

H. HOWSON.
PASSENGER CAR.

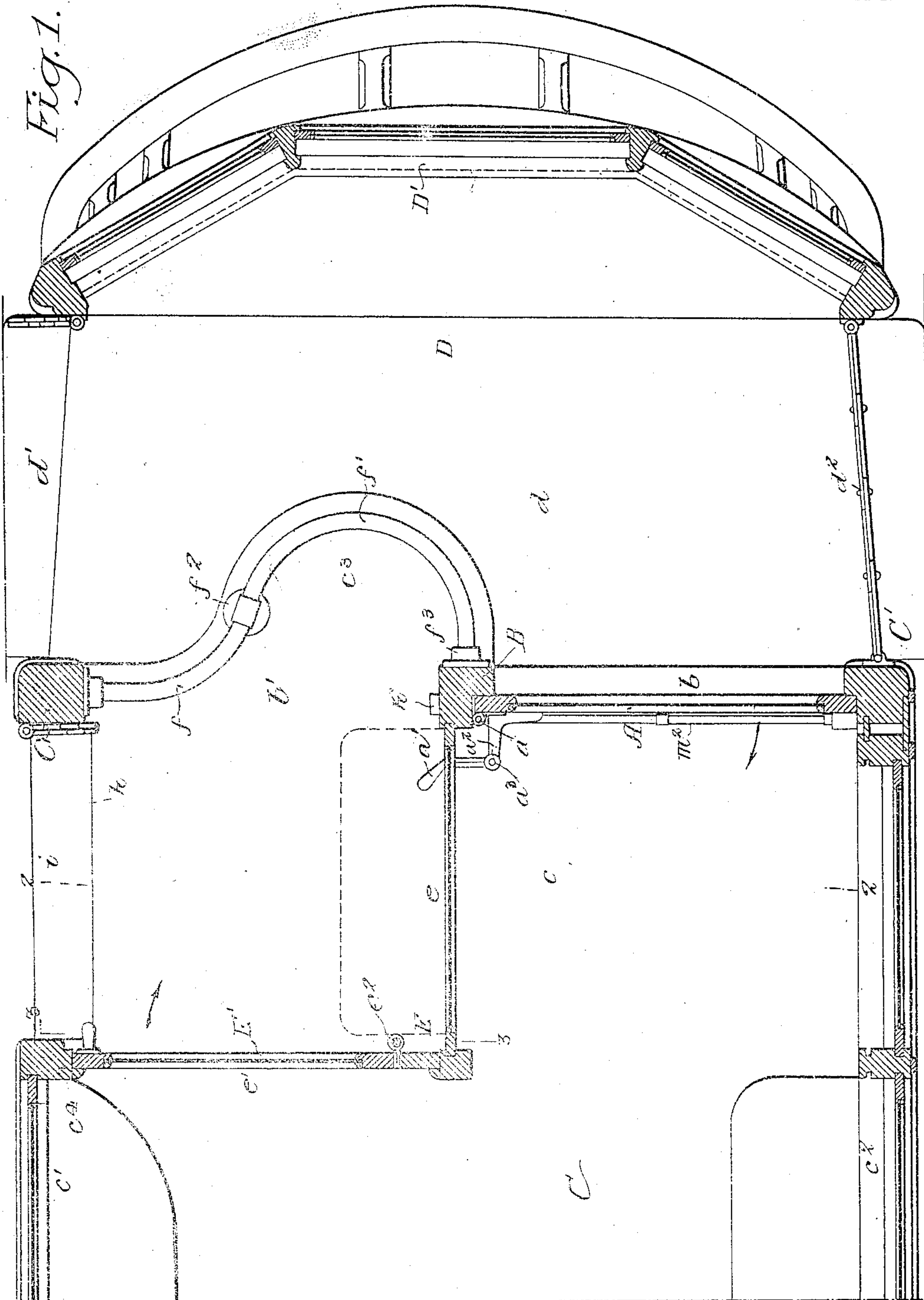
APPLICATION FILED MAY 15, 1908.

Patented Apr. 6, 1909.

3 SHEETS—SHEET 1.

917,607.

Fig. 1.



