(No Model.) 2 Sheets—Sheet 1.

W. SIMPSON & J. GEORGE.

SEAL LOCK.

No. 481,206. Patented Aug. 23, 1892.

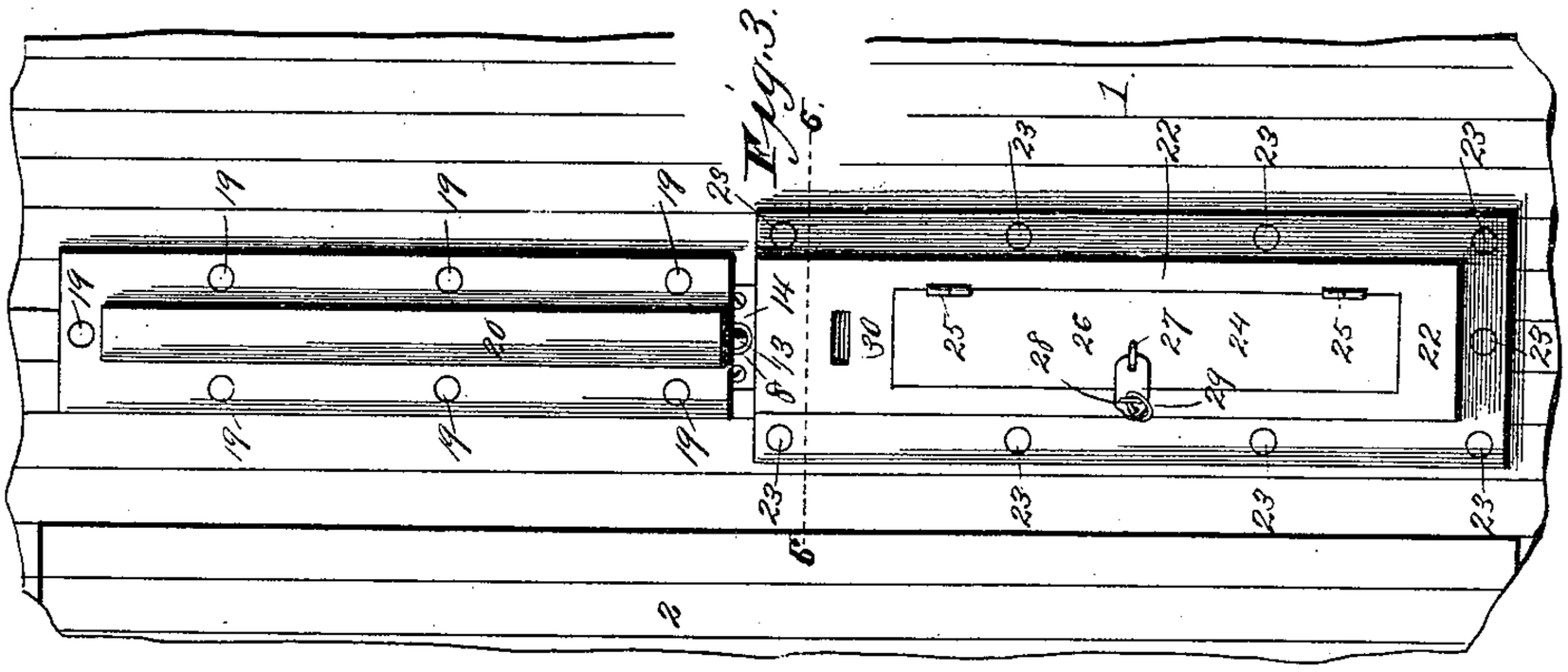

Fig. 3.

