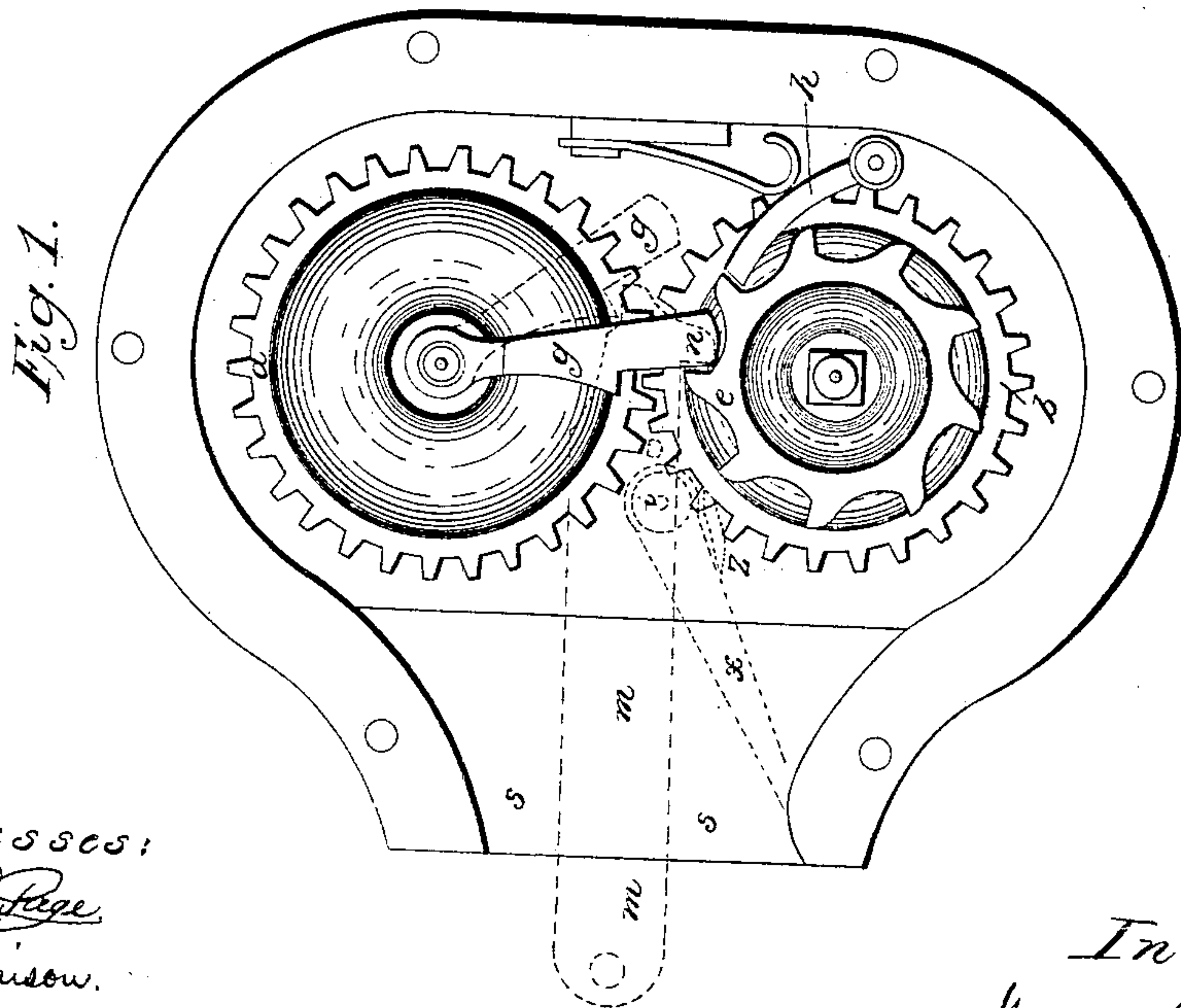