Witnesses:
Wills A. Burrows
Valter H. Cullinger

Inventor:
Henry Howson.
by his Attorneys:
Howson & Howson

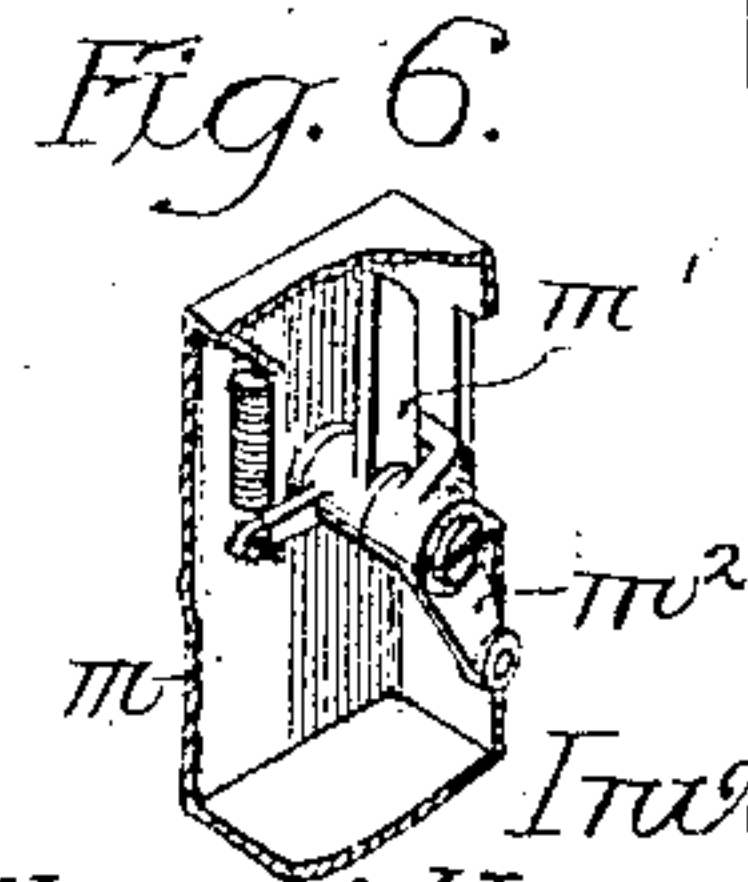
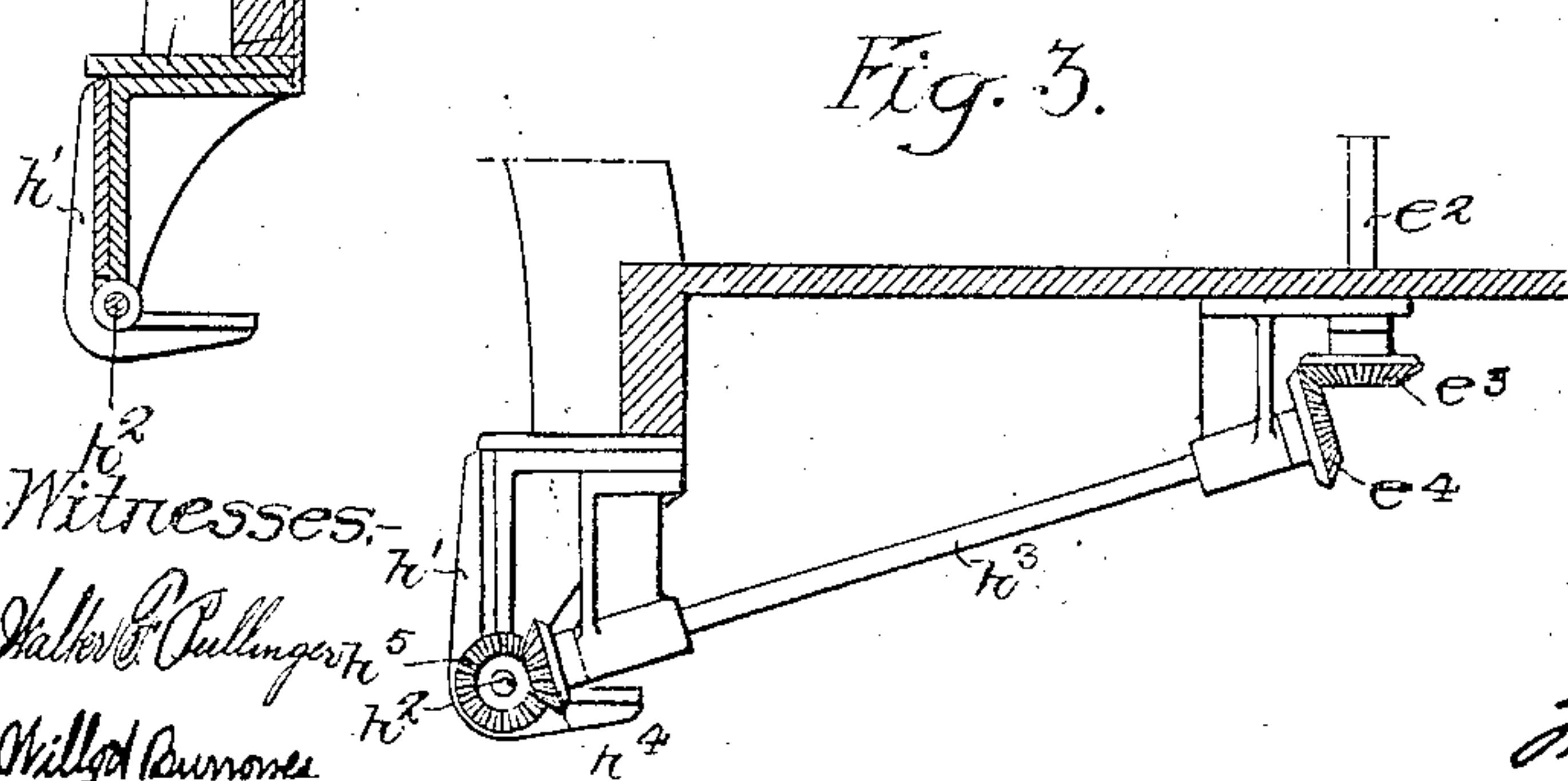
