

No. 887,292.

PATENTED MAY 12, 1908.

C. E. TENER.

AUTOMATIC MAIL DELIVERY FOR RAILWAY CARS.

APPLICATION FILED SEPT. 24, 1907.

2 SHEETS—SHEET 1.

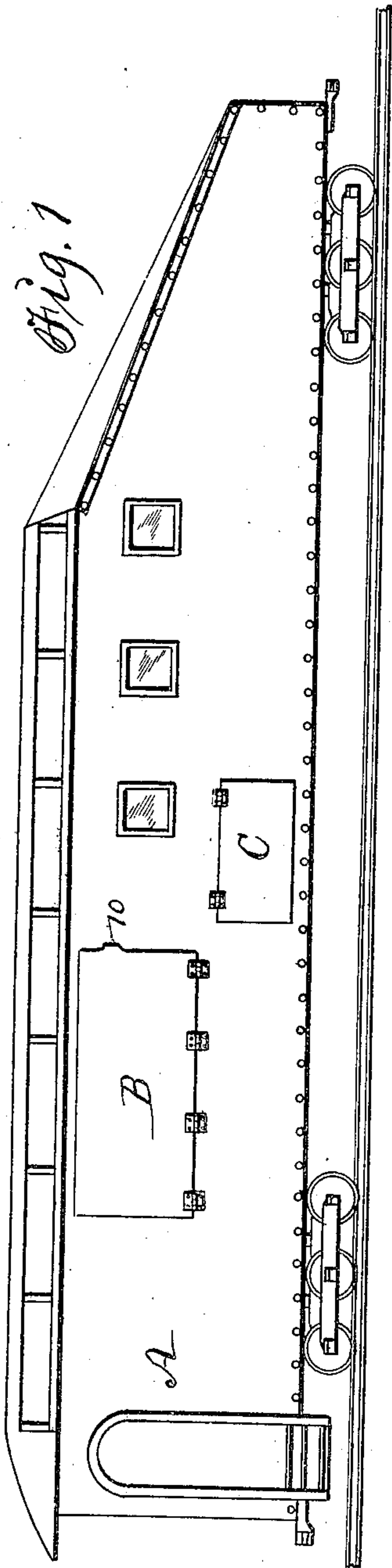
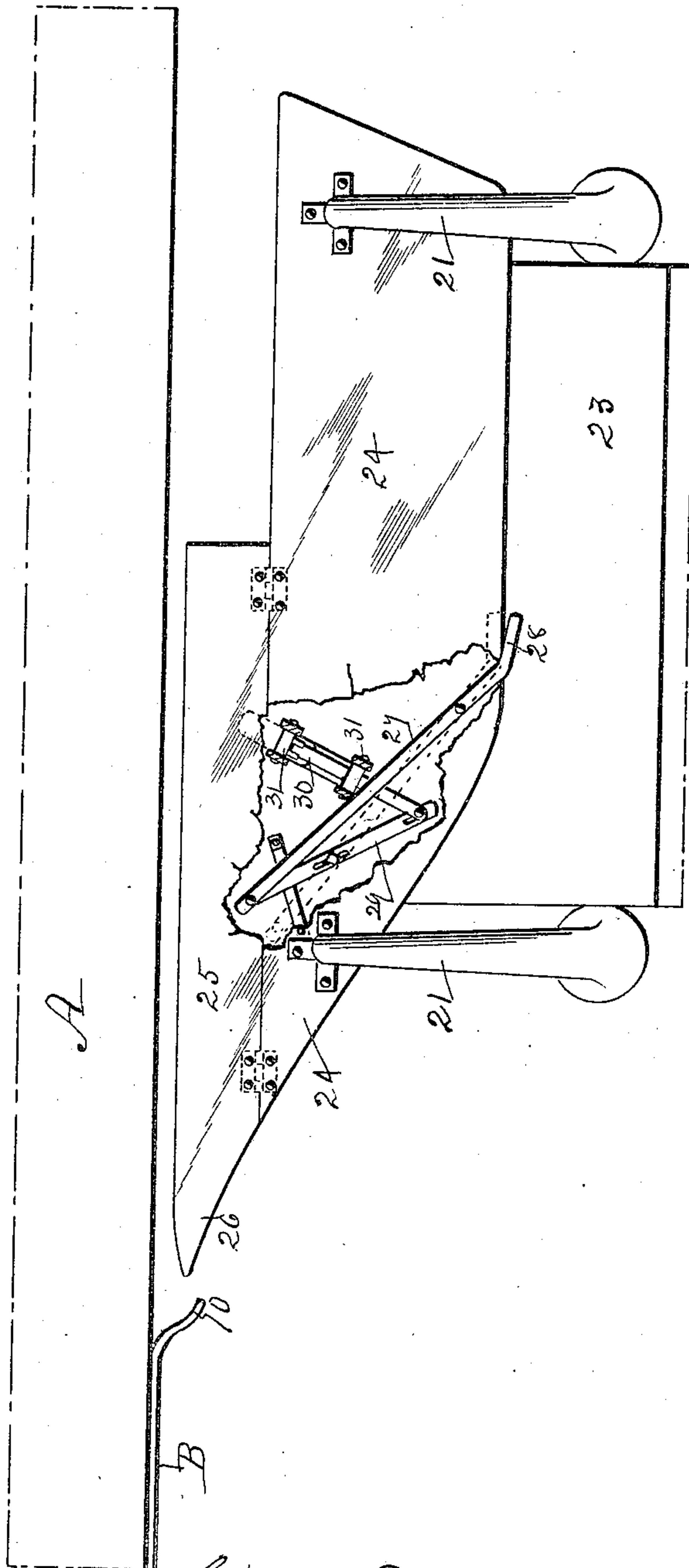