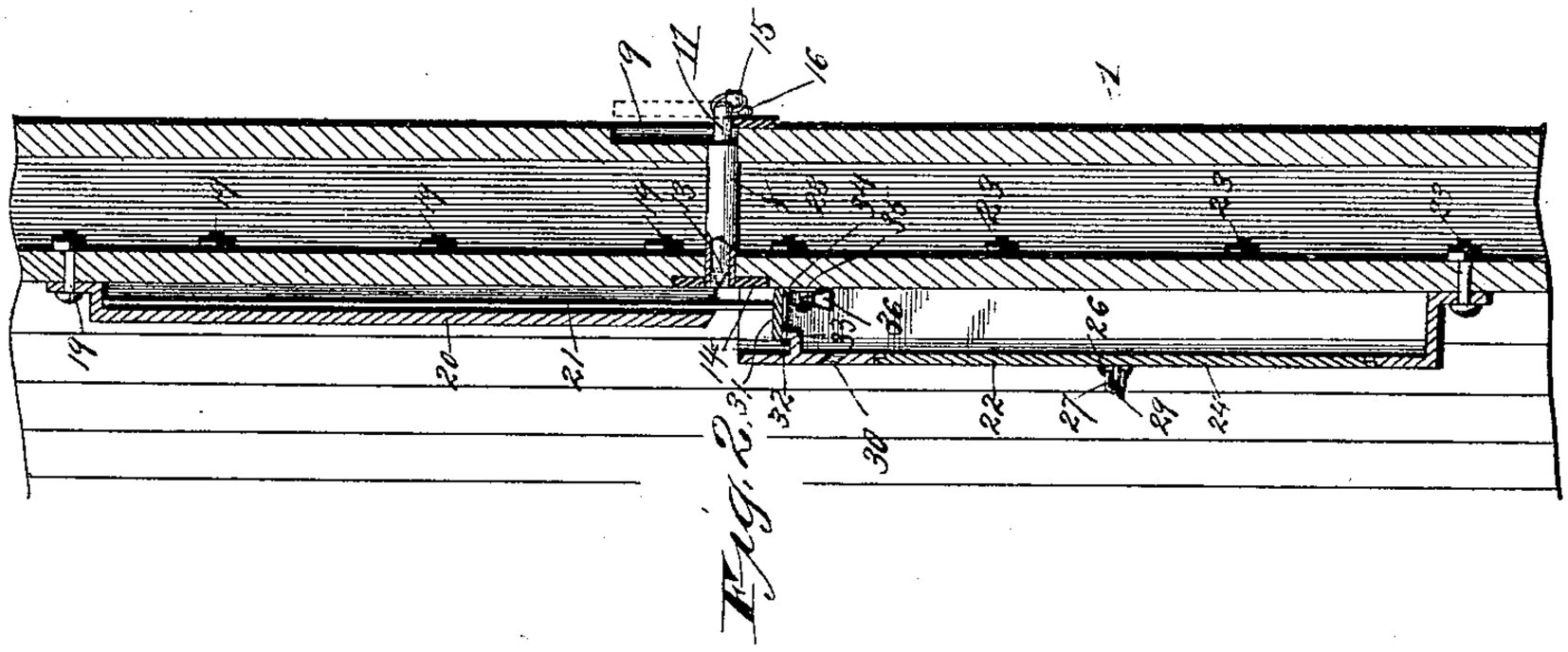

Fig. 2.

