

No. 776,928.

PATENTED DEC. 6, 1904.

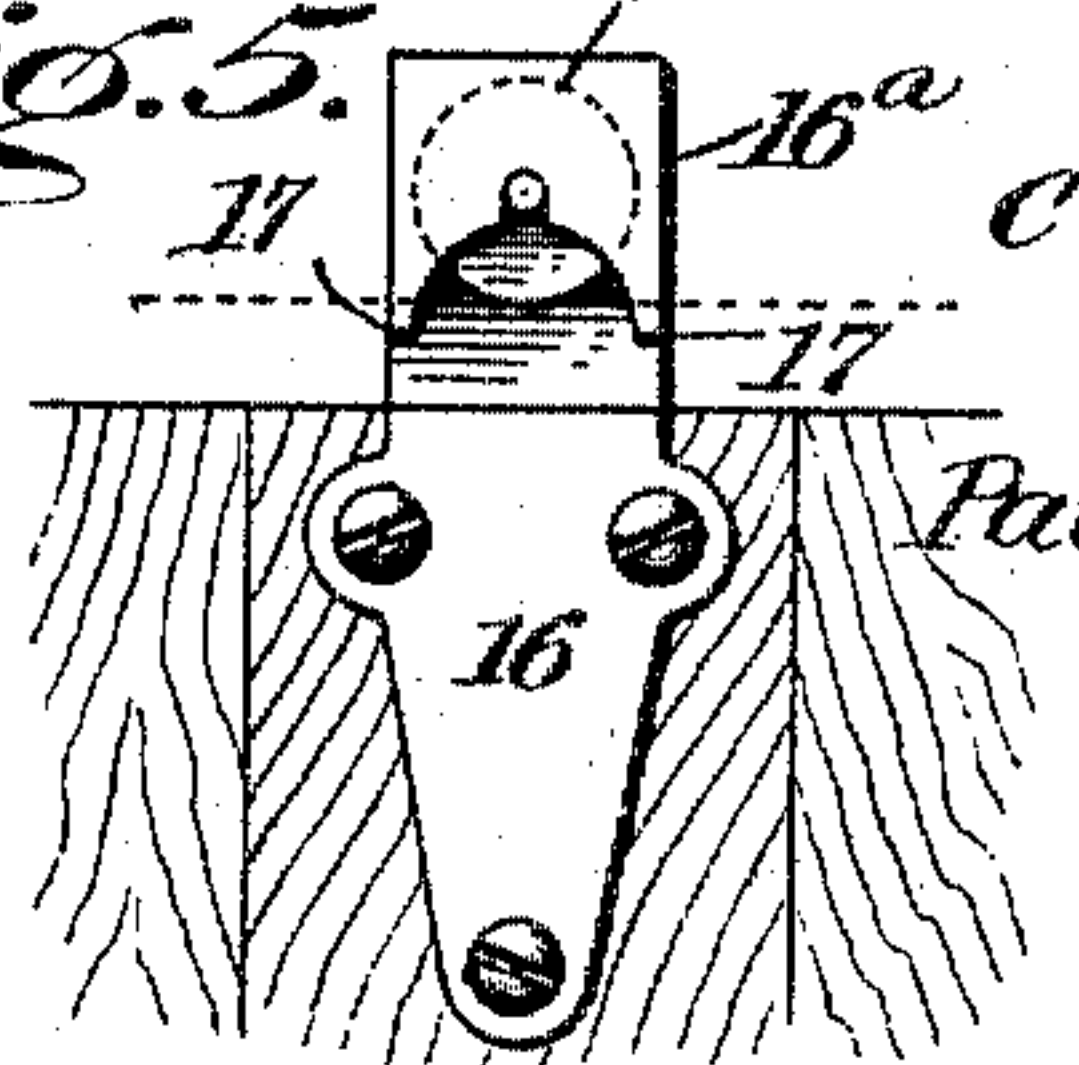
