(No Model.)

# T. EUBANK.

## CAR DOOR.

No. 509,570. Patented Nov. 28, 1893.

Fig. 2.

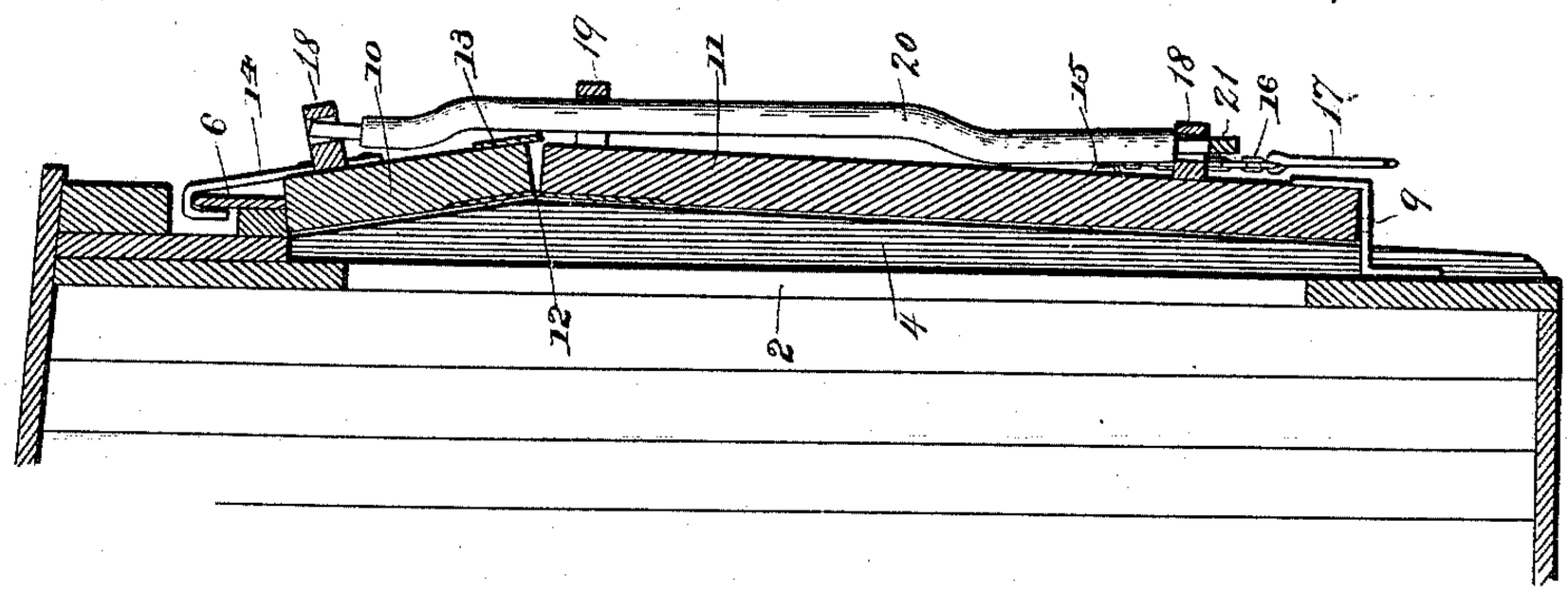
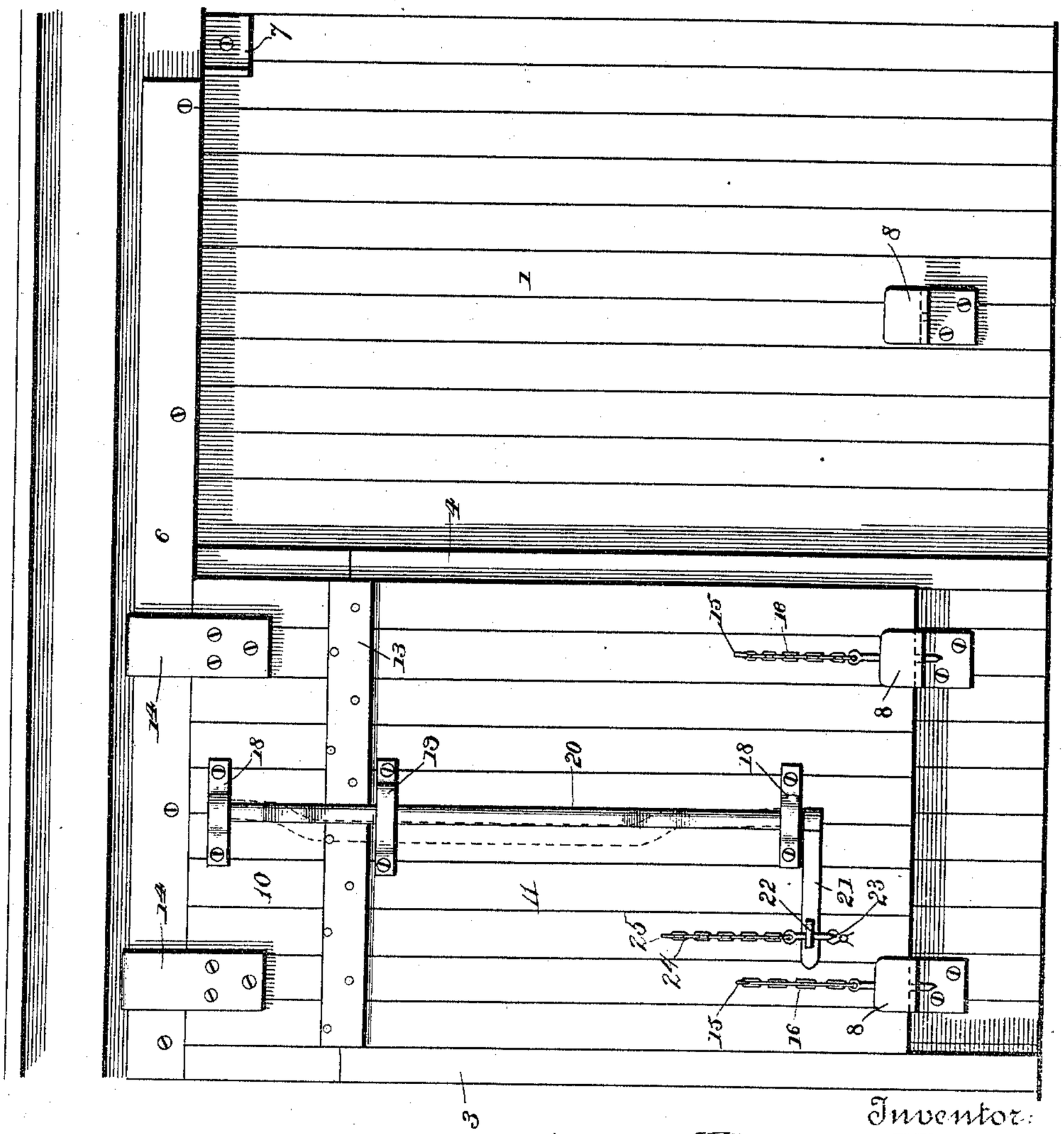