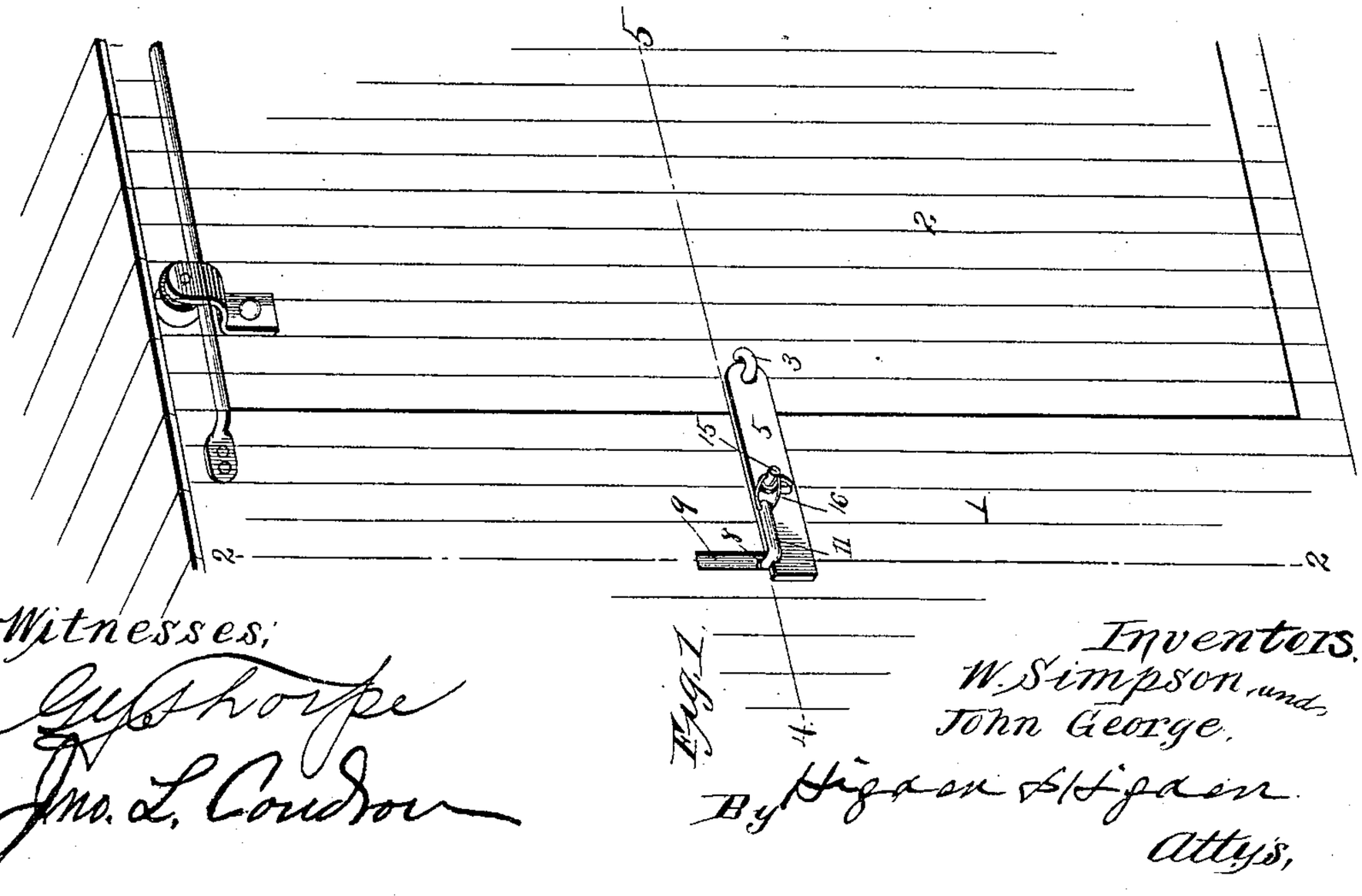

Fig. 1.

Witnesses;
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Jno. L. Condon

Inventors.
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John George.
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Attys.

(No Model.)

2 Sheets—Sheet 2.

W. SIMPSON & J. GEORGE.

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Fig. 6.

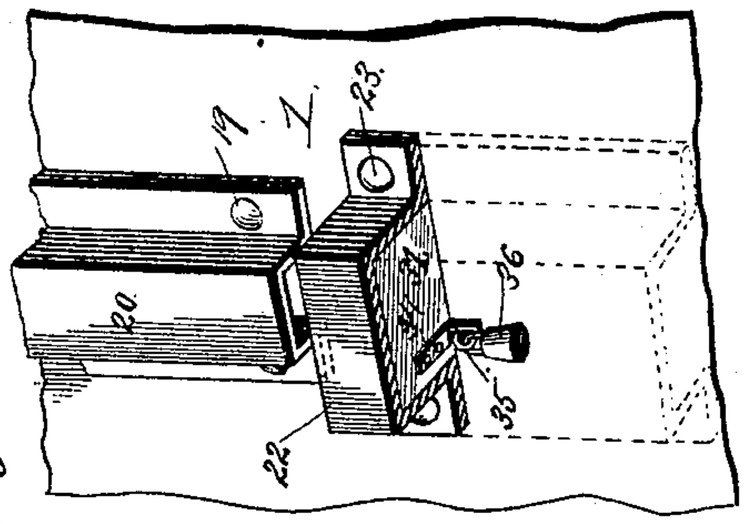


Fig. 11.

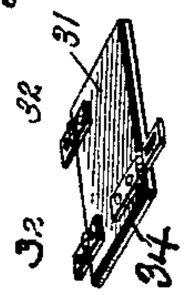


Fig. 10.