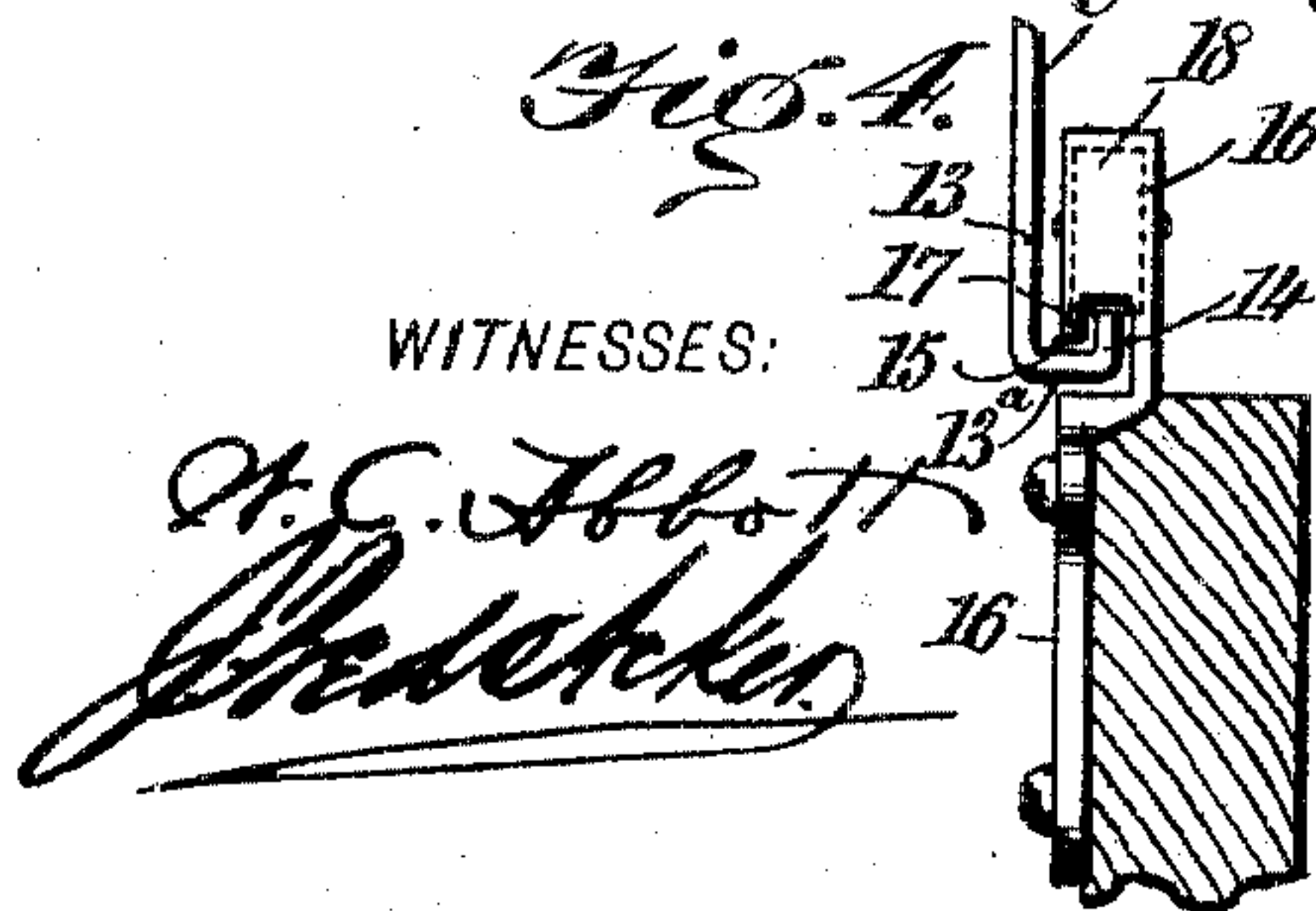
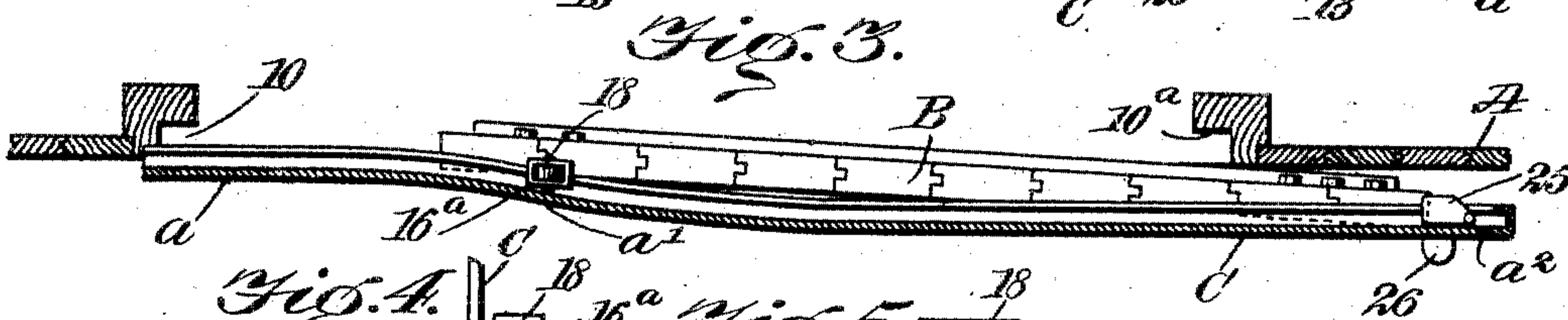