Fig. 2



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Inventor: Charles E. Tener.
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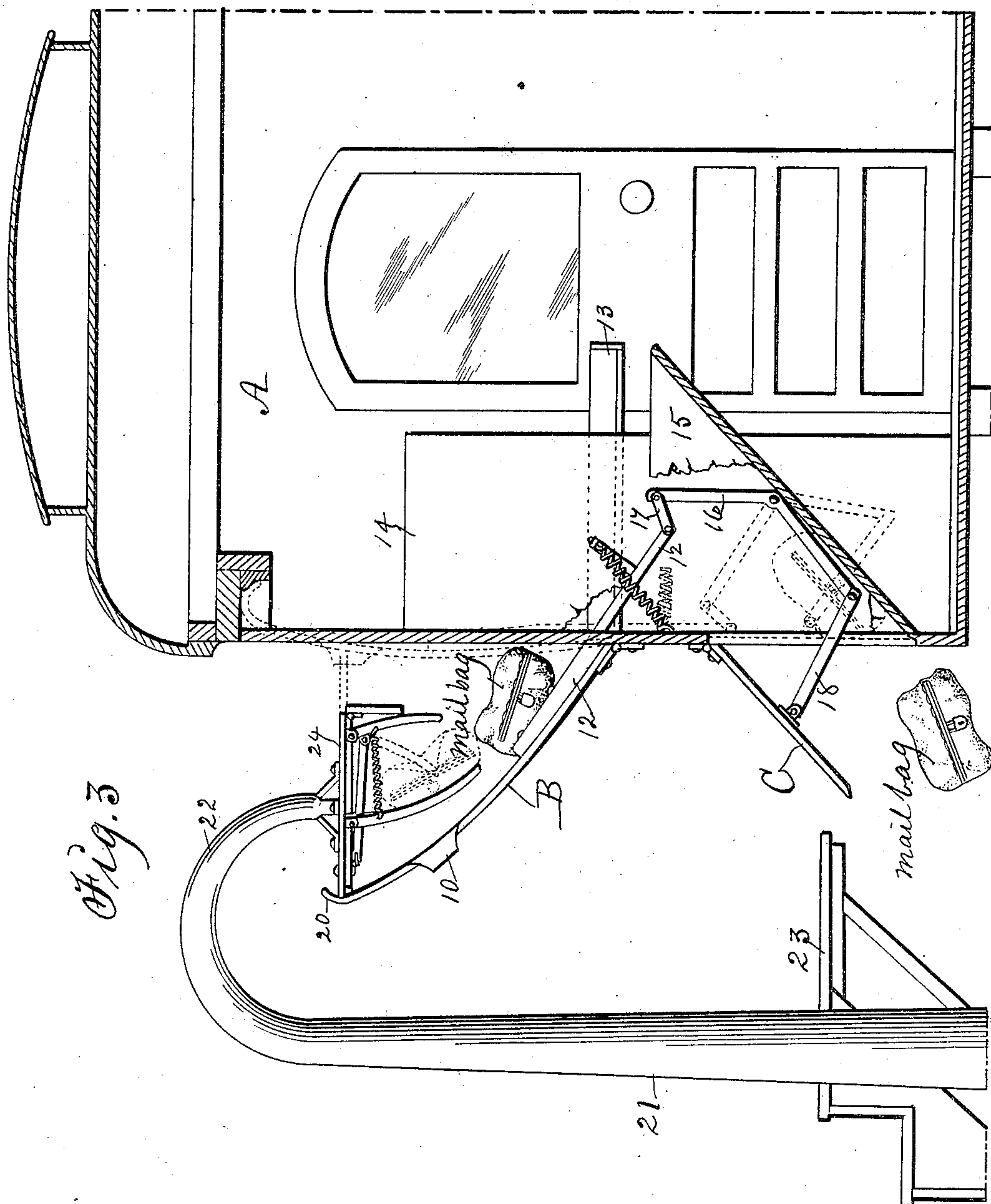
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2 SHEETS—SHEET 2.



