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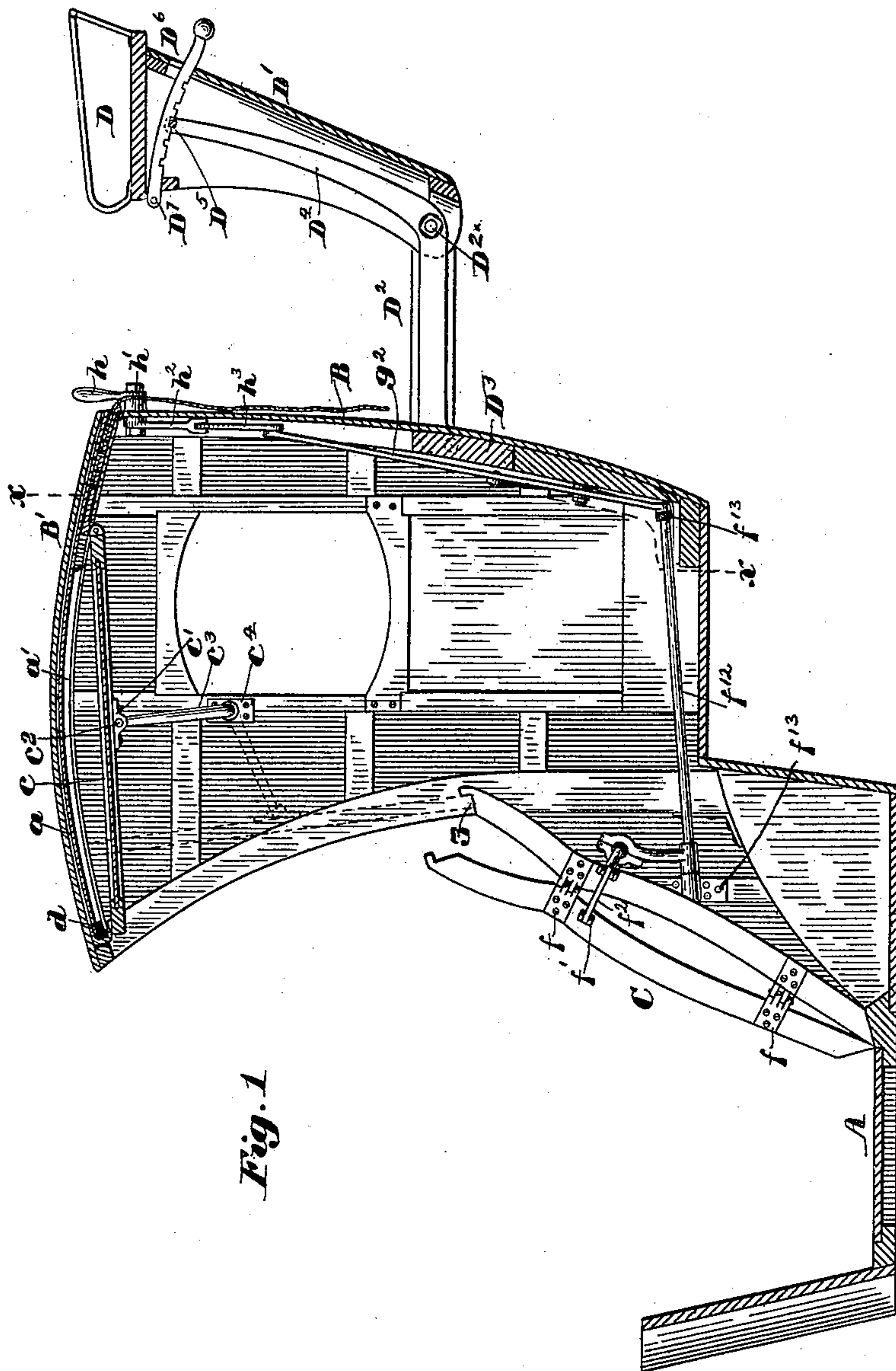
Patented Jan. 17, 1899.

**C. THOMAS.
HANSOM CAB.**

(Application filed Dec. 18, 1897.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
 Walter E. Lombard
 Fred S. Grunkef.