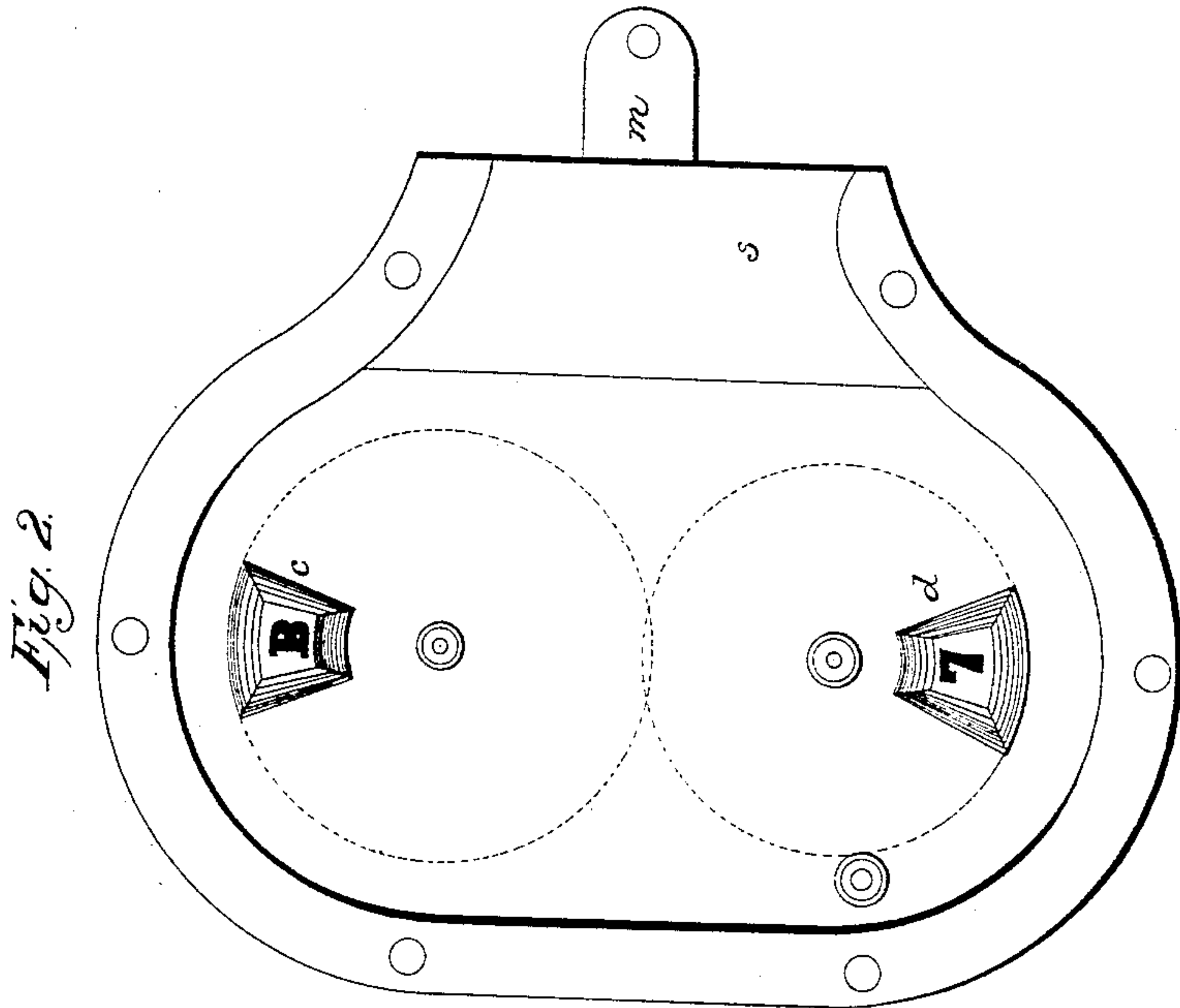