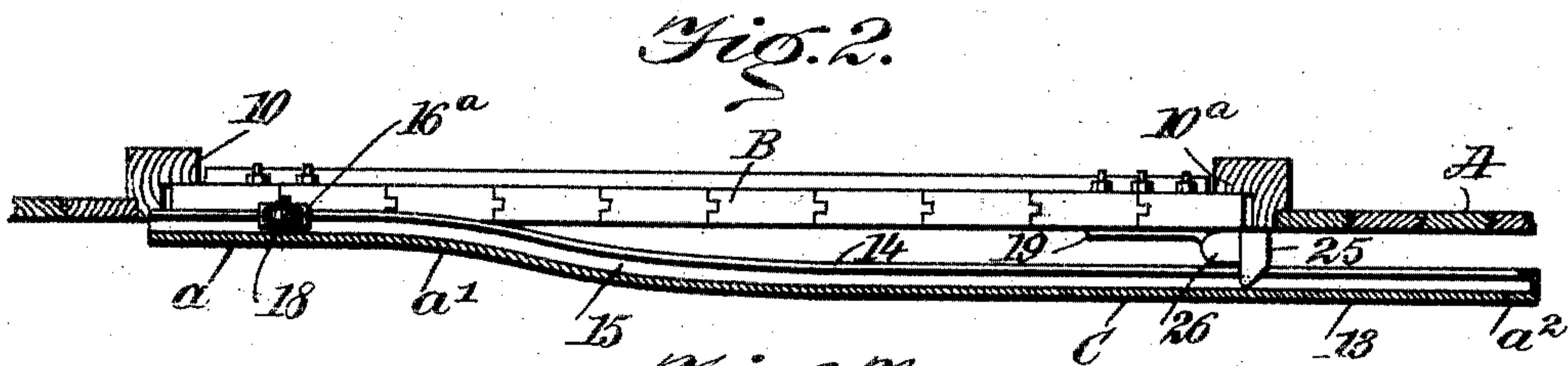
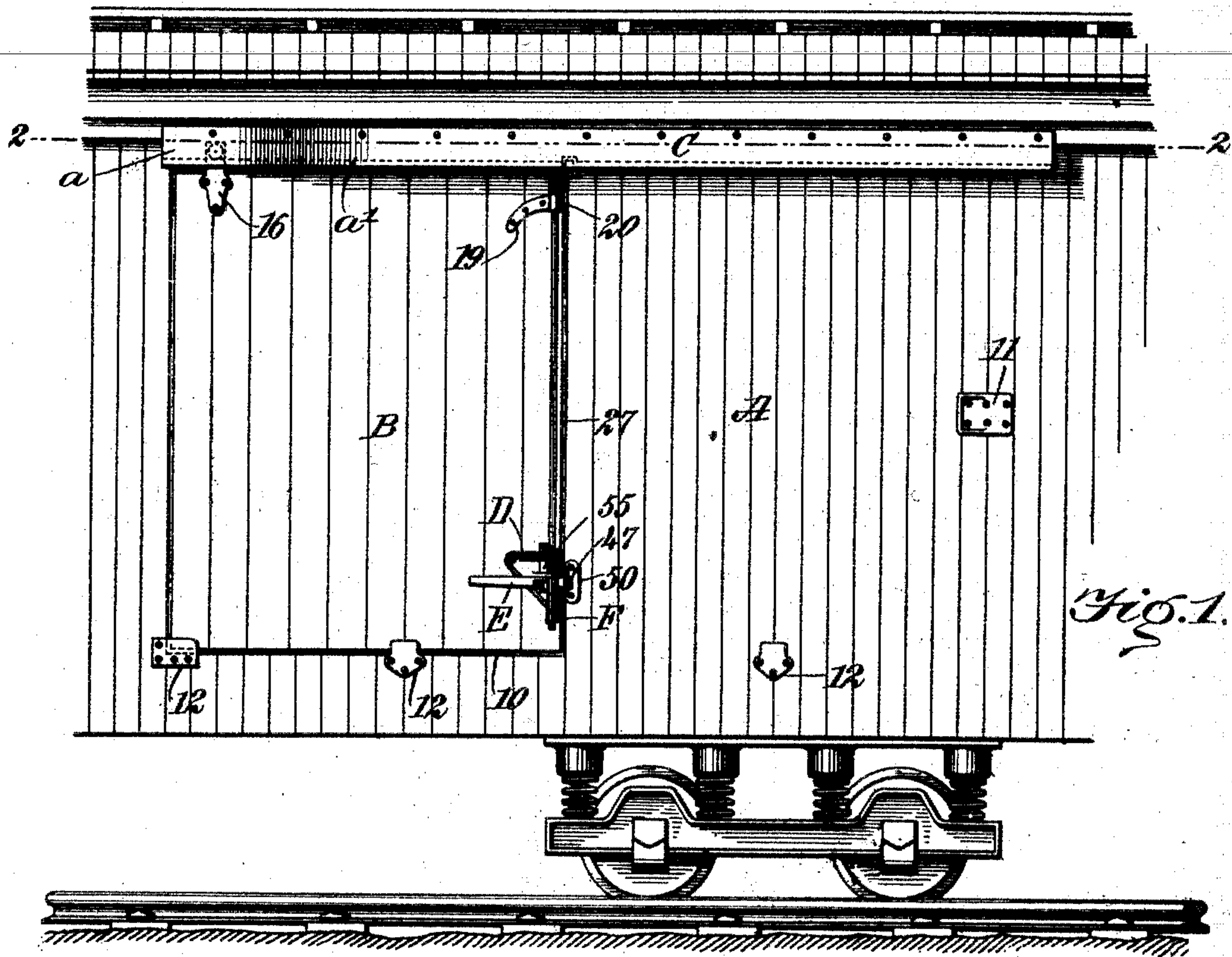
P. J. McCULLOUGH.