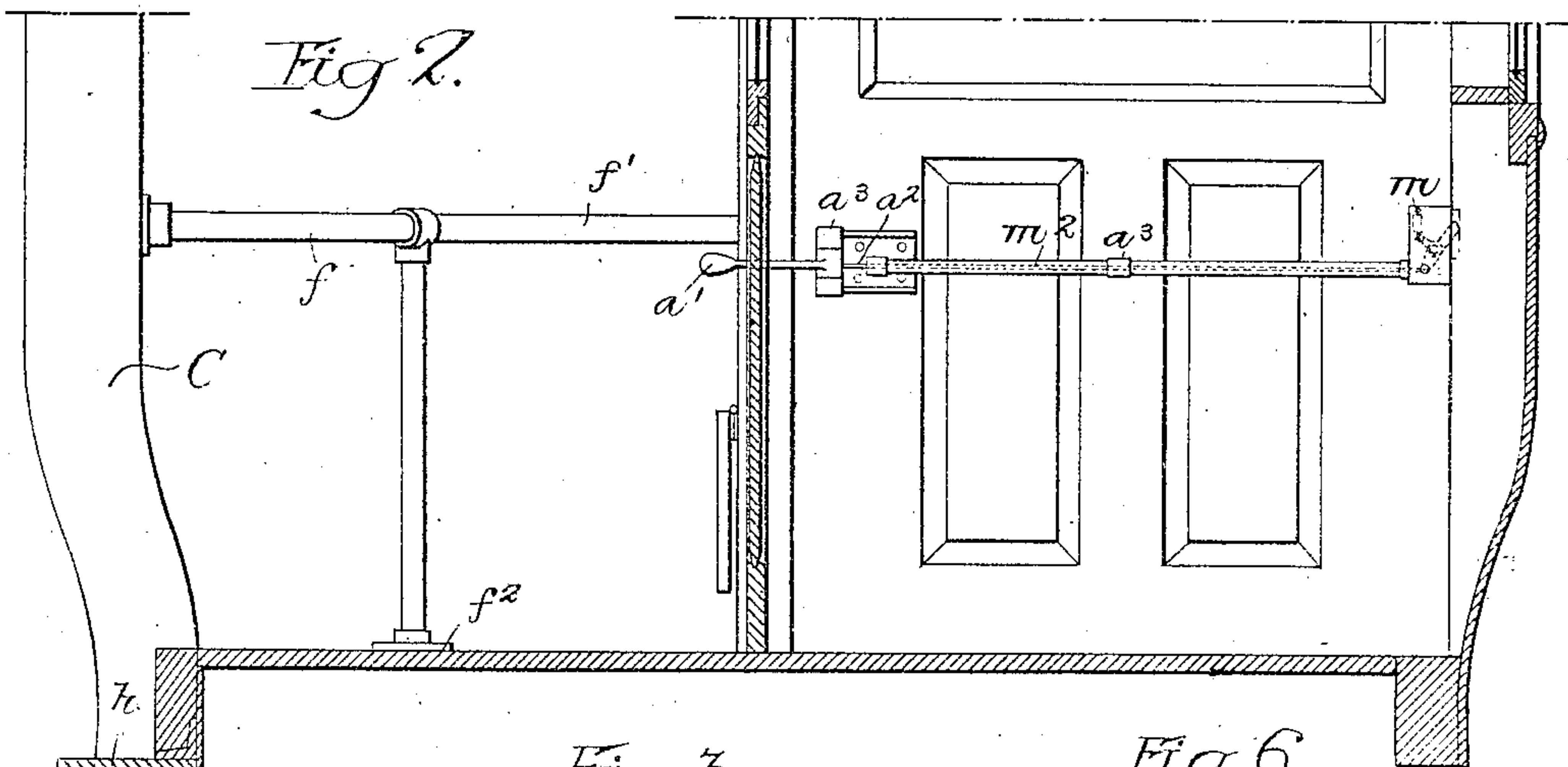
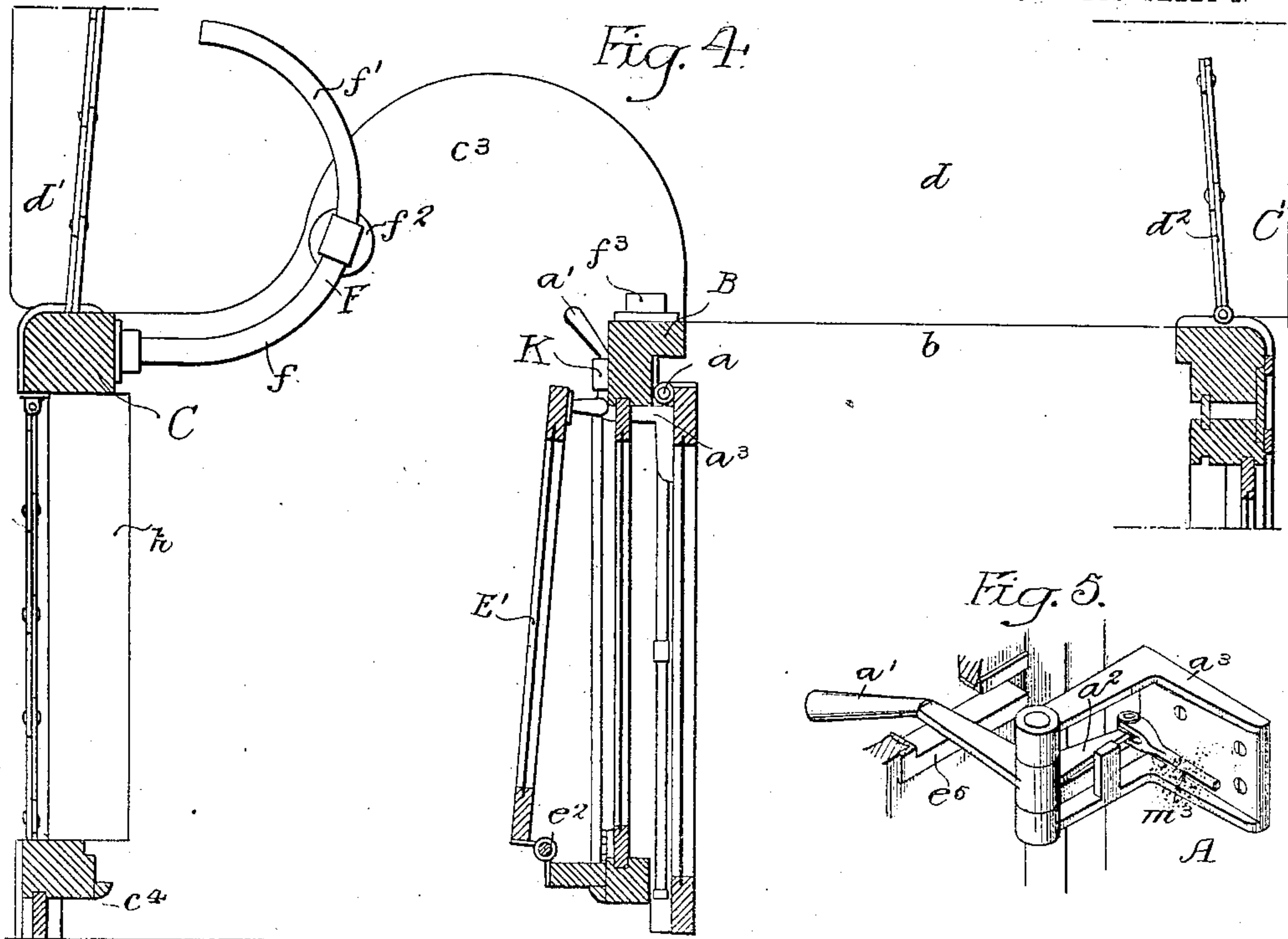
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3. SHEETS—SHEET 2.