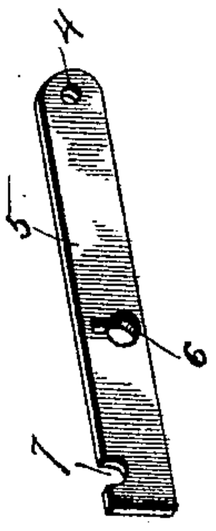


Fig. 12.

Fig. 9.

Fig. 4.

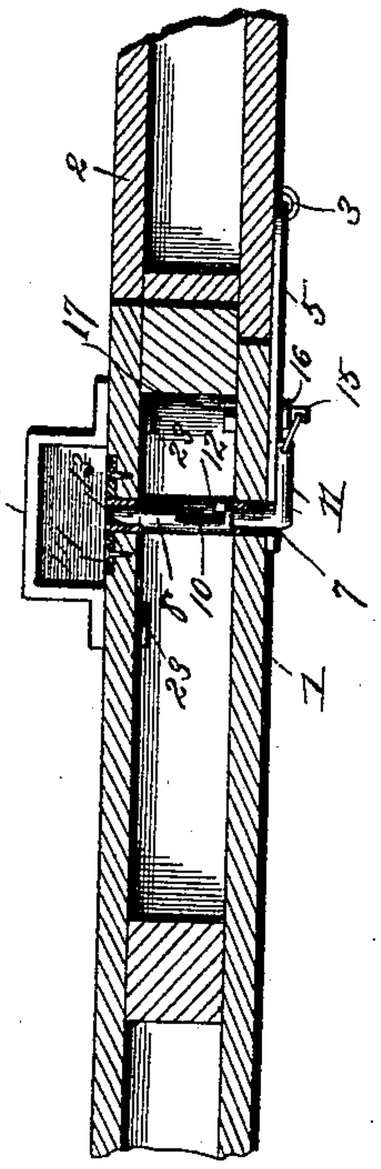


Fig. 5.

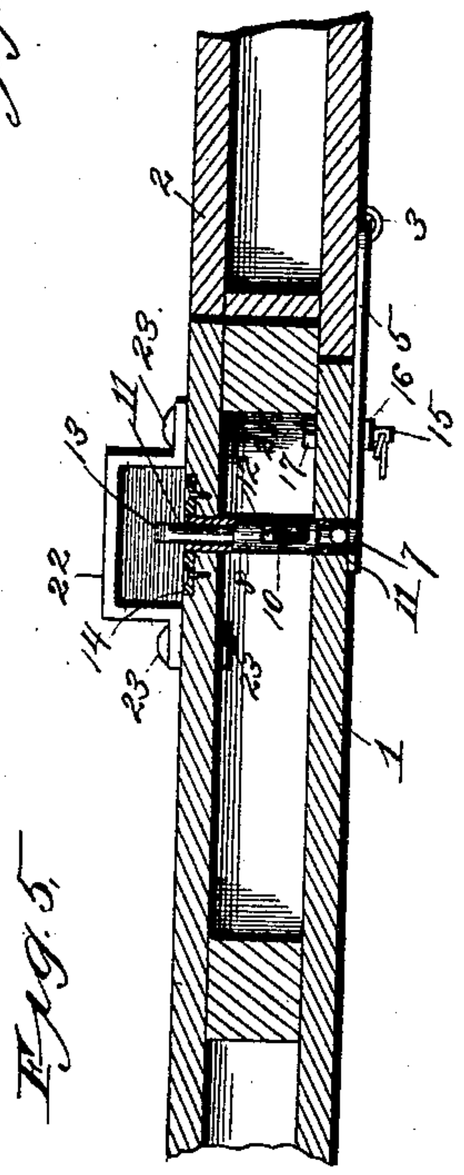


Fig. 8.

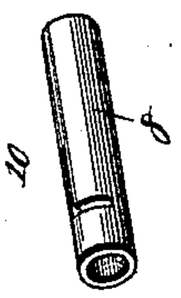


Fig. 7.

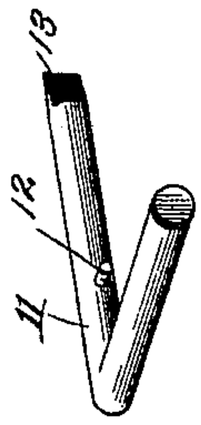


Fig. 13.