DEVICE FOR HANGING AND OPERATING CAR DOORS.

APPLICATION FILED JULY 28, 1903.

NO MODEL.

2 SHEETS—SHEET 1.



WITNESSES:

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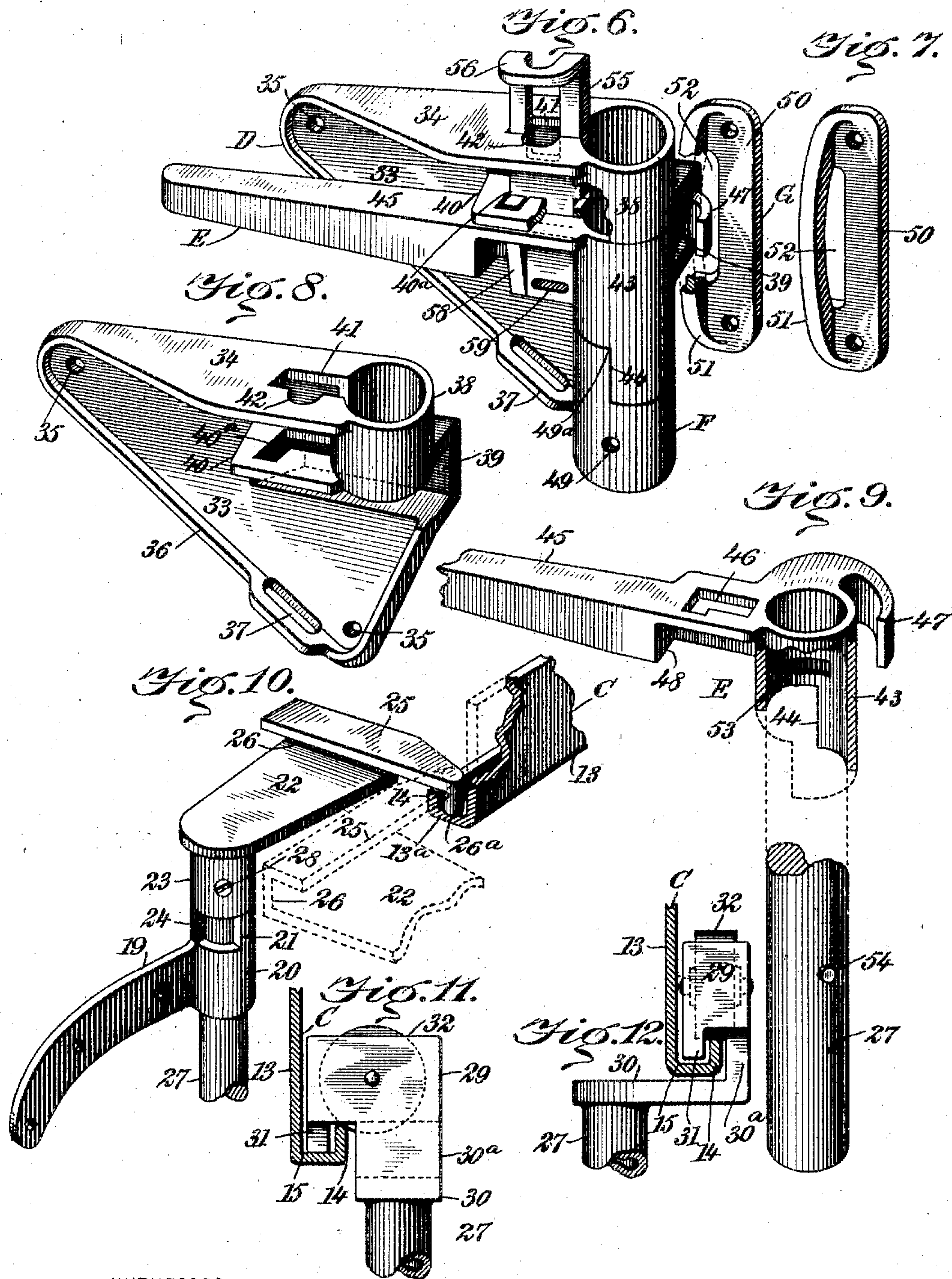
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2 SHEETS—SHEET 2.



WITNESSES:

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# UNITED STATES PATENT OFFICE.

PAUL J. McCULLOUGH, OF ST. LOUIS, MISSOURI, ASSIGNOR OF TWO-THIRDS TO EDWARD S. MARSHALL, OF ST. LOUIS, MISSOURI.

## DEVICE FOR HANGING AND OPERATING CAR-DOORS.

SPECIFICATION forming part of Letters Patent No. 776,928, dated December 6, 1904.

Application filed July 28, 1903. Serial No. 167,280. (No model.)

*To all whom it may concern:*

Be it known that I, PAUL J. McCULLOUGH, a citizen of the United States, and a resident of St. Louis, in the State of Missouri, have  
5 invented new and Improved Devices for Hanging and Operating Car-Doors, of which the following is a full, clear, and exact description.

My invention relates to an improvement in  
10 devices for hanging and operating car-doors, particularly flush doors for freight-cars.

The purpose of the invention is to provide a device of the character mentioned which will be simple, durable, and economic, readily  
15 applied, and conveniently operated.

Another purpose of the invention is to provide a means controlled by a single lever for locking and unlocking the door and placing the door in and out of closing position and  
20 also to provide an auxiliary locking device capable of being used at will and which is independent of the lever, but serves to lock the lever against movement when the door is closed.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth, and pointed  
25 out in the claims.

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

Figure 1 is a partial side elevation of a car, the door being supported by the improved devices and shown closed and locked. Fig. 2 is  
35 a horizontal section practically on the line 2-2 of Fig. 1, the door being flush with the outer side of the car. Fig. 3 is a similar section to that shown in Fig. 2, being taken  
40 on the same line, but the door is shown carried at and supported beyond the outer side of the car. Fig. 4 is a section through the upper portion of the door, an edge view of the forward hanger for the door, and an end view of the bracket for the said  
45 hanger. Fig. 5 is a front elevation of a part of the upper portion of the door and an outer face view of the forward hanger for the door. Fig. 6 is a sectional perspective view of the

supporting mechanism for the door located at  
50 the lower rear portion of the door, including the locking devices and devices for carrying the door laterally to and from the opening to be covered by the door. Fig. 7 is a detail view of the keeper employed in connection  
55 with the mechanism shown in Fig. 6. Fig. 8 is a detail view of the main section of the mechanism shown in Fig. 6. Fig. 9 is a perspective view of the intermediate section of the mechanism shown in Fig. 6, parts being  
60 broken away, and a perspective view of the lower portion of the operating-shaft carried by the door and controlled by said intermediate section of said mechanism. Fig. 10 is  
65 a perspective view of the upper portion of the operating-shaft and the rear hanger and a sectional perspective view of a part of the track, illustrating positions of the hanger relative to the track. Fig. 11 is a section through the track and a side view of a modified form of  
70 the rear hanger in the position it occupies when the door is closed, and Fig. 12 is a transverse section through the track and an end view of the modified form of rear hanger in the position it occupies when the door has  
75 been moved outward from the door-opening.