Inventor:
Chauncey Thomas,
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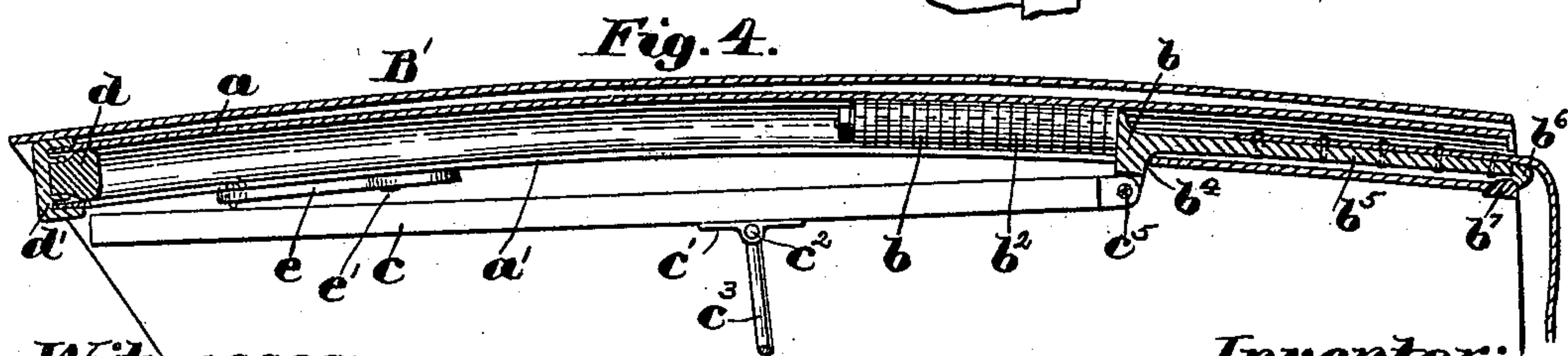