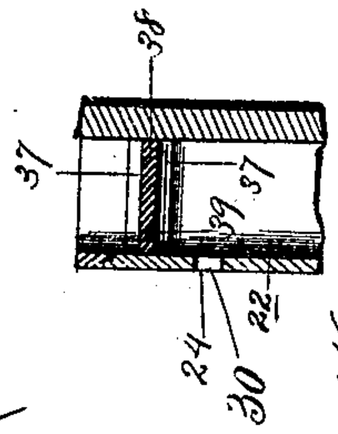
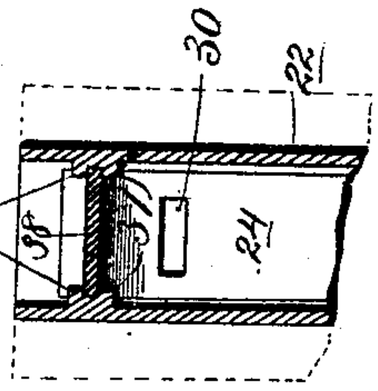


Fig. 14.



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UNITED STATES PATENT OFFICE.

WASHINGTON SIMPSON, OF ARGENTINE, KANSAS, AND JOHN GEORGE, OF ST. JOSEPH, MISSOURI.

SEAL-LOCK.

SPECIFICATION forming part of Letters Patent No. 481,206, dated August 23, 1892.

Application filed February 8, 1892. Serial No. 420,776. (No model.)

To all whom it may concern:

Be it known that we, WASHINGTON SIMPSON, residing at Argentine, Wyandotte county, Kansas, and JOHN GEORGE, residing at St. Joseph, Buchanan county, Missouri, have invented certain new and useful Improvements in Car-Seal Registers, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming a part hereof.

Our invention relates to that class of railway appliances which are employed for sealing the doors of freight-cars of all kinds, in order to prevent unauthorized persons from opening such doors and entering the cars or tampering with the goods in said cars.

The objects of our invention are to produce means which shall be simple, strong, durable, and inexpensive in construction and adapted for application to freight-cars of all kinds and which shall operate to indicate the localities at which the car-doors have been opened and whether such opening of the doors was accomplished by properly-authorized persons or by persons not authorized to open the doors.

To the above purposes our invention consists in certain peculiar and novel features of construction and arrangement, as hereinafter described and claimed.

In order that our invention may be fully understood, we will proceed to describe it with reference to the accompanying drawings, in which—

Figure 1 is a perspective view of the outer part of a freight-car and one of its doors with our car-seal register applied thereto. Fig. 2 is a transverse vertical section of the same on the line 2 2 of Fig. 1. Fig. 3 is an inner side elevation of the same. Fig. 4 is a horizontal section of the same on the line 4 5 of Fig. 1, the locking and severing bar being in its normal position. Fig. 5 is a similar sectional view of the same on the said line 4 5 of Fig. 1, the locking and severing bar being thrust inward and its outer end turned upward. Fig. 6 is an inner side perspective view of a car with certain of the seal-registering devices applied thereto, the receptacle for the registering strips or leads being shown in horizontal section on the line 6 6 of Fig. 3. Fig. 7 is a detached perspective view of the locking and severing bar. Fig. 8 is a detached perspective view of the slotted sleeve for the locking and severing bar. Fig. 9 is a detached perspective view of the locking-pin for the car-door and its retaining-nut. Fig. 10 is a detached perspective view of the hasp of the car-door. Fig. 11 is a detached perspective view of the hinged lid or partition for the strip or lead receptacle. Fig. 12 is a detached perspective view of one of the indicating or registering strips. Fig. 13 is a transverse vertical section of a modified form of receptacle. Fig. 14 is a similar section of the same on a plane at right angles to the plane of section of Fig. 13.

Previous to our present invention much expense and annoyance have been borne by railway companies owing to the breaking of the seals of freight-cars and the tampering with the goods in said cars, and it has heretofore been very difficult to locate the point on the road where such breaking and entry of the cars occurred. As will be seen from the ensuing description, we have devised means whereby these objections and defects are entirely avoided and whereby a sealed car-door cannot be opened without the fact of such opening quickly becoming known and the locality where the breaking of the seal occurred being likewise indicated. Thus, as will also be seen from the ensuing description, robberies of the cars can be quickly detected and the location of the robberies readily ascertained, so that the trail of the offenders can be speedily found and followed.