A represents a side of a freight-car provided with the usual door B, which door when closed and locked has its outer face flush with the outer side face of the car. C represents the  
80 upper main or suspension track for the door B. The location and formation of this track C are best shown in Figs. 2, 3, 4, 11, and 12, in which it will be observed that the said upper main or suspension track C consists of an  
85 outer vertical plate-section 13, a bottom section 13<sup>a</sup>, and an upwardly-extending flange-section 14, which is opposite the side of the car and is opposite the inner side of the main or plate section 13, thus forming at the bot-  
90 tom of the said track C a gutter or longitudinal channel 15. This upper main or suspension track C is secured to the side of the car at a point above the opening to be closed by the door B in any suitable or approved man-  
95 ner—as, for example, through the medium of bolts or their equivalents—and extends from a point opposite the forward jamb 10 of the



door-opening to a point as far as may be desired beyond the rear jamb 10<sup>a</sup> of the said opening, as is shown in Figs. 1, 2, and 3. This upper main or suspension track C at its forward end *a* is brought to an engagement with the forward jamb 10, as is shown in Figs. 2 and 3, and is then carried rearward in a straight line a slight distance. It is then bowed outward laterally, as is shown at *a'*, so as to carry the main portion *a*<sup>2</sup> of the track beyond the side of the car, a suitable space intervening the main portion *a*<sup>2</sup> of the track, the side of the car, and the outer face of the door B when the latter is in position to close the opening in the side of the car, as is shown in Fig. 2.

At the upper forward end of the door B a bracket 16 is secured to the outer face of the said door. This bracket is made to extend inward a slight distance at the top of the door, as is shown in Fig. 4, and is then carried upward to support a box-casing 16<sup>a</sup>, which box-casing, as is shown in Figs. 4 and 5, is provided at its outer face at its lower edge with lugs 17, which extend freely down into the trough or channel 15 of the upper main or suspension track C, so as to prevent the box-casing 16<sup>a</sup> from leaving the track, as this box-casing 16<sup>a</sup> has a friction-roller 18 journaled therein, and this friction-roller is adapted to travel on the upper edge of the flange 14 of the upper main or suspension track C.

At the upper rear portion of the door B a bracket 19 is secured to the outer face of the door, and this bracket at its rear portion terminates in a sleeve or cylindrical socket 20, having a circumferential recess 21 in its upper edge. The parts 16 and 16<sup>a</sup> and accessories constitute the forward hanger for the door B.

The rear hanger for the door B when the door is of light construction is that shown in Fig. 10 and consists of a horizontal cap-plate 22, having a socket 23 extending downward from what may be termed its "outer" end, and this socket is provided with a lug 24, which is adapted to have movement in the recess 21 of the sleeve or socket 20 of the bracket 19 to limit the movement of the said rear hanger.

At the opposite end of the cap-plate 22 a transverse bar 25 is located, held above the upper face of the said cap-plate 22 by an end upwardly-extending flange 26, and preferably the cross-bar 25 extends beyond both longitudinal edges of the cap-plate, but particularly beyond one longitudinal edge, at which extended end of the cross-bar 25 a downwardly-projecting pin 26<sup>a</sup> or a friction-roller is located, and this pin or friction-roller 26<sup>a</sup> is made to enter and is adapted to travel in the gutter or channel 15 of the upper main or suspension track C.

The rear hanger just described is adapted to occupy two positions, an inner and an outer position. The inner position is that shown in positive lines in Fig. 10, and a hanger occu-

pies this position when the door B is closed flush with the outer face of the body A of the car. The position shown in dotted lines is that occupied by the said rear hanger when the door has been moved outward from the opening in the body of the car which it is adapted to close, at which time the door is in position to be slid along the length of the upper main or suspension track C to a point near its rear end. In the outer position of the said door B, as is indicated by dotted lines in Fig. 10, the position of the said rear hanger is such that the cross-bar 25 is parallel with the upper main or suspension track, and the cap-plate 22 extends below the said track C and is practically at a right angle to the said track, whereas in the closed position of the door B the cap-plate 22 is parallel with the track C, and the cross-bar 25, carrying the pin or roller 26<sup>a</sup>, is at right angles to the said track C, extending from the track in direction of the body of the car.

An operating-shaft 27 is located vertically at the rear or vertical edge of the door B, and the upper end of this shaft 27 is passed up into the socket 23 of the cap-plate 22 and is secured to said socket by a screw 28 or its equivalent.

When the door B is a heavy door, I prefer to construct the rear hanger as is illustrated in Figs. 11 and 12, in which it will be observed that the operating-shaft 27, which may be tubular or solid, is secured to an end of a horizontal arm or member 30, having at its opposite end an upwardly-extending flange 30<sup>a</sup>, to which flange a box-casing 29 is attached or may be integral with it. The said box-casing is open at the top and at the bottom, and a lug 31 extends downward from said box-casing 29, adapted to loosely enter the trough or channel 15 in the upper main or suspension track C. Within this box-casing 29 a friction-roller 32 is pivoted, and when the door B is in its closed position the roller 32, as is shown in Fig. 11, is at a right angle to the track C, but in engagement with its inner upwardly-extending flange or tread surface 14; but when the door has been carried out from the body of the car and is to be slid from over the opening which it closed the position of the parts shown in Fig. 11 is changed to that shown in Fig. 12, wherein the friction-roller 32 is on the tread or flange section 14 of the track C, and the arm 30 extends outward at right angles to the track and beyond its outer face.

In Figs. 6, 8, and 9 I have illustrated in detail the mechanism which is employed for controlling the lower end of the operating-shaft 27.