917,607.



Witnesses:-

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no  *Itwepitor-*

Henry Howson.
Public Officer

of his nobility:-
 Lewis, H.

Hamn & Hamn

917,607.

H. HOWSON.
PASSENGER CAR.
APPLICATION FILED MAY 15, 1908.

Patented Apr. 6, 1909.
3 SHEETS—SHEET 3.

Fig. 7.

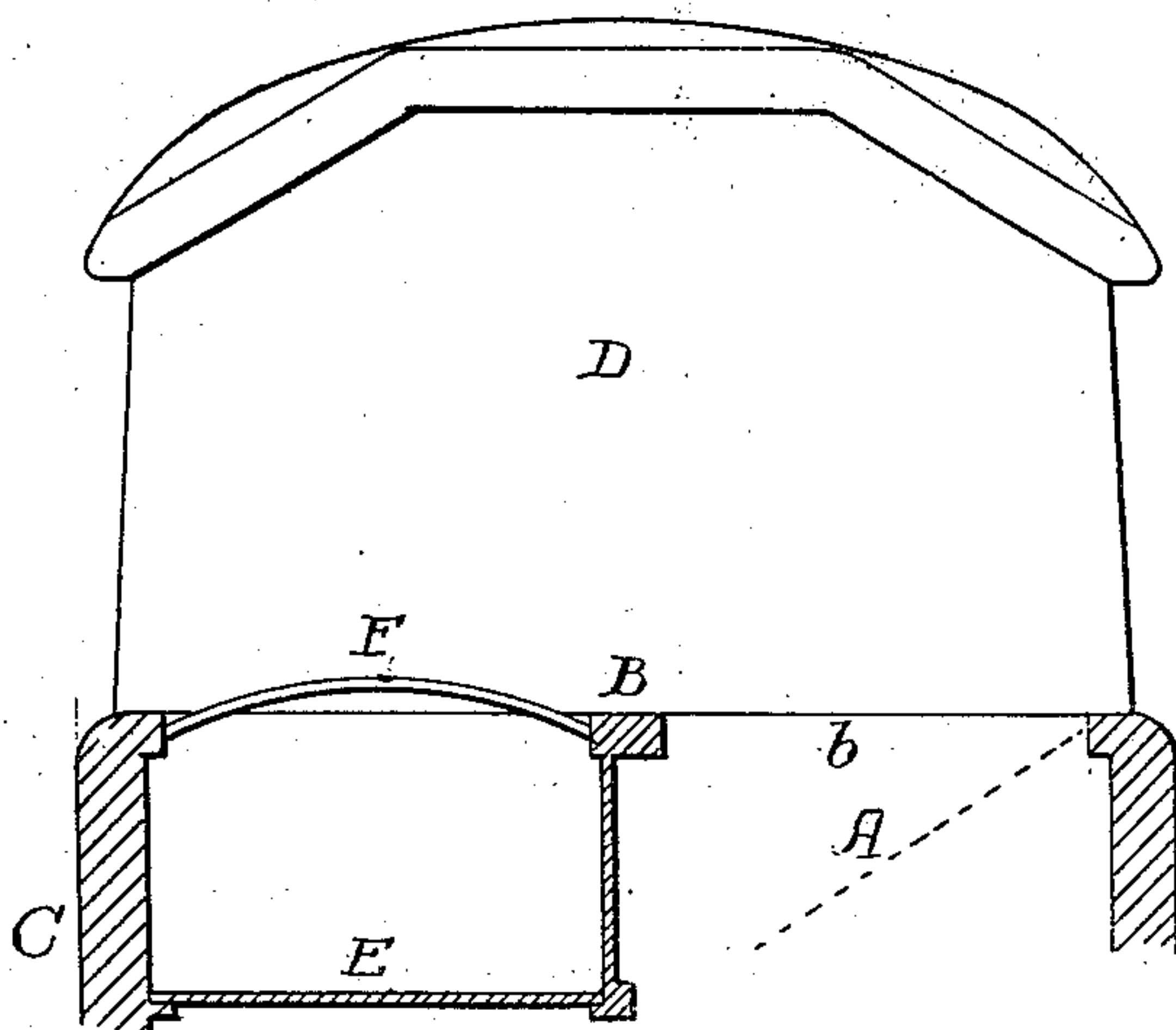


Fig. 8.