W. C. SMITH.
Register for Car Seat.

No. 23,791.

Patented Apr. 26, 1859.



Witnesses:
Chas. J. Page
Wm. H. Harrison.

Inventor:
Walter C. Smith.

UNITED STATES PATENT OFFICE.

WALTER C. SMITH, OF GEORGETOWN, DISTRICT OF COLUMBIA.

IMPROVED DETECTIVE REGISTER FOR DOORS OF RAILROAD-CARS.

Specification forming part of Letters Patent No. **23,791**, dated April 26, 1859.

To all whom it may concern:

Be it known that I, WALTER C. SMITH, of Georgetown, in the District of Columbia, have invented a Registering-Seal for Detecting the Opening and Shutting of Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description of the principle or character which distinguishes it from all other things before known, and of the usual manner of making, modifying, and using the same, reference being had to the accompanying drawings, of which—

Figure 1 is an interior view of the seal, showing the mechanism by which the registering is effected; and Fig. 2, an outside front view of the seal, showing the openings through which the registrations are read.

My invention consists in a certain combination of devices forming what I denominate a "registering-seal" for indicating the number of times and places where the doors of freight-cars have been opened, the construction and operation of which are as follows:

Within a box of cast-iron I mount two index-wheels *a b*, geared together, the wheel *a* having greater diameter than wheel *b*. Upon the front faces of these wheels are arranged letters and numbers, the letters being upon the wheel *a* and the numbers upon wheel *b*. On wheel *a* are ten letters and on wheel *b* are nine numbers, and as the wheels revolve together the numbers and letters are presented in succession at the openings *c d* in the front side of the box. There being nine numbers and ten letters, they are so arranged that it would require ten revolutions of wheel *b* to present any two of the letters and numbers at the openings together a second time. For instance, if A and 1 are presented on the start A and 2 will be presented on the completion of a revolution, and so on, *b* gaining on *a* until, after ten revolutions, A and 1 are presented together again. On the same axis with wheel *b* is a ratchet-wheel *e*, which turns with it. *m* is a bar of iron, which is called the "key" or "latch" of the seal, and this bar has upon one end a catch *n*, which when slipped over one tooth of the ratchet *m* and drawn back will move the wheel one step or division and present at each successive movement the nine numbers in succession, the number of ratchet-teeth corresponding to the nine numbers on the face of the wheel. The

ratchet is prevented from being pushed backward by the dog *h*.

Upon the axis of wheel *a* there is hung loosely a dog *g*, which prevents the forward motion of both wheels, except when this dog is lifted away from the ratchet by the key, and when the key is drawn out and made one step or movement of the ratchet and index wheel *b* the dog *g* falls into the ratchet-gear and checks the forward motion of both wheels, and of course as wheel *b* is held by the dog *h* wheel *a* is also held from backward movement, it being geared to *b*. Now the purpose and operation of this combination are as follows: The box is attached to the side of the car and the key or latch is pivoted to the door, the position of the box being such that the dogs *g* and *h* shall fall into place by their own weight. When the key is pushed through opening *s* in the box, as it is when the doors are closed, the end of the key pushes up the dog *g*, and the catch *n* slips over a tooth of the ratchet and there rests until the doors are opened again, when the catch draws the ratchet forward one step, and so on at each repetition of opening and shutting the doors, and each step presenting a new combination at the index-openings *c d*, and from the foregoing description it will now appear that ninety such steps or movements are requisite to bring about a repetition of any one combination of numbers and letters.

In order to direct the key in its back-and-forth movements, there is a movable inclined bar *x*, pivoted at *i* to the back side of the box, its free end resting upon the wall of the opening *s*, as seen in the drawings. Upon the key is a projecting stud-pin *w*, which, on entering the key, rides upon the inclined bar and directs the end of the key over the ratchet-tooth, and on withdrawing the key, its inner end having dropped a little, the pin passes out under the inner end of the inclined bar and over the guide piece or ledge *z*, and thus keeps the key down upon the ratchet until the movement has been completed. The purpose of this registering-instrument is to indicate to proper officers on the railroad routes at what times and places the cars have been opened. For instance, the car being closed at the starting, the person in charge notes on the way-bill the visible combination of the seal. The visible combination is noted at each station, and thus by comparing notes

the number of times of opening and closing up to ninety is known, and the place also, or between what two stations. A person acquainted with the operation would hardly venture or have opportunity to open and shut ninety times to return the combination he started with, and, if necessary, upon the same principles the combination may be extended further than in this present application without altering the character of my invention.

What I claim as my invention is—
The detection of the opening and closing of car-doors by means of the latch or key, in combination with the two index or registering wheels, operated substantially as herein set forth.

WALTER C. SMITH.

Witnesses:

CHAS. G. PAGE,
WM. N. MORRISON.