It may be here remarked that when the door is closed, as is shown in Fig. 2, the rear hanger being in the position shown by positive lines in Fig. 10 and in Fig. 11, and it is desired to open the door it is necessary to turn the op-



erating-shaft 27, so as to move the cap-plate 22 or the arm 30 in order to bring the roller or pin-bearings carried thereby in position to travel along the length of the track C, as is shown by dotted lines in Fig. 10 and by positive lines in Fig. 12, and at the same time to carry the rear edge of the door B out beyond the plane of the front face of the side of the body A of the car, as is shown in Fig. 3, so that at such time as the door is pushed rearward, as illustrated in Fig. 3, it will gradually assume an outer position on the main portion  $a^2$  of the track, leaving a space between the inner face of the door and the outer face of the body A of the car.

When the door is to be closed, it is pushed forward, guided by its upper hangers above described, and as the forward hanger reaches the forward end  $a$  of the track C, which is attached to the forward jamb 10 of the door-opening, the forward edge of the door and its adjacent section will be brought into position in a recess in the said forward jamb and will be flush, or practically so, with the outer face of the body A of the car. When the forward edge of the door abuts the forward jamb 10, the operating-shaft 27 is turned so as to bring the upper rear hanger, whichever may be employed, to the position shown in positive lines in Fig. 10 and in Fig. 11, thus compelling the rear edge portion of the door to take a position in a recess in the rear jamb 10<sup>a</sup> corresponding to the recess in the forward jamb 10, in which the forward edge of the door is fitted, thereby bringing the outer face of the entire door practically flush with the outer face of the body of the car.

The mechanism for controlling the movement of the operating-shaft 27 is located at the lower portion of the door adjacent to its lower edge and its rear edge, as is illustrated in Fig. 1. This mechanism is shown in detail in Figs. 6, 8, and 9. Before describing this mechanism, however, it may be stated that the door B is limited in its rearward movement by a stop 11, secured to the outer face of the body A of the car, and the door B when it is carried outward is supported at its lower edge in moving either to or from the opening it is adapted to cover by means of offset brackets 12, suitably placed upon the outer face of the body A of the car, as is also shown in Fig. 1.

The operating mechanism for the operating-shaft 27 comprises, practically, three sections—namely, a bracket-section D, a door-operating section E, and a transmitting-section F, the door-operating section E being located between the bracket-section D and the transmitting-section F.

With reference to the bracket-section D, said section, as is best shown in Fig. 8, is of substantially triangular form, although its shape may be varied, and comprises a vertical body member 33, a top outwardly-extend-

ing horizontal flange member 34, a lower rib member 36, in which rib member a longitudinal opening 37 is formed near the wider or rear edge of the said section, a tubular or knuckle member 38, which extends downward from the rear end of the upper horizontal member 34, and a box-recess 39, which extends beyond the rear face of the body member 33 and is adapted to be fitted into a suitable recess in the door, the upper wall of which recess 39 forms a continuation of the lower portion of the knuckle member 38. This bracket-section D is adapted to be securely fastened to the door B by means of screws or their equivalents passed through suitably-spaced apertures 35, made in the said body member.

A horizontal shelf member 40 is attached to or is integral with the lower forward portion of the knuckle 38, a space intervening such shelf member 40 and the top member 34 of the bracket-section and the shelf member 40 and the bottom of the said box-recess 39. An angular opening 40<sup>a</sup> is made in the said shelf member 40, comprising a longitudinal limb which is in communication with the knuckle 38 and a transverse connecting-limb which extends to a point near the front of the said shelf member. A registering opening 41 is produced in the upper member 34 of the bracket-section D, which opening 41 is also in communication with the knuckle 38. In fact, the said knuckle is provided with a vertical opening which connects the rear end of the longitudinal limb of the opening 40<sup>a</sup> in the shelf member 40 with the inner end of the upper recess 41. The said upper recess 41 is of such dimensions as to include the square area of the lower angular recess 40<sup>a</sup>; but the upper opening 41, preferably at the central portion of its forward edge, has a recess 42 produced in such edge.

With reference to the door-operating section E, said section is best shown in Fig. 9 and comprises a knuckle-section 43, adapted at its upper edge for engagement with the lower edge of the knuckle member 38 of the bracket-section D, and the said knuckle member 43 is provided with an angular recess 44 in its lower edge, while a lever-arm 45 extends from the upper portion of the knuckle 43, the upper edge of the knuckle and the upper face of the knuckle-arm being practically in the same plane. In this lever-arm 45, adjacent to the knuckle 43, an angular opening 46 is produced, corresponding to the opening 40<sup>a</sup> in the shelf member 40 of the bracket-section D, with which opening 40<sup>a</sup> the opening 46 is adapted to register when the door B is to be locked in closed position. From the rear inner portion of the knuckle 43 a horizontal hook extension 47 is projected, following the curvature of the knuckle 43 to a greater or less extent, and the upper face of the hook extension 47 is flush with the upper edge of



the knuckle 43 and the upper face of the lever-arm 45. Furthermore, in the construction of the door-operating section E a recess 48 is produced in the under side of the lever-arm 45 beneath the opening 46 in said arm.

The transmitting-section F is practically a knuckle of cylindrical form and is provided with a lug 49<sup>a</sup> at its upper portion, adapted to enter the recess 44 in the knuckle 43, connected with the lever-arm 45, so that when the lever-arm 45 is moved the knuckle or transmitting section F is moved also. This transmitting-section F is provided with an opening 49 therein, through which a screw or its equivalent may be introduced to secure said transmitting-section F to the bottom portion of the shaft 27. In connection with this mechanism above described I employ a keeper G, which is secured to the body of the car, and comprises a body-section 50, as is shown in Figs. 6 and 7, and a forward outwardly-extending marginal flange 51, the said keeper having a longitudinal opening 52 therein, formed partially in its body portion and partially in the flange 51, and when the door is closed and the lever 45 is carried forward to an engagement with the bracket-section D the hook extension will pass through the opening 52 in the keeper G, and thus hold the door closed, as is shown in Figs. 1 and 6. Instead of employing the transmitting-section F, such section may be discarded, and the lever-arm E may be made to act upon the supporting-shaft 27, as is shown in Fig. 9, by producing in the inner face of the knuckle 43 an angular recess 53, one limb of which extends out through the lower edge of the knuckle, and in locating on the shaft 27 a pin 54, which is adapted to travel in the said recess 53; but it will be understood that this recess 53 and pin 54 may be used in connection with the transmitting knuckle-section F, if it is so desired.