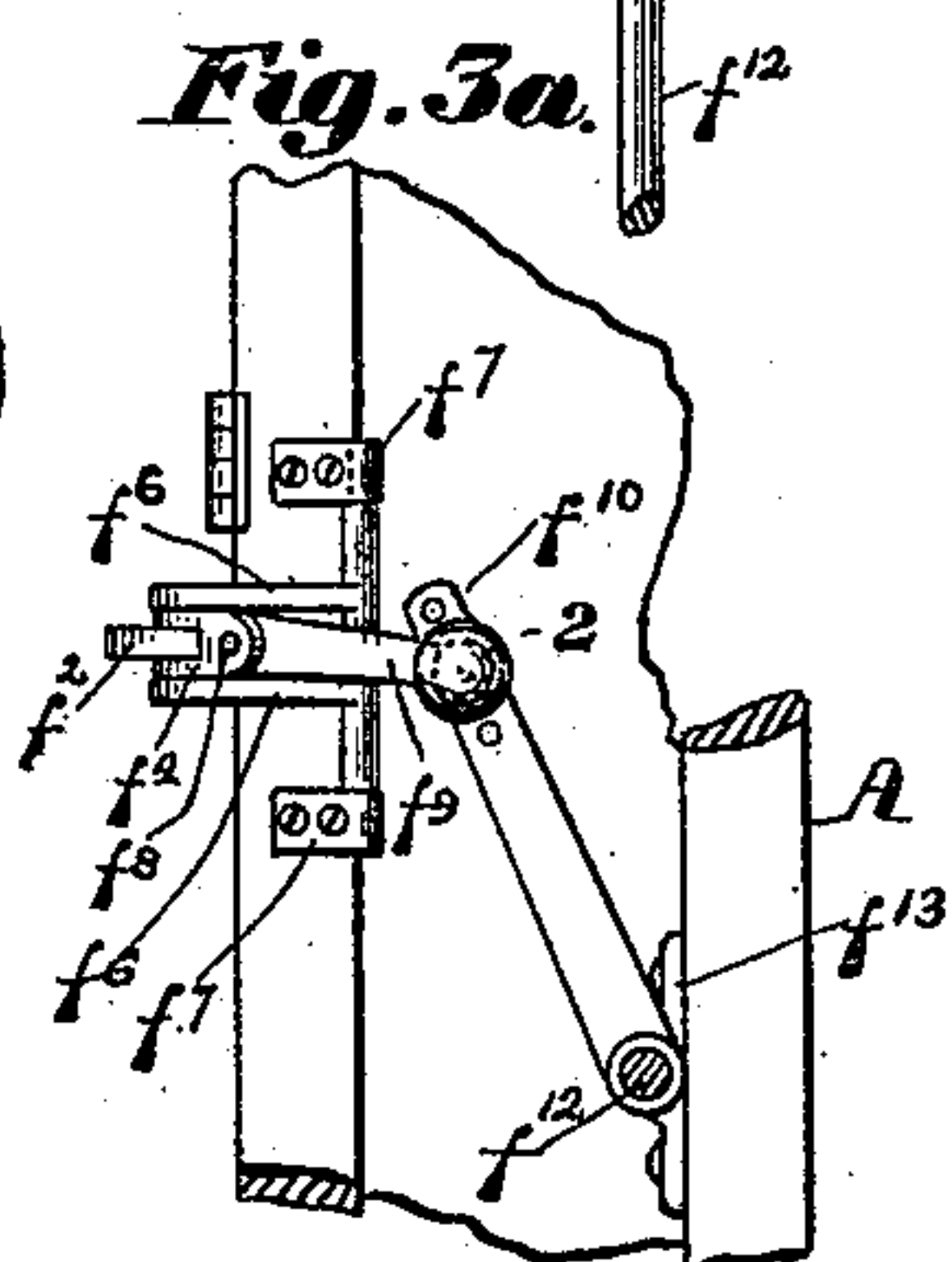
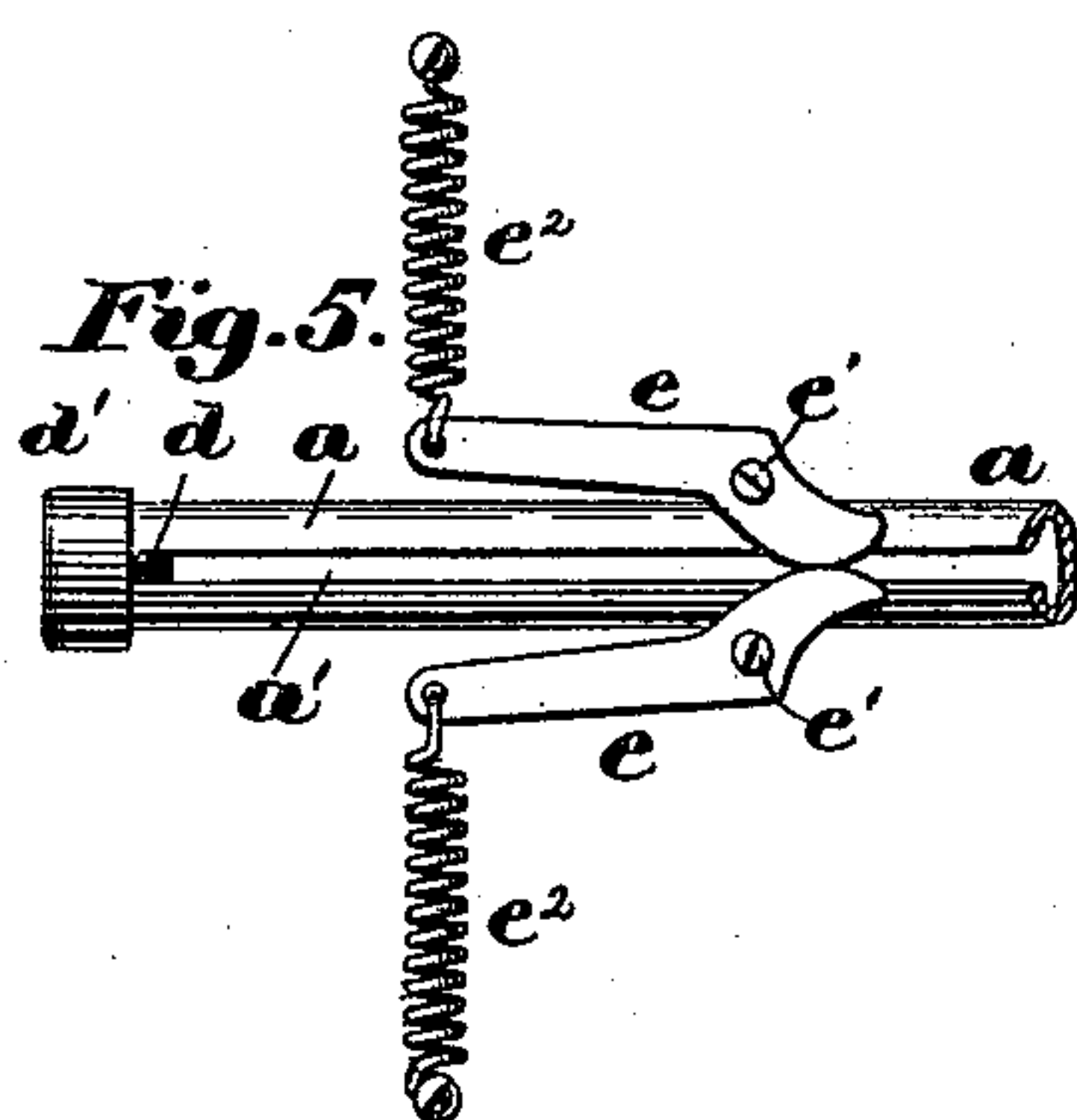