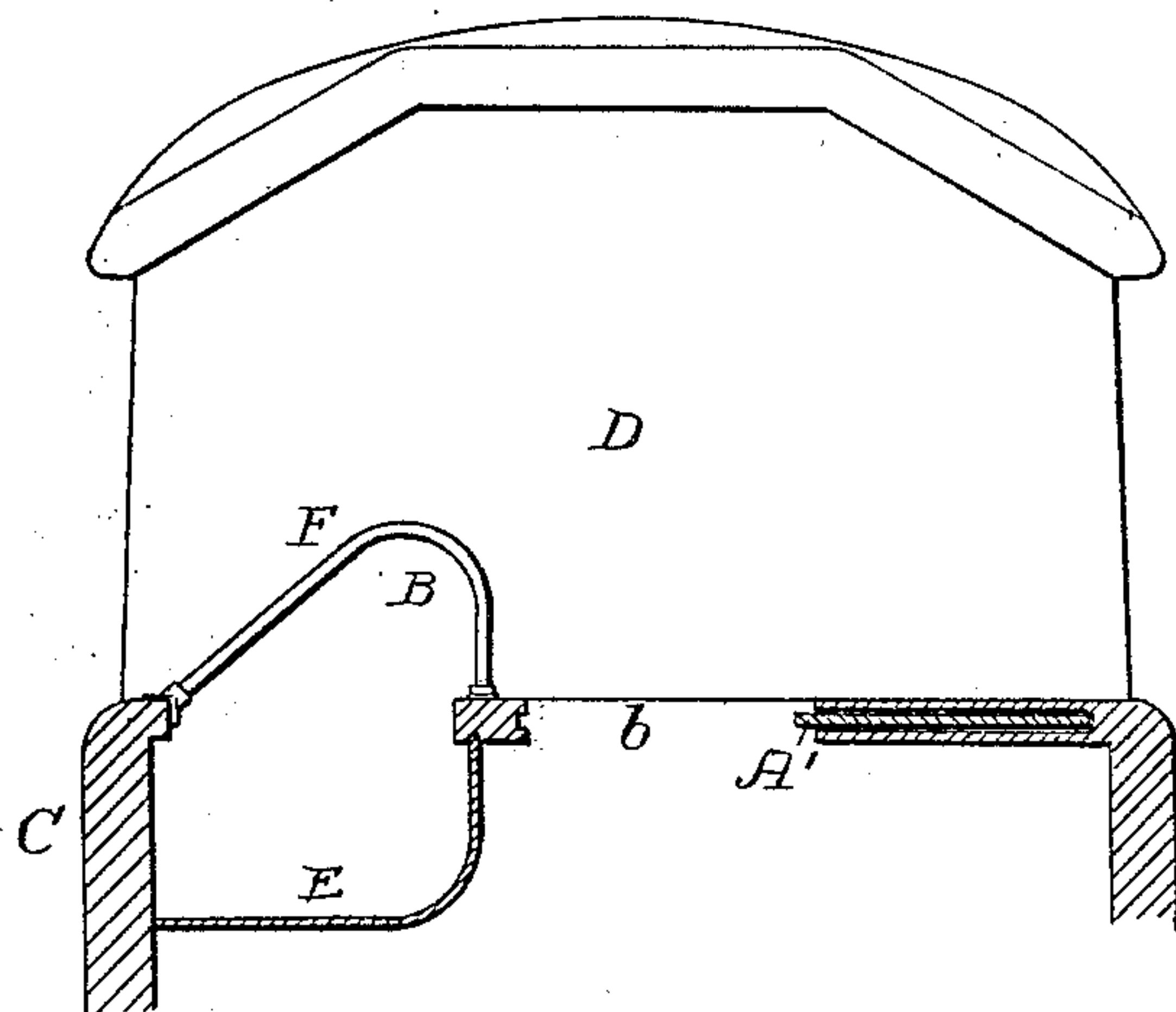
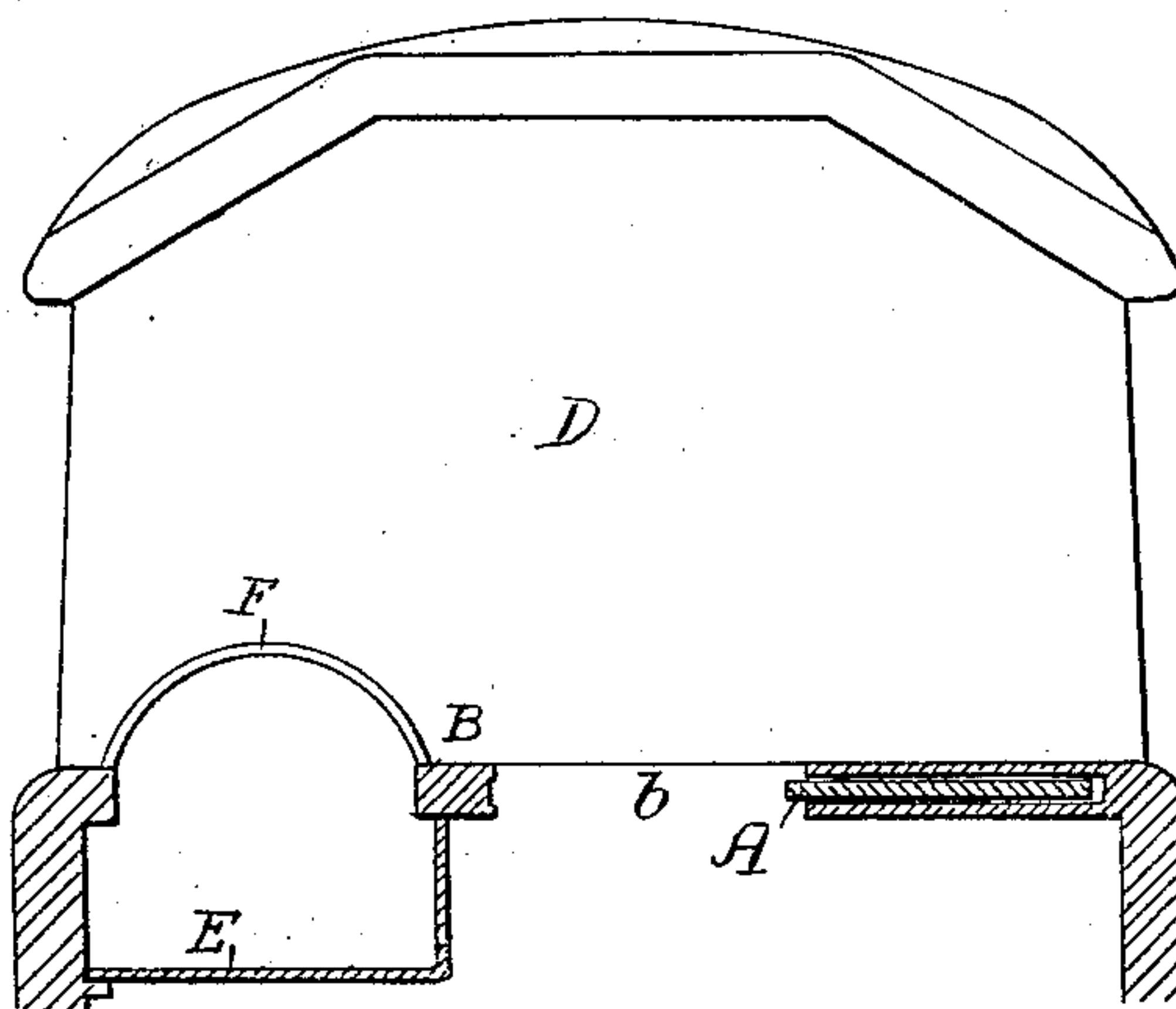