In the operation of the device when the lever-arm 45 is swung outward and rearward the rear hanger is turned outward, due to the connection between the lever and the shaft 27, placing the guides for the said rear hangers in position to travel upon the track C, as shown in dotted lines in Fig. 10 and positive lines in Fig. 12, whereupon the door can be drawn rearward until it engages with the stop 11. When the door is pushed forward to closing position, the inwardly-inclined portion  $\alpha$  of the track C, through the forward hanger 16, will bring the forward edge of the door into engagement with the forward jamb 10, and when such engagement occurs the lever-arm 45 is drawn forward parallel with the door, as is shown in Figs. 1 and 6, causing the shaft 27 to be so turned as to carry the body-section of the rear hanger inward or in direction of the car-body, and by reason of the horizontal extension between the traveler for the track C and the shaft 27 the rear portion of the door is forced inward, bringing the entire door

flush with the outer face of the car-body, and at the same time the door-operating section E will have entered the slot 52 in the keeper G, thereby locking the door against opening until the lever-arm 45 is again thrown rearward.

In order to positively insure the locking of the door B, a locking-slide 55 is employed, adapted to pass down through the opening 41 in the upper member 34 of the bracket-section D, through the longitudinal limb of the opening 40<sup>a</sup> in the shelf member 40, and into the recess 48 in the lever-arm. This locking-slide has a head 56 and a downwardly-beveled key 58 upon its forward face adapted to enter the transverse limb of the opening 40<sup>a</sup> in the shelf member 40 and the corresponding limb in the lever-arm 45, as is shown in Fig. 6. This locking-slide must necessarily be removed before the lever-arm 45 can be operated, and at the lower end of the locking-slide an opening 59 is made, through which opening and the eye 37 in the bracket-section D the wire loop of a seal may be passed to prevent the locking-slide from being removed except when the door is to be opened by a duly-authorized person.

Under the construction heretofore specifically described, and shown especially in Figs. 6 and 9, it will be observed that the extent to which the shaft 27 shall turn to carry the rear portion of the door B to or from the car is regulated by the length of the slot 53, in which the pin 54 turns. Preferably this slot is of such length that when the lever-arm 45 is drawn in one or the other direction the shaft 27 will be given a quarter-turn, as such has been found sufficient and best adapted for the purpose intended.

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

1. In devices for hanging and operating car-doors, a track inwardly curved at one end, hangers adapted to travel upon the track, one of which hangers has pivotal movement in a horizontal plane, a shaft connected with the pivotal hanger, a lever for turning the shaft and carrying a hook member, and a keeper on the body of the car for engagement by the said hook member, substantially as described.

2. In devices for hanging car-doors, a track, hangers which travel upon the track, one hanger having swinging motion in a horizontal plane, a shaft attached to said swinging hanger, a lever device for turning the shaft, a hook member carried by the lever device, a keeper on the body of the car for engagement by said hook member, and means for locking the lever device.

3. In devices for hanging and operating car-doors, a hanger device, means for giving a partial turn to the same, the said means including a shaft connected with the hanger device, a lever for turning the shaft and having a tubular or knuckle member mounted on the shaft, and a hook-like member extending from



the knuckle member, and a keeper on the body of the car for engagement by the said hook-like member.

4. In devices for hanging and operating car-doors, a hanger having horizontal swinging action, a shaft rigidly connected with said hanger, a bracket secured to the car-door and through which the shaft extends, a lever for turning the shaft and having a knuckle or tubular member mounted on the shaft, a hook-like member extending from the tubular member, a keeper on the body of the car for engagement by the said hook-like member, and means for locking the said bracket and the lever together.

5. A device for hanging and operating car-doors, comprising a hanger mounted to turn approximately in a horizontal plane, a shaft connected with the hanger, a lever for turning the shaft and swinging the hanger to move the door into or out of the door-opening, said lever having a hook member, a keeper on the body of the car for engagement by the hook member of the lever and means for locking the lever.

6. The herein-described device for hanging and operating car-doors comprising a hanger having horizontal swinging action, a shaft attached to the swinging hanger, a bracket secured to the car-door and forming a bearing for the shaft, a door-operating device comprising a lever for turning the shaft and having a tubular or knuckle member mounted on the shaft, a hook-like member extending from the knuckle member, a keeper on the car-body for engagement by said hook, the said bracket and lever being provided with openings adapted to register when the door is closed and a locking-slide for engaging said registering openings.

7. The herein-described device for hanging and operating doors, comprising a hanger having horizontal swinging action, a shaft attached to the swinging hanger, a controlling mechanism for the shaft comprising a bracket-section secured to the door of the car and forming a bearing for the shaft, a transmitting-section connected with the shaft, and a door-operating section located between the bracket-section and the transmitting-section, the door-operating section comprising a lever-arm and a tubular or knuckle member mounted on the shaft, a hook-like extension projecting from the tubular member of the door-operating section, and a keeper secured to the body of the car and engaged by the hook-like member to hold the door closed.