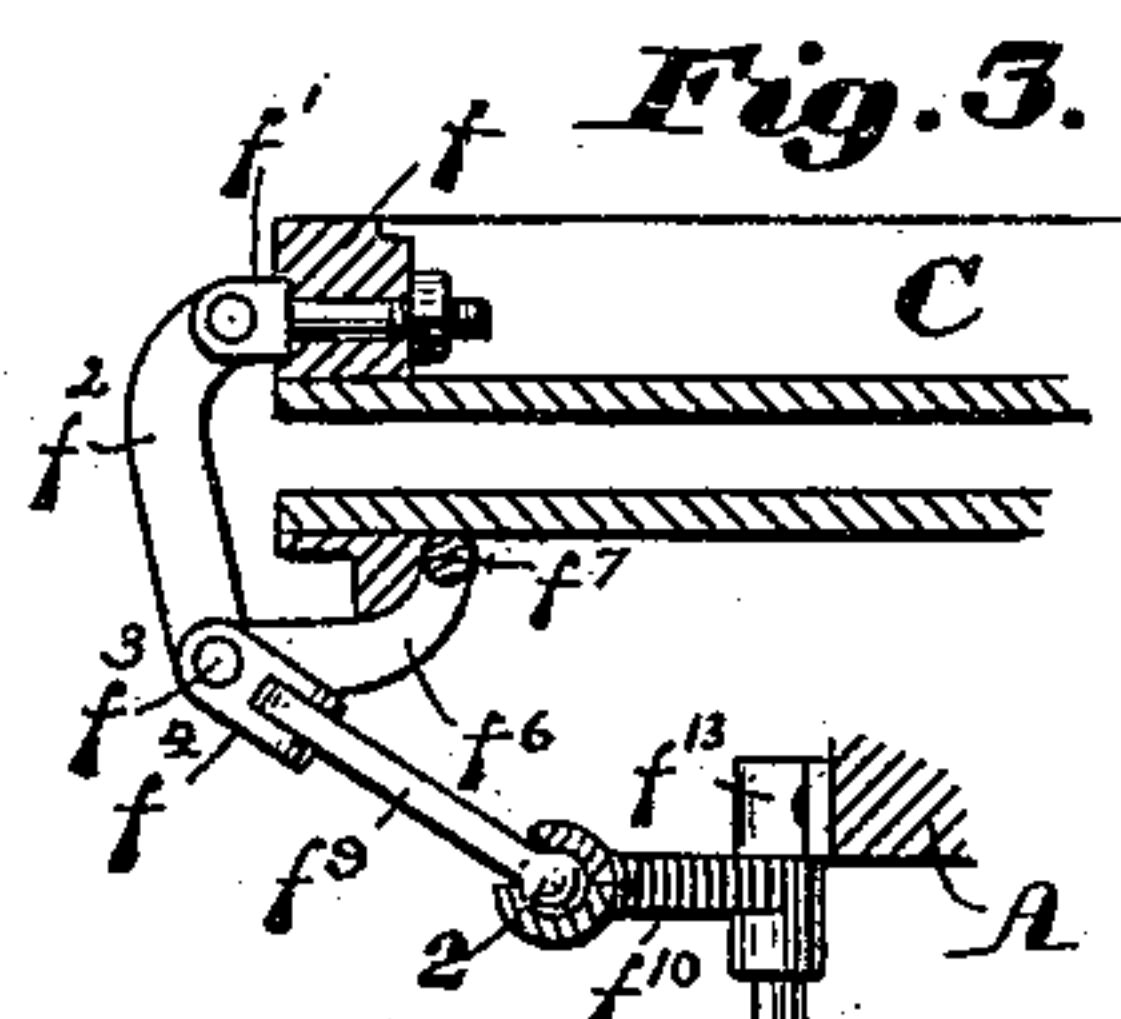
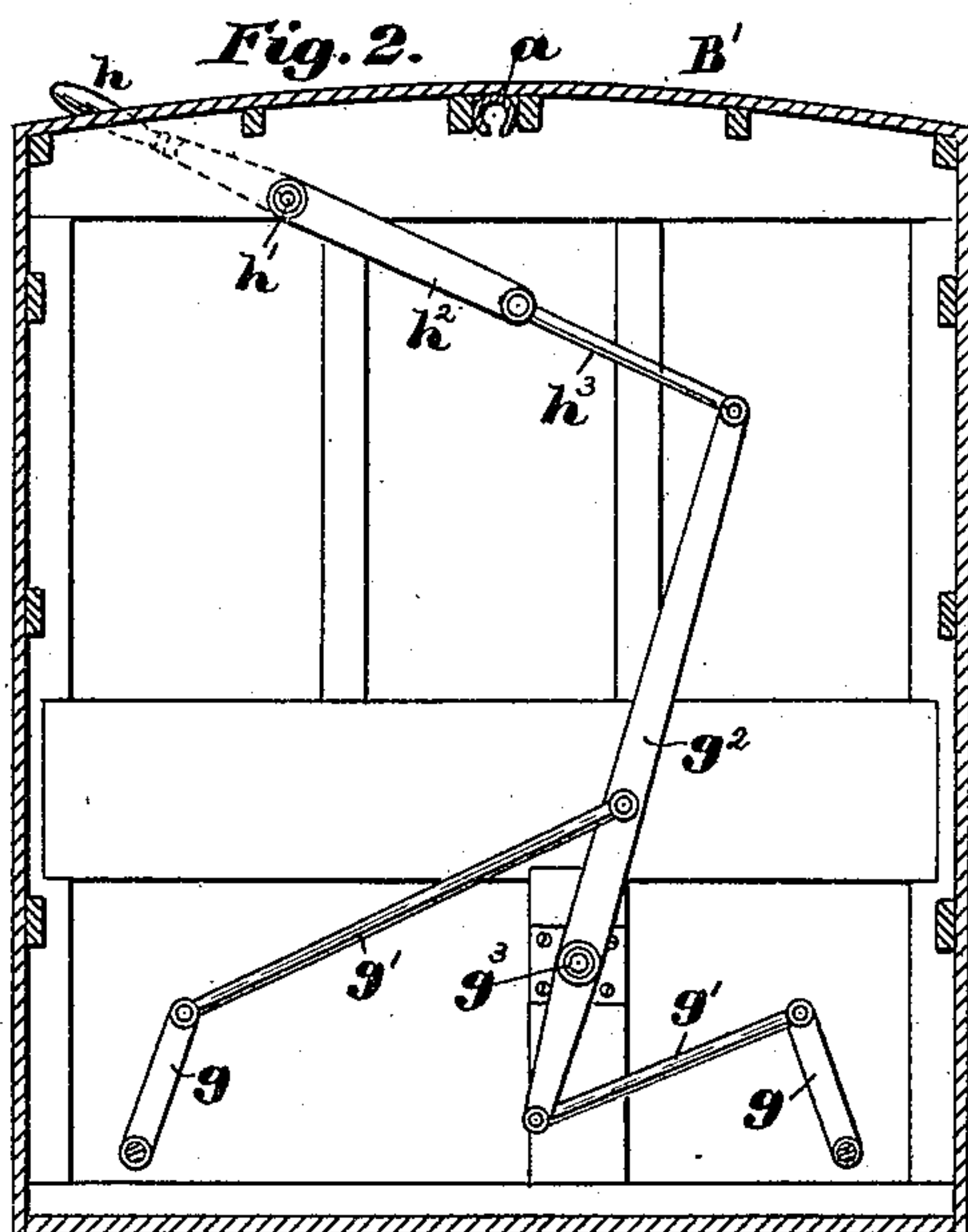
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Witnesses:
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UNITED STATES PATENT OFFICE.

