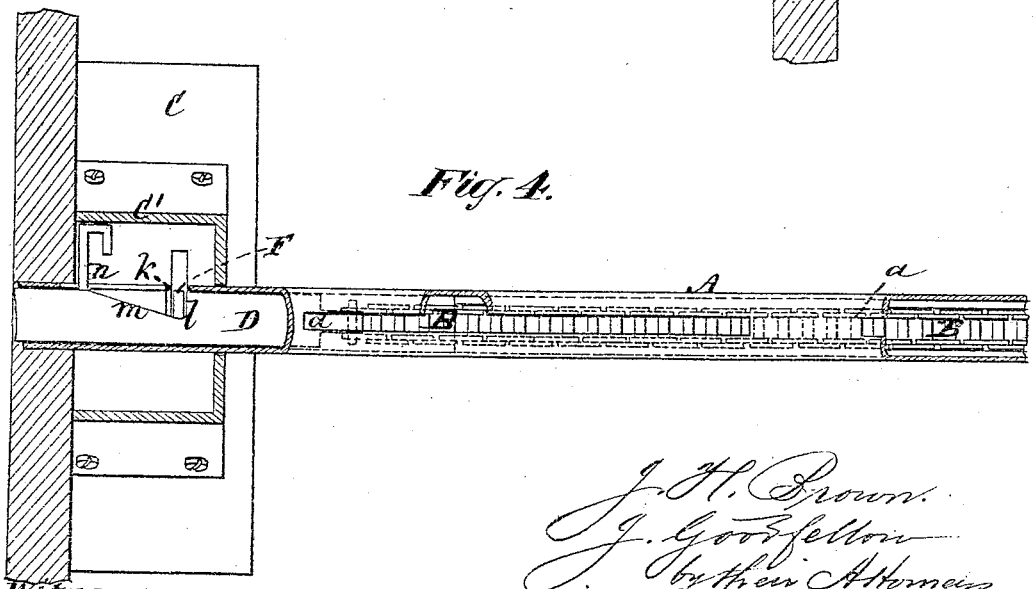


Fig. 4.



Witnesses
John Becker.
Fred Haynes

J. H. Brown.
J. Goodfellow
by their Attorneys
Brown & Allen

UNITED STATES PATENT OFFICE.

JOHN H. BROWN, OF BROOKLYN, AND JAMES GOODFELLOW, OF NEW YORK, N. Y.; SAID J. H. BROWN ASSIGNOR TO SAID JAMES GOODFELLOW.

IMPROVEMENT IN PASSENGER-REGISTERS.

Specification forming part of Letters Patent No. **183,119**, dated October 10, 1876; application filed September 9, 1876.

To all whom it may concern:

Be it known that we, JOHN H. BROWN, of the city of Brooklyn, in the county of Kings and State of New York, and JAMES GOODFELLOW, of the city, county, and State of New York, have jointly invented certain Improvements in Passenger-Registers; and we do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawing, which forms part of this specification.

This invention relates to new and useful improvements in apparatus for registering the number of passengers entering cars, and for other similar purposes, in which consecutive numbers are to be recorded—as, for instance, the number of payments made by persons entering places of public amusement; but it is more especially designed to be used, and will here be described accordingly, for recording the number of fares taken from passengers while riding in or upon street-cars, or other public vehicles.

One part of the invention pertains to the registering mechanism, including a dial, index, and counter to be operated by the conductor or person having control of the apparatus, and consists in certain novel constructions and combinations of parts or devices, whereby not only perfect accuracy is obtained, and the indicator and counter are prevented from being set backward or being tampered with, but a lock is geared with the index, so that the latter can only be set with a special key.

Another part of the invention applies to the means for operating the indicator and counter from various points or distances, as has heretofore been done by cords or pull or push rods, which, when applied to a car, run throughout the length of it. This part of the invention consists in a chain or flexible rack, combined with and arranged within a slotted tube, which protects said rack alike from injury, and from being accidentally or surreptitiously operated, but which admits of the ready insertion of a hook through the slot in the tube, and between any of the links or sections of the chain or flexible rack at any convenient point in the length of the latter, for the purpose of operating the registering apparatus, with which said chain or rack is connected and combined at its one end, and so that a simple end movement of the chain or rack actuates the index. The flexibility of the operating rack or chain provides for the free movement of the latter within the slotted tube which protects it.

Figure 1 represents a view, in perspective, of a street-railroad car with our invention applied. Fig. 2 is a back view upon a larger scale of the indicating and counting apparatus. Fig. 3 is an axial section of the same. Fig. 4 is a top view of part of the slotted tube, partly in section, exposing the chain or flexible rack; also, showing a section of the indicator and counter-case, with a bolt attached to the rack or chain for working the indicator and counter. Fig. 5 shows a transverse section of said tube and chain or flexible rack; Fig. 6, a longitudinal view of the tube, in part, with a detachable hook applied to a flexible rack contained therein for drawing said rack lengthwise to operate the registering apparatus.