8. The herein-described device for hanging and operating car-doors, comprising a hanger having horizontal swinging action, a shaft attached to the swinging hanger, and a controlling mechanism for the said shaft comprising a bracket-section attached to the door and forming a bearing for the shaft, a transmitting-section mounted on the shaft, a connection be-

tween the transmitting-section and said shaft, a door-operating section having a lever-arm and a tubular or knuckle member connected with said arm and mounted on the shaft between the bracket-section and the transmitting-section, an interlocking connection beneath the transmitting-section and the door-operating section, a horizontal hook extension projecting from the tubular or knuckle member of the door-operating section, and a keeper on the body of the car for engagement by the said hook extension for holding the door closed.

9. In devices for hanging and operating car-doors, a track-bar having a member upturned from its lower edge at its inner face, forming a gutter at the bottom of the track-bar, a forward and a rear hanger which travel on the track-bar, the forward hanger having means for attachment to a car-door, being provided at its upper end with a box-casing, and a friction-wheel within the box-casing, which travels on the upturned member of the track-bar, a support in which the said rear hanger turns, the rear hanger comprising a horizontal section, an extension therefrom adapted to enter the said gutter of the track-bar, a friction-roller in the said horizontal section, adapted for engagement with the upturned member of the track, a vertical shaft connected with the said rear hanger, brackets on the car-door in which the said shaft is mounted to turn, a lever for turning the shaft, a horizontal hook extension on said lever, and a keeper on the car-body for engagement by said hook extension, substantially as described.

10. In a device for hanging and operating car-doors, a track-bar having a member upturned from its lower edge at its inner face, forming a gutter at the bottom of the track-bar, the said track-bar being inwardly curved at one end, hangers in traveling relation to the track, one hanger having a fixed portion and a roller therein which engages with the upturned portion of the track, a support for the second hanger, in which the hanger has horizontal swinging action, a roller carried by the second hanger, arranged to engage with the upturned portion of the track, a guide-stud extending down from the second hanger into the gutter of the track, a shaft rigidly attached to the swinging hanger, a lever for turning the shaft, a hook extension on the lever, a keeper on the car-body for engagement by said hook extension, and locking and sealing devices for the door, as described.

11. In devices for hanging and operating car-doors, a track-bar having a member upturned from its lower edge at its inner face, forming a gutter at the bottom of the track-bar, the said track-bar being inwardly curved at one end, a forward and a rear hanger which travel on the said track, the forward hanger having a section for stationary attachment to the door, being provided at its upper end with



a box-casing, and a friction-wheel within the box-casing, which friction-wheel travels on the upturned portion of the said track, the rear hanger comprising a horizontal member, a member for engagement with the track and connected with the inner end of said horizontal member, a vertical shaft rigidly connected with the outer end of said horizontal member, a bracket secured to the car-door and having a sleeve or socket in which the upper portion of the shaft has rotary movement, the sleeve or socket being provided with a recess and a lug carried by the shaft and having movement in the said recess to limit the turning movement of the shaft, and a lever for turning the said shaft.

12. The combination with the body of a car and a flush door, an upper track for the door and lower guides for the door, of a forward hanger secured to the upper forward portion of the door, having a roller-bearing which travels on the said track, the said track at its forward end being close to the side of the car, extending outward from the car throughout the remaining portion of its length, a rear hanger comprising a member for engagement with the track, a horizontal cap-plate secured at one end to the lower portion of the said member, the cap-plate having a downwardly-extending socket at the other end provided with a projecting lug, a shaft rigidly secured at its upper end in the said socket and extending downward at the rear edge of the door, a bracket secured to the car-door and provided with a sleeve or socket in which the upper part of the shaft is mounted to turn the said sleeve or socket having a circumferential recess in its upper end in which the lug on the cap-plate has movement, a bracket in which the lower part of the shaft has rotary movement, and a lever connected with the shaft for turning the same.

13. In devices for hanging and operating car-doors, a hanger mounted to turn approximately in a horizontal plane, a shaft rigidly connected with said hanger, brackets on the car-door in which said shaft is mounted to turn, a lever for turning the shaft and comprising an arm, a tubular portion or knuckle mounted on the shaft, and a horizontal hook extension projecting from the tubular portion

and following approximately the curvature thereof, and a keeper secured to the body of the car and comprising a body-section and an outwardly-extending marginal flange, the keeper having a longitudinal opening for engagement by the said hook extension, as set forth.

14. In devices for hanging and operating car-doors, a track, hangers mounted to travel upon the track, one hanger having horizontal swinging action relative to the track, a shaft rigidly attached to the swinging hanger, a bracket secured to the car-door and having a tubular or knuckle member in which the lower portion of the shaft is mounted to turn, a lever for turning the shaft and comprising a lever-arm, a tubular or knuckle member mounted on the shaft and engaging at its upper edge with the lower edge of the knuckle member of the bracket, a hook extension on the knuckle member of the lever, a keeper on the body of the car for engagement by said extension, and a locking-slide removably passed through registering openings in the bracket and lever, as set forth.

15. The herein-described device for hanging and operating car-doors comprising a hanger having horizontal swinging action, a shaft attached to the swinging hanger, a bracket secured to the car-door and having a knuckle or tubular member forming a bearing for the shaft, a lever for turning the shaft comprising an arm and a tubular or knuckle member registering with the knuckle member of the bracket, a hook extension from the knuckle member of the lever, a keeper secured to the body of the car, for engagement by said hook extension, and a locking-slide removably passed through registering openings in the bracket and the lever, the said slide being provided with an opening in its lower end, and the bracket with an eye, through which the loop of a seal may be passed, as set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

PAUL J. McCULLOUGH.

Witnesses:

CHAS. S. SHALLENBERGER,  
C. S. KENNERLY.