Referring now to the accompanying drawings, 1 designates a portion of a freight-car, and 2 one of the car-doors of the same. The freight-car 1 is shown as having double walls, such as are usual in refrigerator-cars and similar cars, and also in certain types of box-cars, and the door 2 is also shown as of double thickness. It is to be understood, however, that the walls or sides of the car may be of but a single thickness of material, as may also the door, without departing from the essential spirit of our invention, and it is to be further understood that our invention is designed to be applied to box-cars, refrigerator-cars, fruit-cars, and, in fact, all types of cars which are intended for the transportation of

goods. The door 2 is shown as located at the side of the car-body, and this is the door to which our improvements will usually be applied; but it is to be further understood that the said improvements are applicable to end doors or to doors located in any part of the car, as desired.

As shown in the drawings, 3 designates a suitable staple, which is driven into the outer side of the car-door 2 near its closing edge and one arm or leg of which extends through an opening 4 in a hasp 5. This hasp is of elongated and flat form and is formed at a point near its middle with an inverted key-hole-slot 6. and also in its upper edge with a semicircular recess 7, which is located adjacent to the opposite end of the hasp from that through which the opening 4 is formed. Through a horizontal opening which extends transversely through the wall or side of the car adjacent to the closing edge of the door-opening is inserted a cylindrical sleeve 8, which is of such length as to extend almost completely through the wall or side of the car, the inner end of said sleeve being flush with the inner surface of the side of the car and the outer end of said sleeve being flush with the inner surface of a vertical groove or recess 9, which is formed in the outer surface of the side of the car. In its upper side, near its front end, this sleeve is formed with an L-shaped slot 10, the body or main portion of which extends longitudinally of the sleeve 8 and the front part of which extends transversely of the sleeve and at right angles from the front end of the body portion of the slot. Through this sleeve 8 extends the locking and severing bar 11, which is of L shape and the outer portion of which extends at right angles from the inner or body portion of the bar, and consequently parallel with the side of the car. The inner or body portion of the bar is of cylindrical form to fit within the sleeve 8, so as to turn easily therein, and said body portion is of somewhat greater length than the said sleeve. Near its outer end the body portion of the bar 11 is provided with a radially-disposed stud or lug 12, which extends in the same direction as the outer part or arm of the bar 11 and parallel therewith, as shown. The inner extremity of the bar 11 is formed with a knife-edge 13, which extends transversely of the longitudinal axis of the bar and transversely to the plane of the outer portion or arm of the bar, as is best shown in Fig. 7. A wear-plate 14 is preferably screwed or otherwise suitably secured to the inner surface of the side of the car adjacent to the point occupied by the inner end of the sleeve 8, and this plate has an opening, through which the inner end of the locking and severing bar 11 moves, as hereinafter described.

15 designates a bolt, which extends transversely through the side of the car and the inner end of which is externally screw-threaded to receive a retaining-nut 17, as shown. The outer portion of the bolt is formed with an annular flange or shoulder 16, which abuts against the outer surface of the side of the car, the said shoulder or flange and the nut thus retaining the bolt 15 in its required position. At a point just within that occupied by the shoulder or flange 16 the outer end portion of the bolt 15 is formed with a reduced and flat transverse portion 18, which is designed to enter the extension of the key-hole-slot 6 of the hasp 5 above referred to and as hereinafter explained.

Upon the inner side of the car-body 1, at a point immediately above that occupied by the inner end of the severing-bolt 11, is located a guide-casing 20, which is placed vertically and which is of approximately U shape in cross-section, a number of bolts 19 passing through outwardly-extending longitudinal flanges of the casing and also through the adjacent side of the car-body and serving to retain the guide-casing in its described position. This guide-casing 20 is closed at its upper end (a bolt 19 also passing through a flange at such point) and is open at its lower end for a purpose to be hereinafter explained. Immediately below the guide-casing 20 is located a vertical receptacle 22, which is closed at its lower end and which is also of approximately U form in cross-section, suitable bolts 23 passing through the side and lower end flanges of the receptacle and into the corresponding side of the car-body and serving to retain the receptacle in its described position. The front of this receptacle is provided with a door 24, which is secured in position by any suitable number of hinges 25, of the usual or any preferred form, and the door 24 is retained normally in closed position by a suitable hasp 27 engaging a staple 28, and secured by a suitable seal 29, as shown. In the upper part of the front of the receptacle 22 is formed a slot 30 for a purpose to be hereinafter explained.