Fig. 9.



Witnesses
Walter Cullinger
Walter Cullinger

Inventor.-
Henry Howson,
by his Attorneys,
Howson & Howson

UNITED STATES PATENT OFFICE

HENRY HOWSON, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO THE J. G. BRILL COMPANY, OF PHILADELPHIA, PENNSYLVANIA, A CORPORATION OF PENNSYLVANIA.

PASSENGER-CAR.

No. 917,607.

Specification of Letters Patent.

Patented April 6, 1909.

Application filed May 15, 1908. Serial No. 433,067.

To all whom it may concern:

Be it known that I, HENRY HOWSON, a citizen of the United States, residing in Philadelphia, Pennsylvania, have invented certain Improvements in Passenger-Cars, of which the following is a specification.

My invention relates to certain improvements in passenger cars used particularly in city and suburban traffic.

10 The object of my invention is to convert the ordinary type of passenger car into a car of the type in which a passenger pays his fare on entering the car. In this type of car the conductor remains at his post at the rear of the car and collects the fares as the passengers enter the car from the platform, and it is desirable in this class of cars that the conductor control the exit door leading from the body of the car at the rear end thereof, if an exit door is used at the rear end; the door at the forward end being usually under the control of the motorman.

In the accompanying drawings:— Figure 1, is a sectional plan view of a car made in accordance with my invention; Fig. 2, is a transverse sectional view on the line 2—2, Fig. 1; Fig. 3, is a transverse sectional view on the line 3—3, Fig. 1; Fig. 4, is a sectional plan view similar to Fig. 1, showing the doors thrown back and the rail shifted; Fig. 5, is a perspective view showing the handle of the ingress door; Fig. 6, is a view showing a detail of the lock; and Figs. 7, 8 and 9, are views showing modified forms of my invention.

35 C is the body of the car having sides c' , c^2 , corner posts C' and a platform D open at each side d' , d^2 and closed in front by the usual vestibule framing D' . The floor c of the body of the car in the present instance is on a level above the floor d of the platform and the floor c has an extension c^3 which projects over the floor of the platform in the present instance. The reason for forming this extension will be described hereafter.

40 B is a center post midway between the two corner posts C' , in the present instance, and between this post and one corner post is a doorway b .

50 As shown in Figs. 1 and 4, A is the door hung at a to the center post B and is arranged to swing into the car as indicated by the arrow. The doorway b is the ingress doorway leading from the platform into the body of the car.

E is an offset partition at the corner of the body of the car and this partition extends at right angles from the center post B to a post c^4 at the side c' of the car. The offset partition E and the framing between the partition and the opposite corner post form the transverse partition separating the platform from the body of the car. The panel e of the partition E is preferably fixed and the upper portion of the panel may be provided with a sash, if desired. In the other portion of the partition, as shown in Fig. 1, is a doorway e' and hung in the doorway is a door E' hinged at e^2 in the present instance so as to swing outward and against the panel e , as indicated by the arrow, Fig. 1.