CHAUNCEY THOMAS, OF BOSTON, MASSACHUSETTS.

HANSOM-CAB.

SPECIFICATION forming part of Letters Patent No. 617,888, dated January 17, 1899.

Application filed December 18, 1897. Serial No. 662,383. (No model.)

To all whom it may concern:

Be it known that I, CHAUNCEY THOMAS, of Boston, county of Suffolk, State of Massachusetts, have invented an Improvement in Hansom-Cabs, of which the following description, in connection with the accompanying drawings, is a specification, like letters and figures on the drawings representing like parts.

This invention has for its object to provide a hansom-cab with novel means whereby the doors and windows may be controlled, opened, and closed from the driver's seat. Prior to this invention this class of cab has been provided at its top with a pocket of a size sufficient to receive the window when not in use, said pocket being open at its front side to let the window slide out and in under the action of a cord or strap, and the window is carried by arms jointed to the cab-top at its front edge. I have aimed to avoid making this pocket for the window and have pivoted the window on arms pivoted well inside the cab-top, and I have arranged in the top of the cab a guide-tube, in which is fitted to slide a shoe, the shoe, besides coöperating with the tube to form a firm guide, also serving the double purpose of a friction device, the shoe being shown as of cylindrical form, the said shoe being jointed to the upper end of the window. The guide has at one end a yielding bumper, against which the shoe may strike as the window comes into its substantially upright position. I have also devised means for opening and closing the doors, said means comprehending rock-shafts extended from near the said doors toward the back of the cab, said rock-shafts, one for each door, having each two arms, one of which is attached to one end of a door-lever, free to turn on a movable fulcrum, the opposite end of the door-lever being connected to a door. The arms of the rock-shafts farthest from the door are attached each by a suitable link with a door-operating device, shown as a lever, which may be moved as desired by or through a hand-lever at the top of the cab and under the control of the driver.

Figure 1, in section, shows the body part of a hansom-cab embodying my invention, the interior lining being omitted. Fig. 2 is a section looking to the right from the section-line α , Fig. 1. Fig. 3 is a detail showing the

door-operating mechanism, with part of the cab top and door. Fig. 3^a is a different view of the same parts exhibited in Fig. 3. Fig. 4 is an enlarged sectional view of the top, the guide, window, and shoe; and Fig. 5 is a detail showing the locking device attached and part of the tube.

The body A, top B, and doors C are and may be of any usual or suitable shape common to open-front or hansom cabs, and in practice the body may be mounted on the running-gear in any usual or suitable manner.

The under side of the roof B' of the top is provided with a guide-tube a , slotted at its under side at a' . This tube receives in it a supporting-shoe b , having a series of leather or other suitable washers b^2 to constitute a friction-surface to fit the tube more or less snugly, said washers being strung on a rod of the shoe. The shoe has an ear b^4 , which is extended through the slot of the tube into the cab. The rear end b^5 of the shoe has a hook or catch b^6 , which when the shoe is in the position Fig. 4 and the window c is open will engage a suitable projection b^7 , a strap b^8 being connected with the end b^5 to enable the driver to open the window or to let it be closed by its own gravity.

Each side piece of the window-frame has an ear c' , which receives the end c^2 of an arm c^3 , pivoted in a firm bearing c^4 , attached to the interior of the top, and the upper end of the window c is pivoted at c^5 to the ear of the shoe.

The front end of the tube a is provided with an elastic buffer d , it being held in a nut d' , screwed onto the tube, and when the window is closed, as shown by dotted lines, Fig. 1, the end of the part b of the shoe meets said buffer, thus obviating any possible shock or blow when the window is closed.