31 designates a lid or partition, which is preferably of rectangular form and of such dimensions as to close the upper part of the receptacle 22 when in closed position. This lid or partition is shown in the figures as attached to the front wall of the receptacle by two hinges 32, which are preferably secured to the under side of the lid or partition 31 and to the upper side of a cleat 33, which is located horizontally upon the upper part of the inner side of the front wall of receptacle 22. To the under side of this lid or partition 31, near the inner margin thereof, is secured a hasp 34, through the inner slotted portion of which extends a staple 35, the said staple being driven into the adjacent part of the wall or side of the car. A suitable padlock 36 is in this instance used for securing the hasp to the staple, and thus locking the lid or partition in closed position.

In Figs. 13 and 14 we have shown a modified form of the partition whereby we are enabled to dispense with the lock 36 and in which the door 24 serves not only to close the

front of the receptacle 22, but also to retain the partition in closed condition. In this instance the receptacle 22 is in all respects precisely similar in construction to the receptacle 22 previously described, excepting that the door-opening extends higher up than before, said door-opening extending to or nearly to the top of the receptacle, or, in any event, above the point occupied by the partition. Four horizontal cleats 37 are arranged in two pairs upon the inner surfaces of the opposite sides of the receptacle, said cleats extending from front to rear of the receptacle. The partition 38, which corresponds in function to the lid or partition 31, is in this instance a slide, which is similar in form to the said lid or partition 31 and which works between the two pairs of cleats 37. The partition 38 occupies such a position that when the door 24 is closed said door shall come into contact with the front margin of the partition 38, and thus retain said partition in closed position. On its under side this partition is preferably provided with a notch 39 or an equivalent device to which the finger can be applied to draw the partition forward and open the top of the receptacle 22 after the door 24 has been opened. In this instance the slot 30 is formed in the upper part of the door 24, as shown, at a point beneath the partition 38.

The leads or strips 21, which are employed in indicating or registering the opening of the car-door, are of lead, type-metal, or any other suitable metal or composition of metals or of any other material suitable to the purposes for which the strips are intended. Each of these strips is of elongated form and is divided into attached sections by a suitable number of transverse notches or scores 40, (see Fig. 12,) and each of these divisions is designated by a numeral, as shown, which is either stamped or otherwise placed upon the section.

The operation of our improved seal-register above described is as follows: When the car has been loaded, its doors are closed and the hasps 5 are placed in the position shown in Fig. 1, the bolt 15 passing through the upper narrow part of the keyhole-slot of each hasp and the annular shoulder 16 of the bolt overlapping the margins of the said narrow part of the slot. The locking and severing bars are drawn outward and turned laterally, so as to bring their studs 12 into the outer laterally-extending portions of the slots 10 and so, also, as to bring the outer ends of said bars into horizontal position, the outer ends of the body portion of the bars resting in the recesses 7 of the hasps 5. A suitable seal 16 is now passed through the outer extremity of each bar 11 and also through the outer end of the corresponding bolt 15, so as to seal the car. The partition 31 or 38 is closed, the doors 24 being also closed and sealed by their seals 29, and a strip 21 is placed in the casing 20, with its lower end resting upon the partition 31 or 38. In order to place these strips in this position, it is necessary before closing the doors 24 of the receptacles 22 to open the partition 31 or 38 and to lift each strip upward through the upper end of the receptacle 22, the partition being then closed and the door 24 being subsequently locked and sealed, as previously stated. Now when the car-door is to be opened the agent or other authorized person first breaks the seal 16 on that side of the car which is toward the station-building and then raises the outer end of the bar 11 into vertical position. This brings the stud 12 into register with the outer end of the longitudinal portion of the slot 10 of the sleeve 8. The bar 11 is now forced inward, causing the body portion of the bar to first pass inward out of the recess 7 of the hasp 5 and at the same time causing the knife-edge 13 at the inner end of the bar 11 to come into contact with the strip or lead 21 transversely of the same and to sever the lower section of the strip or lead 21 from the upper part of the same. The hasp 5 may now be raised and disengaged from the bolt 15 and the door opened and the agent or other authorized person can enter the car. After entering the car such person finds the severed portion of the strip or lead lying upon the partition 31 or 38 and punches or stamps the number of the station upon the severed section of the strip, and then drops such severed section into the receptacle 22 through the slot 30. Thus the station at which the car-door was opened is indicated by the severed section in the receptacle, and the door may be again closed and sealed, and every subsequent opening of the door will sever another section from the strip. If an unauthorized person open the door, he will also sever a section from the strip, and if he throw such section away its disappearance from the receptacle will be detected, or if he drop the severed section into the receptacle its lack of the stamped number of the station will immediately be noticed. It will be seen that it is impossible to open the door without severing one of the sections, because the bar 11 must be forced inward in order to permit the hasp 5 to be raised, and this inward movement cannot be made without severing a section from the strip.