In the side c' of the body portion of the car and extending from the corner posts C' to the post c^4 is a doorway i entirely open, and the space b' between the center post B and the side c' is also open, so that the space inclosed by the partition E in the corner of the body portion of the car is open to the platform and in fact forms a continuation of the platform although the floor is on a higher level. A step h may be formed in the doorway i or the level of the floor may be extended to the outer edge of the car body. This would depend considerably upon the construction of the car to be converted from the ordinary passenger car into a pay-as-you-enter car.

In designing a car of this type it is preferable to arrange it so that a step can be formed in the doorway i and, in some instances, two steps can be formed at this point, both within the lines of the car. In the present instance I have shown the lower step pivoted as illustrated in Fig. 2; the step h' being pivoted at h^2 to the bracket at the side of the car and this pivoted step is connected to the vertical pivot e^2 of the door E' . In the present instance this connection consists of a beveled gear e^3 on the end of the pivot rod e^2 and on a shaft h^3 is a bevel gear e^4 which meshes with the wheel e^3 , and on the other end of the shaft h^3 is a bevel gear h^4 which meshes with a bevel gear h^5 on the pivot rod h^2 of the step, so that when the door E' is opened to allow for the exit of passengers the step is automatically lowered and when the door is closed the step is raised so as not to project beyond the line of the car body.

In order to prevent passengers entering the body of the car, except through the door-

way b , I provide a guard in the form of a rail F , preferably curved as shown so as to project over the platform D , and the projecting portion c^3 of the floor c is curved to conform, in the present instance, with the curve of the rail. In place of the rail other forms of guards may be used.

The space b' between the center post B and the corner post C' is open so that the space inclosed by the partition E forms, in fact, an extension of the platform, although the floor of this extension is on a higher level than the floor of the platform. The conductor stands on this floor and he can see clearly through the body of the car, as well as receive the fares of persons passing along the rail from the side d of the platform to the ingress doorway b , he is in close proximity to the step at the side d' of the platform and has control of the entire platform.

In order to have the door A closing the ingress doorway under the control of the conductor, I preferably provide a handle a' , which may be secured rigidly at the pivot edge of the door A and extend through a slot e^5 in the partition E , and the end of the handle may be suitably shaped to be grasped by the conductor so that he can open and close the door by simply moving that portion of the handle a' projecting through the partition.

When the door is open, as shown in Fig. 4, the handle is in the forward position and in this position it can be locked by any suitable form of latch, as shown at k . This latch is of special advantage at the forward end of the car when the regulations require that the exit must be made from the car either at the forward or at the rear end thereof.

When the platform is at the forward end of the car the door E is preferably locked so that the exit will be through the doorway B . In some instances the entire rail F may be fixed permanently in position, but I may make the rail, as illustrated in Figs. 1 and 4, in two parts f and f' , the part f being fixed and supported by the corner post C' and by a post f^2 , while a section f' may telescope into the section f by simply uncoupling it at the socket f^3 and turning it a half turn, and then sliding it into the section F , as illustrated in Fig. 4.

I may provide a folding seat N pivoted at n to the panel e of the partition E , and this seat may be supported by folding brackets or feet, as desired.

It will be understood that when the platform is at the forward end of the car the side d' of the platform is closed, as well as the doorway i , preferably by the ordinary form of collapsible guard. The guard on the opposite side d^2 of the car may be open or may be so arranged as to be under the control of the motorman and doors may be substituted for the guards at the side of the platform to close the passageway i if desired.

I preferably connect the handle a' with the lock m so that the conductor can lock the ingress door and prevent the entrance of passengers until the fares have been paid; the lock being preferably at the opposite end of the door from the handle, and I construct the parts in the manner shown in Figs. 5 and 6.

In the lock m in the present instance is a spring latch bolt m' actuated by a lever m^2 connected by a rod m^3 to the arm a^3 , which is pivoted to a bracket a^3 secured to the pivot side of the door. If the door is closed, as in Fig. 1, and the conductor wishes to prevent a passenger entering the car, he simply pushes upon the handle a' , holding the bolt m' in its keeper. To open the door, the conductor simply pulls the handle, the bolt is immediately withdrawn and the door is opened. The door can be held in its open position by the latch k , thus the door A is completely under the control of the conductor.

When the platform is at the rear of the car, the parts are in the position shown in Fig. 1, the rail separating the ingress section from the egress section of the platform. The doors A and E' are normally closed so as to entirely inclose the rear end of the car; the conductor being located in the space formed by the partition E and the rail F . Passengers entering the car from the side d' of the platform pass around the rail F and pay their fares to the conductor, and then pass into the car through the doorway b , opening the door in their passage.

If a person should try to pass the conductor before paying his fare, the handle of the door a' is within easy reach and the conductor can prevent the opening of the door by a passenger before the fare is paid by simply holding the handle a' , causing the lock on the door to enter the keeper and by simply moving the handle in the opposite direction the bolt of the lock is immediately withdrawn and the door can be opened either by the conductor or by the person entering the car.