To prevent the window shaking up and down when closed, I have provided a locking device (shown detached in Fig. 5) consisting of two like levers $e e$, pivoted at $e' e'$ and having their short arms normally pressed together by suitable springs e^2 . When the window is nearly closed, the ear b^4 enters the space between the levers and just passes between the meeting faces of said levers as the window is fully closed, the short arms of said levers acting against the rear side of said

ear and acting to keep the window closed. When the driver desires to open the window, he will engage the strip b^8 by hand and draw the shoe b back in the tube, the first part of the strain so exerted overcoming the holding stress of the springs e^2 .

The locking device shown and described works very satisfactorily; but this invention is not limited to the exact form of locking device shown, and in its place I may employ any other suitable or equivalent locking device capable of acting to prevent any accidental back or up and down slipping of the window when the cab is being run with the window closed.

The driver's seat D has its depending part D' pivoted at D^{2x} between suitable arms D², extended rigidly from the cross-piece D³, forming part of the rigid back of the cab, said arms in practice being suitably inclosed in a foot-platform. (Not shown.) These arms also support a rigid lever D⁴, having at its upper end a pin or projection D⁵, which is adapted to be engaged by a seat-locking device, shown as a notched lever pivoted at D⁷ on a part of the seat. By engaging this locking device and removing it from the pin or projection D⁵ the seat may be turned toward or from the body, so that the weight of the driver may be put at the point required to in a measure aid in counterbalancing the load of the cab.

The cab has two doors C, just alike. One of these is shown in Fig. 1, and it is supported by hinges f in usual manner. The inner edge of the door has an attached bolt provided with an ear f' , (see Figs. 1 and 3,) to which is pivoted an arm f^2 , having at its opposite end a hole to receive a pin f^3 . The end of the arm f^2 is made to enter a slot in a link f^4 , and the link is also put between the ends of a forked lever f^6 , pivoted on the body of the cab at f^7 , and in this condition the pin f^3 is inserted, uniting the arm, link, and lever together, but leaving each free to turn on the pin and the lever f^6 free to swing back and forth about the pivot f^7 and carry with it the pin f^3 , which constitutes a movable fulcrum for the door-closing connections. The end of the link f^4 most remote from the pin f^3 has jointed to it at f^8 a rod f^9 , having at one end a ball-joint 2, which enters an arm f^{10} , connected to the front end of the rock-shaft f^{12} , mounted in suitable bearings f^{13} of the cab. The rear end of each rock-shaft f^{12} , there being one at each side of the cab and occupying a position substantially at right angles to the main axle of the cab, has an arm g , (see Fig. 2,) which by a link g^1 is connected to a door operator or controller g^2 , shown as a lever pivoted at g^3 , said links being pivoted to said lever one above and the other below said pivot, so that by moving said lever g^2 in one direction the doors C may be simultaneously opened or closed, as may be desired.

To better control the lever g^2 , I have added to the cab a secondary lever, it being composed

of a handpiece h , exposed at the back of the cab within easy reach of the driver's seat, said handpiece being connected to a short rock-shaft h' , extended through the cab, and the inner end of said rock-shaft being provided with an arm h^2 , which through a link h^3 is attached to the door-operator. The secondary lever is composed of the enumerated parts h h' h^2 .

Believing myself to be the first to use the rock-shafts to open the doors and to actuate said rock-shafts simultaneously by a door-controller, as the lever g^2 , this invention is not to be limited to the precise construction shown for the door-controller or to the exact devices shown for joining said door-controller and rock-shafts, nor to the exact form of secondary lever illustrated by which to engage and start the controller g^2 . The secondary lever might be dispensed with by extending the lever g^2 up through the top of the cab; but such construction would not be desirable.

In my invention the lower end of the window meets the rabbeted tops of the door and of the body part 3, and when closed said door stands in substantially vertical position, as shown by dotted lines.

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

1. In a cab, a window, arms pivoted within and occupying a position wholly within the cab-top and on which said window is pivotally mounted, combined with a sliding shoe to which the top of said window is pivoted, substantially as described.