Fig. 1.

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# UNITED STATES PATENT OFFICE.

THOMAS EUBANK, OF LITTLE ROCK, ARKANSAS, ASSIGNOR TO THE EUBANK CAR DOOR COMPANY, OF SAME PLACE.

## CAR-DOOR.

SPECIFICATION forming part of Letters Patent No. 509,570, dated November 28, 1893.

Application filed May 8, 1893. Serial No. 473,444. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS EUBANK, a citizen of the United States, residing at Little Rock, in the county of Pulaski and State of Arkansas, have invented a new and useful Car-Door, of which the following is a specification.

My invention relates to improvements in freight car doors; the objects in view being to provide a door of simple construction, that is adapted to fit snugly over the opening in the wall of the car and to prevent entrance of dust, sparks, snow, and rain to the car; to provide means for locking the door in a closed or open position and for the attachment of a seal, whereby any tampering with the car will be evinced.

Various other objects and advantages of the invention will appear in the following description, and the novel features thereof will be particularly pointed out in the claims.

Referring to the drawings:—Figure 1 is an elevation of a portion of a car, the same being provided with my improved door, which is shown in a locked position. Fig. 2 is a vertical sectional view, the door being unlocked and slid to one side.

Like numerals of reference indicate like parts in all the figures of the drawings.

1 designates the car body or wall, and the same is provided with the usual opening 2, at the sides of which are arranged vertical strips 3 and 4, said strips being located a short distance beyond the edges of the door opening and the strip 4 being convexed, that is being tapered from an intermediate point above its center toward its opposite ends. Above the strips and the door opening and secured under the eaves of the car is the door-supporting bar 6, the same being of L-shape in cross section so as to receive the hangers of the door as hereinafter described. An L-shaped stop 7 is secured to the wall of the car below the rear end of the bar 6, and L-shaped brackets 8 are arranged in line with each other and secured to the wall of the car below the plane of the door opening. Each of these brackets 8 is provided with a perforation 9 in its horizontal portion.

The door is composed of two sections, namely, an upper section 10 and a lower section 11, the said sections having their meeting line in transverse alignment with the point from which the outer surface of the strip 4 declines, and inasmuch as said sections 10 and 11 are hinged at their inner corners as at 12, it will be seen that the door is capable of breaking or bending at this point, and is thus enabled when so bent to slip over the convexed strip 4. In order to prevent access of snow, rain, sparks, &c., through the crevice intervening between the meeting ends of the sections 10 and 11 of the door a weather-strip 13 is secured to the outer face of the upper section 10 and depends over the crevice lying flatly upon the lower section when the door is closed, or in other words, the sections are in line with each other. A pair of hangers 14 of ordinary pattern are secured to the outer face of the upper section 10 of the door and have their upper ends bent upon themselves for the purpose of engaging the upper edge of the bar 6. When in this engagement the bottom edge of the door rests in the brackets 8 which form the lower supports for said doors. A pair of staples 15 extend from the lower section of the door adjacent to the corners thereof, and in these short chains 16 are connected, the lower ends of the chains being connected to pins 17 designed to take through the perforations 9 in the brackets 8 and thus lock the door either open or closed. The upper and lower sections are provided upon their outer faces and near their opposite ends with bearing ears 18 which are vertically opposite each other, and between the same there is secured to the face of the lower section 11 just below the weather-strip 13, a keeper 19. A shaft 20 has its opposite ends reduced to form bearings, is journaled in the bearing-ears 18, and is also passed through the keeper 19. Between its ends the shaft is cranked slightly so that when oscillated in one direction thus throwing the crank-portion outward this cranked portion will act in a cam-like manner against the keeper 19 and thus break the section at the hinge line, or when oscillated in the opposite direction thus throwing the crank portion inward the said crank portion will act in a cam-like manner against the door at or about the hinge line and thus compress the sections into vertical alignment with each other. For the purpose of accomplishing this oscillatory movement upon the part of the