Witnesses:
K. H. Keffler.
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UNITED STATES PATENT OFFICE.

CHARLES E. TENER, OF DES MOINES, IOWA.

AUTOMATIC MAIL-DELIVERY FOR RAILWAY-CARS.

No. 887,292.

Specification of Letters Patent.

Patented May 12, 1908.

Application filed September 24, 1907. Serial No. 394,740.

To all whom it may concern:

Be it known that I, CHARLES E. TENER, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented a new and useful Automatic Mail-Delivery for Railway-Cars, of which the following is a specification.

My object is to provide an apparatus for automatically delivering a mail bag into a car and also at the same time taking one out of the car as a train passes a railway station.

My invention consists in the construction, arrangement and combination of elements and subcombinations as hereinafter set forth, pointed out in my claims and illustrated in the accompanying drawings in which:

Figure 1 is a side view of a car that shows the doors, with which my operative mechanism is combined, in their normal closed positions. Fig. 2 is a plan view that shows the relative positions of a car and its door that is to be opened and the stationary mechanism at the side of the car that is to automatically open the door as the car passes. Fig. 3 is an end view of the car, partly in section, and the operative mechanism in the positions it assumes when the door is open.

The letter A designates a car, B the door hinged to the car to be automatically opened for delivering a mail bag into the car and C the hinged door through which a mail bag is to be discharged as the car passes a station.

The numeral 10 designates an extension on the end of the door B that projects outward. A bar 12 is fixed to the inside of the door to extend downwards to serve, in combination with the door, as the short arm of a lever for opening and closing the lower door C.

A platform 13 is fixed to the car to extend inwards for receiving a mail bag and 14 is a vertical partition fixed to the car between the doors B and C.

A hopper 15 with an inclined bottom is fixed in the car for retaining a mail bag when the door C is closed and discharging the bag from the car when the door is opened. A lever 16 is fulcrumed in the hopper 15 and connected with the bar 12 by a link 17 to produce a compound leverage for automatically opening the door C with which the lower end of the lever 16 is connected by a link 18, as shown in Fig. 3. A recess 19 is provided at the top and inside of the car to admit the inwardly inclined top 20 of the door B.

Uprights 21 are fixed at the station and have their tops curved inwards to produce

arches 22 for supporting bag holding mechanism. A platform 23 having steps is located between the uprights 21 upon which a person can stand when placing a mail bag in a suspended grip device connected with the arches 22. A flat board 24 is fixed under the arches 22 and the grip device fixed thereto as shown in Fig. 3, or in any suitable way. To the inner edge of the board 24 is hinged an extension 25 in such a manner that in its normal condition its pointed end 26 will serve as a cam to engage the projection 10 of the door B as required to open it and thereby actuate the automatic mechanism for receiving and also discharging mail bags as the car passes the station.

A lever 27 is pivoted to the underside of the board 24 and its short bent arm 28 projects beyond the outer edge of the board and its inner end extends under the hinged extension 25 as shown in Fig. 2. A second lever 29 is pivotally and slidably connected with the board and pivoted to the end of the long arm of the lever 27. A slide 30 in bearings 31 fixed to the board 29 is pivotally and slidably connected with the outer end of the lever 29. The lever 27 normally retains the hinged board extension 25 in a horizontal plane as shown in Fig. 2, so that when the door B is opened and has swung outward to its limit it will engage the short arm 28 of the lever 27 and press it inwards and in so doing withdraw the end of its long arm from under the hinged board as required to allow it to drop into a pendent position as shown in Fig. 3.

An arm 32 is connected to the outer bearer 31 to extend downwards and a second arm 33 to the outer bearer 31 and a spring 34 is connected with the two arms in such a manner that they will normally incline towards each other as required to clasp and hold up a mail bag placed between the arms.

In the practical operation of my invention when a mail bag is placed in the arms 32 and 33 and another mail bag placed in the hopper 15 in the car the pointed cam or end 26 of the hinged extension 25 of the board 24 will contact with the projection 10 of the car door B and the door will be opened to swing outward and downward and as the car advances the curved top end of the door will come in contact with the short arm 28 of the lever 27 and in so doing will vibrate the lever and withdraw the long arm from under the hinged extension 25 of the board 26 and al-

low it to drop into a horizontal position as shown in Fig. 3 and at the same time the slide 30 will be actuated as required to open the arms 32 and 33 and allow the mail bag to drop on the door B and slide therefrom upon the platform 13 in the car and the compound levers 12 and 16 connected with the door C will open that door and allow the mail bag in the hopper 13 to slide out of the car to lodge upon the ground or pavement beside the car track.