2. A cab having under its roof part a guide, a foot free to be slid longitudinally with relation to said guide, and a window joined to said foot, combined with pivoted arms on which said window is mounted, substantially as described.

3. A cab having at and centrally of its roof a slotted tubular guide, a foot movable in said tube and having an ear extended out through said tube, a window connected with said ear, and means to support the ends of said window, combined with means to move said foot in said tube, substantially as described.

4. A cab having at its roof a slotted tubular guide, a foot movable in said tube and having an ear extended out through said tube, a window connected with said ear, and means to support said window, combined with a buffer in said tube, and means to move said foot in said tube, substantially as described.

5. A cab having at its roof a slotted tubular guide, a foot movable in said tube and having an ear extended out through said tube, a window connected with said ear, and means to support said window, combined with means to move said foot in said tube, and a device to hold said foot in place to keep the window open, substantially as described.

6. A cab having a slotted guiding-tube, a window, and pivoted arms to support said

window, combined with a frictionally-operating shoe fitted into said tube and having an ear extended out through said tube and jointed to said window, substantially as described.

5 7. The pivoted arms, the window pivoted thereon, a guide in the top of the cab, a shoe sliding with relation to said guide and having an ear forming a pivoted connection with the window, combined with a locking device to
10 coöperate with said shoe or its ear, and keep it in place when the window is closed, substantially as described.

8. The pivoted arms, the window pivoted thereon, a guide in the top of the cab, a shoe
15 sliding with relation to said guide and having an ear pivoted to the window, combined with a locking device composed of a spring-controlled lever to coöperate with said shoe or
20 its ear and keep it in place when the window is closed, substantially as described.

9. The cab and its doors rabbeted at their upper ends, combined with a window mounted on arms pivoted within the top of the cab and
25 always occupying a position within said top, both when the window is closed and opened, the said window when closed engaging the rabbeted part of the doors, substantially as described.

10. In a cab, a door, a rock-shaft extended
30 from near said door backwardly toward the rear of the cab and provided at or near one end with an arm, and a lever pivoted in the cab and carrying a pin, combined with links connecting said pin with said door and with
35 the arm of said rock-shaft, substantially as described.

11. In a cab, a door, a rock-shaft extended from near said door backwardly toward the rear of the cab and provided at or near one
40 end with an arm, and a lever pivoted in the cab and carrying a pin, combined with links connecting said pin with said door and with the arm of said rock-shaft, and means to operate said rock-shaft from the rear of the said
45 cab, substantially as described.

12. The cab-door, having an attached ear, the lever f^6 connected to the cab and provided with a pin, a link f^2 between said ear and said pin, a second link f^4 connected with the pin
50 carried by said lever, a link f^9 connected to the last link f^4 and provided with a ball-like

termination, combined with the rock-shaft f^{13} , its arm having a ball-shaped socket to receive said ball-shaped termination, substantially as described.

13. In a cab, two rock-shafts, each having
55 at or near each end a suitable arm; two doors; two movable levers each carrying a pin, and located between one of said doors and one of said rock-shafts, combined with links connecting the pin of said lever with said door
60 and with an arm of the said rock-shaft, and a door-controller adapted to be simultaneously moved to move both of said rock-shafts in a direction to open or close said doors, substantially as described.

14. In a cab, the door-controller, the links attached thereto above and below its pivotal point, and rock-shafts having arms to which
70 said links are attached, combined with doors and means intermediate the opposite ends of said rock-shafts and said doors to open and close them, substantially as described.

15. In a cab, having two doors, a rock-shaft for each of said doors, said rock-shafts being
75 extended from near said doors toward the back of the cab, combined with connections between the front ends of said rock-shafts and said doors, and with devices under the control of the driver at his seat to open and
80 close said doors, substantially as described.

16. A cab, a window for the front thereof, a support at each end of the window, and a central support between said ends connected to the upper edge of the window, combined
85 with means to operate said window, substantially as described.

17. A cab, having at its roof a central guide, a supporting device held by said guide, a window connected with said supporting device, and means to support said window at its
90 ends, combined with means to move said supporting device longitudinally of said guide, substantially as described.

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

CHAUNCEY THOMAS.

Witnesses:

GEO. W. GREGORY,
MARGARET A. DUNN.