cam-acting crank-shaft I provide the lower end of said shaft, which extends below the lower bearing as shown, with a combined crank and hasp 21, the same having an opening for the reception of a staple 22 over which it may be swung and with which it may be locked through the medium of a pin 23 secured to a chain 24 which in turn is by a staple 25 secured to the lower section 11. When this combined hasp and lever is in locking position with relation to the staple the cam or crank portion of the shaft will have pressed the sections 10 and 11 of the door into alignment and between the strips 3 and 4. A perforation is formed in the lower end of the pin 23, and through this a seal-wire may be passed. In order to open the door it is necessary that the pin should be withdrawn from the staple, and such operation is impossible as long as the seal-wire is in position. It therefore requires that the seal be broken in order to accomplish this opening of the door, and hence such a condition would evince to the assignee of the car the fact that the contents had been tampered with. The car having reached its destination in order to open the same the seal is broken, the pin 23 withdrawn, and the combined hasp and lever swung to one side so that the cam-like shaft will act upon the keeper, and thus break the sections at the hinge line and permit the door to be slid over the convexed strip 4 and to one side of the opening, thus giving access to the interior of the car.

It will be seen from the foregoing description in connection with the accompanying drawings that the mechanism is of a very simple and durable character and readily operated, and that when the door is in position access to the car of sparks, rain, snow, sleet, &c., is effectually prevented; and, furthermore, that there are no projecting parts of the mechanism which are liable to be knocked off and become broken, but the entire device is compact and located snugly against the wall of the car.

It is to be understood that changes in the form, proportion, and the minor details of construction may be resorted to without departing from the principle or sacrificing any of the advantages of this invention.

Having described my invention, what I claim is—

1. The combination with a car, and its door opening, and the strips at the opposite sides thereof, one of said strips being convexed, of upper and lower guides for the door, a door composed of sections hinged together in alignment with the convexity of the strip, hangers secured to the upper section and engaging the guide, bearing-ears upon the upper and lower sections, a cam shaft journaled in the bearing-ears, a combined hasp and crank secured to the shaft, a staple extending from the door to receive the combined hasp and crank, and a locking device for passing through the staple, substantially as specified.

2. The combination with a car having the door-opening, the opposite strips, one of which is convexed above its center, and the upper and lower guides, of the door formed in upper and lower sections hinged together at their meeting edges in transverse alignment with the convexity of said strip, the hangers secured to the upper section and engaging the upper guide, the upper and lower bearing-ears secured to their respective sections and arranged in vertical alignment, the shaft cranked between its ends and journaled in said ears, the keeper embracing the crank and secured to the lower section, the combined hasp and crank secured to the lower end of the shaft, the staple arranged in the path thereof, the locking-pin for passing through the staple and having a perforation for engaging the seal-wire, substantially as specified.

3. The combination with the car having the opening, the opposite vertical strips, one of which is convexed, the upper guide-bar, the lower brackets having perforations, the sectional door suspended from a guide-bar and resting in the brackets, chains connected to the door and provided with pins for engaging the perforations in the brackets, a weather-strip arranged over the meeting edges of the sections, upper and lower bearings-ears secured to the sections, a shaft cranked between its ends, journaled in the ears, and adapted to bear upon the weather-strip, a keeper secured to the door and embracing loosely the shaft, a combined hasp and crank secured to the lower end of the shaft, a staple arranged in line therewith, and a locking-pin for the staple, substantially as specified.

4. In combination with the door composed of sections hinged together, the bearing-ears mounted on the door in vertical alignment, a cam shaft mounted in the ears and crossing the meeting line of the sections of the door, and a combined hasp and crank extending from the cam shaft and provided with means substantially as described for locking the same, substantially as specified.

5. In combination with the door composed of two sections hinged together on a horizontal line, the bearing ears 18 mounted on opposite sections of the door, the keeper 19 on the lower section, the shaft 20 having its ends reduced to form journals which are mounted in the ears 18, and between its ends formed with a cranked portion that is passed through the keeper 19, and the combined hasp and crank connected to the crankshaft 20 and provided with locking devices, substantially as specified.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

THOS. EUBANK.

Witnesses:
JOHN MORGAN,
J. L. LEE.