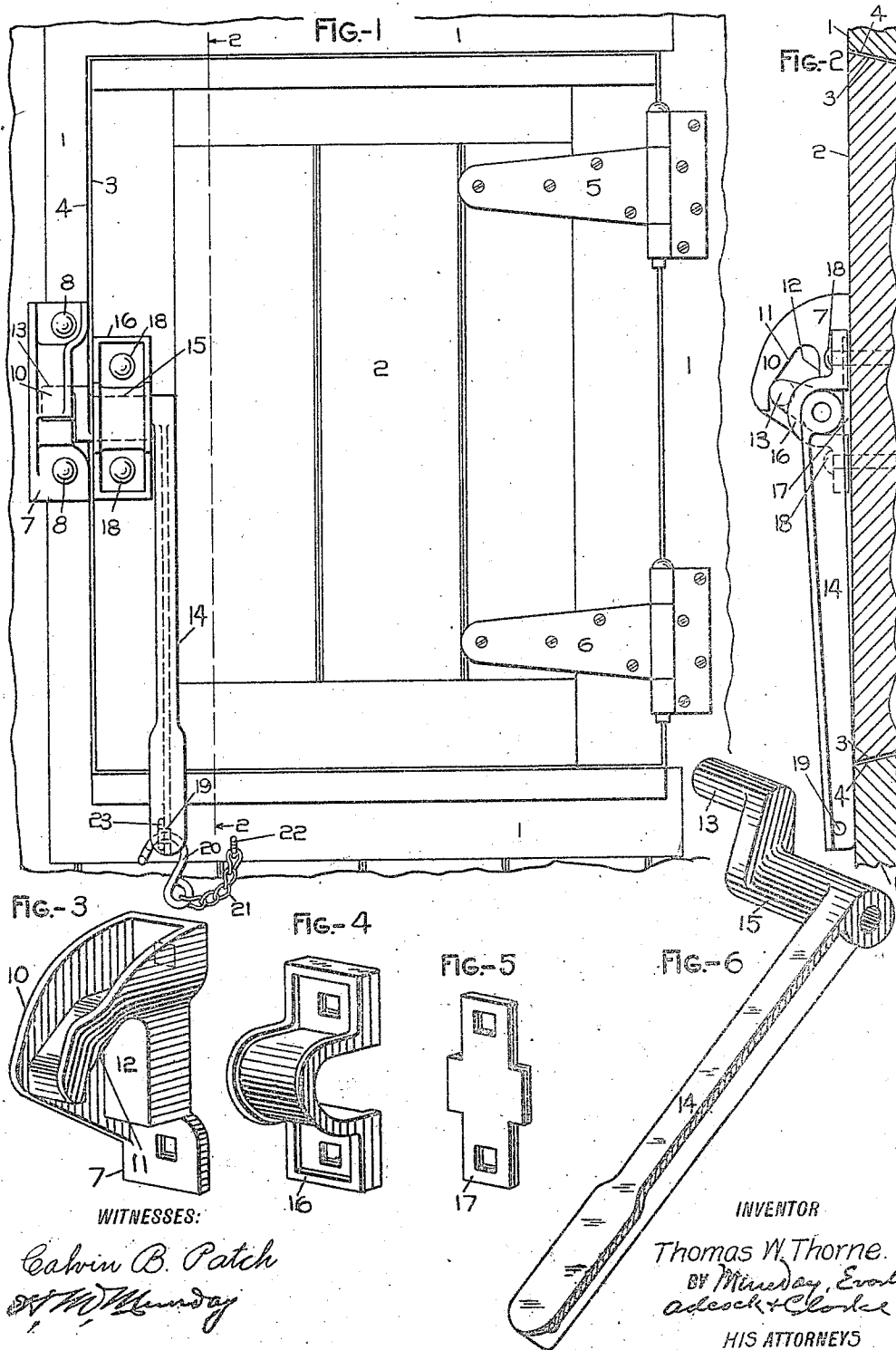


T. W. THORNE.
LATCH FOR CAR DOORS.
APPLICATION FILED FEB. 23, 1911.

1,127,116.

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UNITED STATES PATENT OFFICE.

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LATCH FOR CAR-DOORS.

1,127,116.

Specification of Letters Patent.

Patented Feb. 2, 1915.

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To all whom it may concern:

Be it known that I, THOMAS W. THORNE, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Latches for Car-Doors, of which the following is a specification.

My invention relates to improvements in door operating mechanisms for railway cars.

The object of my invention is to provide a door operating mechanism of a simple, efficient and durable construction, by means of which the tight fitting wedge faced heater doors of refrigerator cars may be easily and conveniently opened and closed and securely held closed.

My invention consists in the novel construction of parts and devices and in the novel combinations of parts and devices herein shown and described and more particularly specified in the claim.

In the accompanying drawing forming a part of this specification Figure 1 is a side elevation of a door operating mechanism embodying my invention; Fig. 2 is a vertical section on line 2-2 of Fig. 1; Fig. 3 is a perspective view of the keeper member; Fig. 4 is a perspective view of the hinge member which is secured to the door; Fig. 5 is a perspective view of the bearing plate which is secured to the door and Fig. 6 is a perspective view of the crank arm operating lever.

In the drawings, 1 represents the door frame portion of the refrigerator car and 2 the heater door of the refrigerator car; that is to say the door which leads to the heater with which refrigerator cars are provided for use in the winter season and which requires to be frequently opened and closed for giving attention to the heater and inspection of same. The door 2 and the surrounding door frame 1 have cooperating wedge faces 3, 4 furnished with the customary insulating spring backed packing although the same is not shown in the drawing, my invention does not relate thereto. The door 2 is connected to the door frame 1 by hinges 5, 6. I secure to the door frame 1 a keeper 7 by bolts or rivets 8 which keeper is furnished with a hook member 10 which

face 11 and an upright face 12 for engagement with the crank arm 13 of the door operating lever 14. The trunnion 15 of which is rotatably secured to the door 2 near the free edge thereof by the hinge plate 16 in connection with the bearing or wear plate 17. The hinge plate 16, and bearing plate 17 are secured to the door 2 by bolts or rivets 18. At its lower end the operating lever 14 is furnished with an eye 19 to receive the fastening hook 20 which is connected by a chain 21 to an eye bolt 22 on the door frame and passes through the eye bolt keeper 23 on the door frame to hold the operating lever securely in its closed or lowermost position.

In operation as the operating lever 14 is swung upward from its depending position as shown in Figs. 1 and 2 into an upright position the crank arm 13 by its engagement with the face 12 of the keeper 7 serves to force the door 2 open under powerful leverage and wedging or cam action of the operating lever 14 and its wedge or cam acting arm 13 which engages the opening face 12 of the keeper 7. And in closing the door as the operating arm 14 is swung from its upright position into its depending or lowermost position the door 2 is forced closed by the similar cooperating action of the crank arm 13 against the inclined or wedging closing face 11 of the keeper 7.

I claim:—

A door operating mechanism comprising a vertically swinging elongated operating lever having a crank arm and a trunnion member, a hinge plate for connecting said operating lever to the door, and a keeper secured to the door frame and having a door closing face and a door opening face oppositely disposed and divergently arranged, for engagement with the crank arm of the operating lever, said keeper having also a recess on the side adjacent the hinge plate to provide clearance for a portion of the lever, whereby the hinge plate and keeper are adapted to be placed on the extreme outer adjacent edges of the door and door frame.

THOMAS WILLIAM THORNE.

Witnesses:

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