The indicator and counter are placed at one end of the car, and there is arranged, along the whole length of the car, in the upper part thereof, a fixed tube, A, secured in hangers, and containing a chain or flexible rack, B, which is the actuating means of the indicator, and is operated through a slot, *a a*, extending along the top, bottom, or either side of the tube, by a detachable hook, E, carried by the conductor, and which may be held or controlled by the middle finger of either hand. This hook the conductor inserts through the slot *a a* in the tube, within or between any of the links or sections of the chain or flexible rack B, and pulls the chain lengthwise to operate the indicator and counter. The slotted tube alike protects the chain or rack from injury, and from being surreptitiously or accidentally operated, and the flexibility of the chain or rack insures for it a free movement within the tube.

The indicator-finger *b*, Fig. 3, is fast on the center spindle *c*, and inclosed in the case C C′, inside a glass, *d*, and indicates on the dial *e*, up to any number desired—say 50, more or less. The counter consists of a series of

wheels, $f\ f^1\ f^2$, &c., having on their peripheries units, tens, &c., to count up to any number, and is inclosed in the upper part C′ of the case C C′. The dial index-finger *b* is worked by a lever, F, which is loose on the center spindle *c*, and carries a pawl, *g*, that operates on a ratchet-wheel, *h*, which is also loose on the index-spindle. This wheel *h* carries a spring-pawl, *i*, which engages with a smaller ratchet-wheel, *j*, fast on the index or central spindle, and which therefore only allows the index-spindle to turn one way, and does not permit it to be turned back. The pawl-lever F passes through a slot, *k*, cut transversely in that part of the tube A which passes through the case C C′, and the said lever enters a notch, *l m*, (see Fig. 4,) in a bolt, D, which is arranged within the said tube A, and which is connected with the chain or flexible rack B. The face *m* of the notch *l m* is inclined, and forms a wedge to act upon a pawl-lever, F, and move it aside to make its pawl move the ratchet-wheel *h* one tooth, and so move the index *b* one point on the dial, when the conductor by his hook E moves the chain or rack B and its bolt lengthwise. The bolt D, together with the chain or flexible rack B, is returned or pushed back by a spring, P, in the tube A, (see Fig. 3,) when the conductor removes his hook E. The returning spring might be variously applied to the flexible rack or chain. The bolt D, actuated by the chain and conductor's hook, as described, carries a hooked arm, *n*, Figs. 3 and 4, which operates on a pawl-lever, *p*, for actuating the counting and registering wheels $f\ f^1\ f^2$, &c. The apparatus should have a bell, H, combined with it. The hammer G of this bell may be variously operated, as for instance, by the ratchet-wheel *h*, and so that every time said ratchet-wheel operates to move the dial-index *b*, one of its teeth actuates the hammer to strike the bell. The ratchet-wheel *h* is prevented from moving back by a spring stop-pawl, *g*, Fig. 2. Fast on the index-spindle *c* is a spur-gear, *r*, which is geared by an intermediate spur-gear, *s*, with a spur-gear, *t*, on the spindle *u* of a "yale" or other lock, S. This lock cannot be turned or worked by the conductor, but is under the control of a suitable inspector, who, by means of a key, V, at the end of each trip, or at any time, turns the lock-spindle, and so sets the index or finger *b*. The lock-spindle *u* has a ratchet and pawl, which prevents it being turned backward.

The flexible rack B may be variously constructed; thus, instead of being formed with metallic links, as shown in the drawing, it might be a leather strap perforated at frequent points throughout its length, and the perforations protected by metallic eyelets for the hook E to engage with.

We claim—

1. The combination of the longitudinally-operating chain or flexible rack B, and its slotted inclosing-tube A, with a registering apparatus or mechanism, for operation by a portable or detached hook applied to the rack or chain, substantially as specified.

2. The combination of the bolt D, having a wedge-shaped slot, *l m*, the lever F loose on the index-spindle *c*, and provided with a pawl, *g*, the ratchet-wheel *h* also loose on the spindle *c*, and provided with a pawl, *i*, and the ratchet wheel *j*, fast on the index-spindle *c*, essentially as described.

3. The spring-pawl *g*, in combination with the loose ratchet-wheel *h*, the pawl *i*, and the ratchet-wheel *j* fast on the index-spindle *c*, substantially as specified.

4. The combination, with the index, of a lock in gear therewith, whereby the index can only be set by a key fitting said lock, essentially as described.

5. The combination, with the lock-spindle *u* restrained from turning in a back direction, of the spur-gears *t s*, and the gear *r* fast on the index-spindle *c*, substantially as specified.

In testimony whereof we have signed this specification this 30th day of August, 1876, in presence of two subscribing witnesses.

JOHN HAMILTON BROWN.
JAMES GOODFELLOW.

Witnesses:
BENJAMIN W. HOFFMAN,
EDWARD B. SPERRY.