A spring 34 fixed to the inside of the wall of the car and to an upward extension 35 fixed on the lever 12 expands to aid in opening the doors B and C as required to allow one bag to enter the car over the door B and another bag to drop out under the open door C.

Having thus set forth the construction, functions, arrangement and combination of all the operative elements the practical operation and utility of my invention will be obvious.

What I claim as new and desire to secure by Letters-Patent, is:

1. In an apparatus for delivering mail bags to and from a car, a door hinged in a doorway in the side of a car and provided with an outward projection at one end, fixed uprights having arches at their tops, a flat board fixed to the arches, a door hinged to the side of said fixed board and pointed at one end, to operate as set forth.

2. In an apparatus for delivering mail bags to and from a car, a door hinged in a doorway in the side of a car and provided with an outward projection at one end and curved inward at its top edge, and a car having a recess at the top of the doorway to admit the inturned top edge portion of the door, as set forth.

3. In an apparatus for delivering mail bags to and from a car, a door hinged in a doorway in the side of a car and provided with an outward projection at one end and curved inward at its top and a lever fixed to the lower portion of the door to project into the car, as set forth.

4. In an apparatus for delivering mail bags to and from a car, a door hinged in a doorway in the side of a car and provided with an outward projection at one end and curved inward at its top and a lever fixed to the lower portion of the door to project into the car and means outside of the door to engage the outward projection on the end of the door for opening the door, as set forth.

5. In an apparatus for delivering mail bags to and from a car, a door in the lower portion of the side of a car hinged at its top and a hopper having an inclined bottom inside of the car for retaining a mail bag when the door is closed means for automatically opening the door when the car passes a railway station to allow the mail bag to slide out of the hopper, as set forth.

6. In an apparatus for delivering mail bags to and from a car, a door in the lower portion of the side of a car hinged at its top and a hopper inside of the car for retaining a mail bag when the door is closed, a compound lever fulcrumed in the hopper and connected with the door by a link and means to actuate the compound lever for automatically opening the door when the car passes a railway station.

7. In an apparatus for delivering mail bags to and from a car, a door hinged in a doorway in the side and upper portion of a car to swing outward and downward, a second door hinged to the car in a lower plane to swing outward and upward, a lever fixed to the inside and lower portion of the upper door, a second lever fulcrumed in the car and connected with the lever on the upper door by a link and also connected with the lower door by a link, to operate as set forth.

8. In an apparatus for delivering mail bags to and from a car, a door hinged in a doorway in the side and upper portion of a car to swing outward and downward, a second door hinged to the car in a lower plane to swing outward and upward, a lever fixed to the inside and lower portion of the upper door, a second lever fulcrumed in the car and connected with the lever on the upper door by a link and also connected with the lower door by a link and a spring fixed to the inside of the car and to the lever extended from the upper door, to operate as set forth.

9. In an apparatus for delivering mail bags to and from a car, fixed uprights at a station at the side of a car track arched inwards towards the track, a board suspended thereby in a horizontal position, an extension of the board hinged to the inner edge of the fixed board and one of its ends terminating in a cam, a lever pivoted to the underside of the board, a second lever pivotally and slidably connected with the board and pivoted to the long arm of the first lever, a slide in bearings on the underside of the board connected with the end of the second lever and means to connect a bag holder with the slide, to operate as set forth.

10. In an apparatus for delivering mail bags to and from a car, fixed uprights at a station at the side of a car track arched inwards towards the track, a board suspended thereby in a horizontal position, an extension of the board hinged to the inner edge of the fixed board and one of its ends terminating in a cam, a lever pivoted to the underside of the board, a second lever pivotally and slidably connected with the board and pivoted to the long arm of the first lever, a slide in bearings on the underside of the board connected with the end of the second lever, arms pivotally connected with the slide to connect a bag holder with the slide, to operate as set forth.

11. An apparatus for delivering mail bags
to and from a car as it passes a station, com-
prising a car having a door hinged to the car
and provided with an outward projection at
5 one end and a lever fixed to its inside and
lower portion, a second door hinged to the
car in a lower plane, a platform in the car at
the lower end of the upper door, a hopper in
the car inside of the lower door, an elbow-
10 shaped lever fulcrumed in the hopper and
connected with the lower door by means of
links, uprights fixed aside of the railway
track, a board suspended in a horizontal po-

sition by the uprights, an extension board
hinged to the inside edge of the fixed board 15
and terminating at one end in a cam, a lever
pivoted to the underside of the board, a sec-
ond lever pivoted to the underside of the
same board, a slide connected with the under
side of the board and with the second lever 20
and spring-actuated arms pivotally con-
nected with the slide, to operate as set forth.

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Witnesses:

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