If any one wishes to pass out by the rear exit passageway then the door E' can be pushed outward and the passenger can alight from the car through the passageway i , as the moment the door is opened the folding step, when used, is moved to its extended position so that the passenger can readily step off the car and the conductor may hold the door E' open until the passenger is clear of the car. When the platform is at the forward end of the car, the door A can be moved to the position shown in Fig. 4 and locked in this position by a latch K , or other fastening, so as to leave a clear open passageway, if desired, from the car to the platform. The passenger may then alight from the car at the side d^2 of the platform, the guard or door being preferably under the control of the motorman. The sides d' of

the platform and the doorway *i* being closed by the guard.

If it is desired to utilize the space inclosed by the partition E and the rail F, the section *f'* of the rail may be uncoupled from its socket *f*³ and turned a half turn and passed into the fixed section *f*, the curve of the two sections being such as to allow of this adjustment. Then the seat N may be raised so as to increase the seating capacity of the car.

If the exit from the car is to be at the forward end only, then the space formed by the partition E and the guard F may be reserved for the conductor only and the exit passageway *i* dispensed with, and the space may be made smaller than shown and the rail F may be curved as shown, or straight as desired.

Fig. 7 illustrates a modification in which the space inclosed by the partition is reduced in size and the exit passageway *i* dispensed with.

Figs. 8 and 9 show other modifications, each using a sliding door A' and the post B' is shifted to one side of the center. The modifications shown in Figs. 8 and 9 increase the seating capacity of the car and the conductor is close to the boarding side of the car.

I claim:

1. The combination in a passenger car, of a body portion, a platform, a transverse partition having a doorway at one side and an offset portion at the opposite side, the space inclosed by said offset portion being open to the platform, and a guard separating said space from the platform.

2. The combination in a passenger car, of a body portion, a platform, a transverse partition separating the platform from the body and having an offset portion extending into the car body, the space inclosed by the offset portion of the partition being open to the platform, the floor of the car body and of the offset portion being above the level of the floor of the platform.

3. The combination in a passenger car, of a body portion, a platform, a transverse partition separating the platform from the body portion and having an offset portion at that side of the car at which passengers board the car and having a doorway at the opposite side, the space inclosed by the offset portion of the partition being open to the platform, and a guard separating the said space from the platform.

4. The combination in a passenger car, of a body portion, corner posts and a center post at one end of the body portion, a platform extending beyond the body portion, a doorway formed between one corner post and the center post, a guard closing the space between the center post and the other corner post, a partition in the corner of the body portion of the car and extending from the center post, a doorway in the partition, a door mounted in the said doorway and a pas-

sageway at the side of the car forming an exit opening communicating with the space inclosed by the partition.

5. The combination in the body of a car, of a corner post and a center post at one end of the car body, an exit opening at one side of the car body adjacent to one of the corner posts, a platform beyond the car body, a guard rail extending from the corner post adjacent to the exit opening to the center post and dividing the ingress from the egress passageways, a doorway between the center post and the other corner post, a door mounted in the said doorway and arranged to swing inwardly, a partition in one corner of the body portion of the car and inclosing the egress passageway, a doorway in said partition, a door mounted in the said doorway and arranged to swing outwardly.

6. The combination in a passenger car, of a body portion, a corner post and a center post at the end of the body portion, a platform beyond the body portion, an exit passageway at the side of the car adjacent to one corner post, said corner post dividing the ingress from the egress passageway at the side of the car, a doorway at the opposite side of the car between the center post and the corner post, a door closing the said doorway, a partition extending from the center post at right angles to the side of the car beyond the exit passageway, a door in said partition, a portion of the floor of the car extending beyond the end of the said body portion and over the floor of the car, a rail separating the ingress from the egress section, said rail projecting from the end of the body portion over a portion of the platform so as to increase the area of the space occupied by the conductor.

7. The combination in a passenger car, of a body portion, a platform beyond the body portion, a transverse partition separating the platform from the body portion, an ingress doorway on one side of the partition, a partition in the corner of the body portion adjacent to said transverse partition, an exit doorway therein, an exit passageway in the side of the body portion of the car, a guard separating the ingress section of the platform from the egress extension of the platform within the body of the car, the floor of the extension being on a level with the floor of the body of the car and above the floor of the platform.

8. The combination in a car of the type described, of a body portion, corner posts and a center post at the end of the body portion, a platform beyond the said end, the floor of the platform being below the floor of the body portion, a right angled partition within the body portion and at one corner thereof extending from the center post to the first post at the side of the body of the car from the corner post, an exit passageway

between said posts and communicating with the space within the partition, an ingress doorway between the center post and the corner post at the opposite side of the car, a door hung on the center post and arranged to swing into the body of the car.

9. The combination in a passenger car, of a body portion, a platform, a transverse partition separating the body portion from the platform, a guard rail inclosing the space occupied by the conductor and made in sections, one section telescoping into the other.

10. The combination in a passenger car, of a body portion, a platform, a transverse partition separating the body portion from the platform, a curved guard rail made in sections, one section being fixed and the other movable so that on turning said movable section it can telescope into the fixed section.

11. The combination in a passenger car, of a slotted partition, a door hung at the partition and an operating handle attached

to the door at its pivot edge and extending through the slot in the partition.

12. The combination in a passenger car of a slotted partition, an operating handle pivoted to the door at its pivot edge, a lock at the opposite edge of the door, and a connection between the lock and the handle.

13. The combination in a passenger car, of a body portion, a platform, a transverse offset partition, a doorway therein, a door, a pivot rod upon which the door is hung, an exit opening, a pivoted step below said opening and gearing between said pivot rod and the step, so that the step will be lowered and raised on opening and closing the door.

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

HENRY HOWSON.

Witnesses:

MURRAY C. BOYER,
WM. A. BARR.