While we have described the devices as applied to but one door, it is obvious that they are to be applied to all of the doors of the car, and from the above description it will be seen that we have produced a car-seal register which is simple, durable, and inexpensive in construction and adapted for application to cars of all kinds. It will be further seen that we have produced a car-seal register which absolutely prevents all possibility of opening the car-doors without registering or indicating the station at which the doors were opened and whether such doors were opened by an authorized or an unauthorized person.

Having thus described our invention, what we claim as new therein, and desire to secure by Letters Patent, is—

1. A car-seal register comprising a car-body and a car-door mounted movably upon said car-body, a hasp for retaining the door in closed position, and an oscillatory and longitudinally-movable bar, the outer end of said bar serving to retain the door in locked position and the inner end of the bar serving to sever an indicating-strip, substantially as set forth.

2. A car-seal indicator comprising a bar movable axially to unlock the car-door and also movable longitudinally to sever an indicating-strip and a guide-casing for the indicating-strip located above the severing end of the bar and located also within the car-body, substantially as set forth.

3. A car-seal indicator comprising a movable locking and severing bar working in the car-body, a guide-casing for the indicating-strips secured to the car-body above the severing end of the bar, and a receptacle for the severed strip-sections separate from the guide-casing and secured to the car-body below the severing end of the bar and below the guide-casing, the unlocking movement of the bar serving to sever the strip, substantially as set forth.

4. A car-seal indicator comprising a tubular sleeve located in the car-body and having an angular slot, a locking and severing bar of L form having its body portion provided with a radial stud to work in said slot, a guide-casing for an indicating-strip, and a receptacle for severed portions of said strip separate from the guide-casing and located oppositely from the point of location of said casing relative to the severing end of the bar, substantially as set forth.

5. A car-seal register comprising a hasp having a keyhole-slot, an L-shaped severing and locking bar working in the car-body and engaging a recess in the hasp, and a bolt having a flattened portion and an annular shoulder and designed to be connected at its outer end to the outer end of the locking and severing bar by a suitable seal, substantially as set forth.

6. A car-seal register comprising a receptacle for the severed indicating-strip sections, said receptacle being provided at its upper part with an internal movable partition for closing and opening said upper part of the receptacle, substantially as set forth.

7. A car-seal register comprising a receptacle for the severed indicating-strip sections, said receptacle being provided at its upper part with a sliding partition for opening and closing said upper part of the receptacle and provided, also, at its front with a door which when closed comes into contact with the outer margin of the partition and retains said partition in closed position, substantially as set forth.

8. A car-seal register comprising a receptacle for severed indicating-strip sections, a movable partition mounted in the upper part of the receptacle and arranged to open and close said part of the receptacle, and a slot formed in the upper part of the receptacle and below the partition, substantially as set forth.

9. A car-seal register comprising a vertical guide-casing for the indicating-strips, said casing being secured to the inner surface of the car and being also closed at its top and open at its bottom, and a longitudinally-movable severing-bar mounted in the car-body and working below the open bottom of the casing, substantially as set forth.

10. A car-seal indicator comprising a locking and severing arm of L shape and having its inner end provided with a knife-edge, a hasp-pin, and a seal connected to the pin and to the outer end of the severing-arm, substantially as set forth.

In testimony whereof we affix our signatures in the presence of two witnesses.

WASHINGTON SIMPSON.
JOHN GEORGE.

Witnesses:
JNO. L. CONDRON,
H. E. PRICE.