(No Model.)

C. A. WRIGHT.

LOCK FOR DOORS OF MOVING VEHICLES.

No. 528,581. Patented Nov. 6, 1894.

Fig. 1.

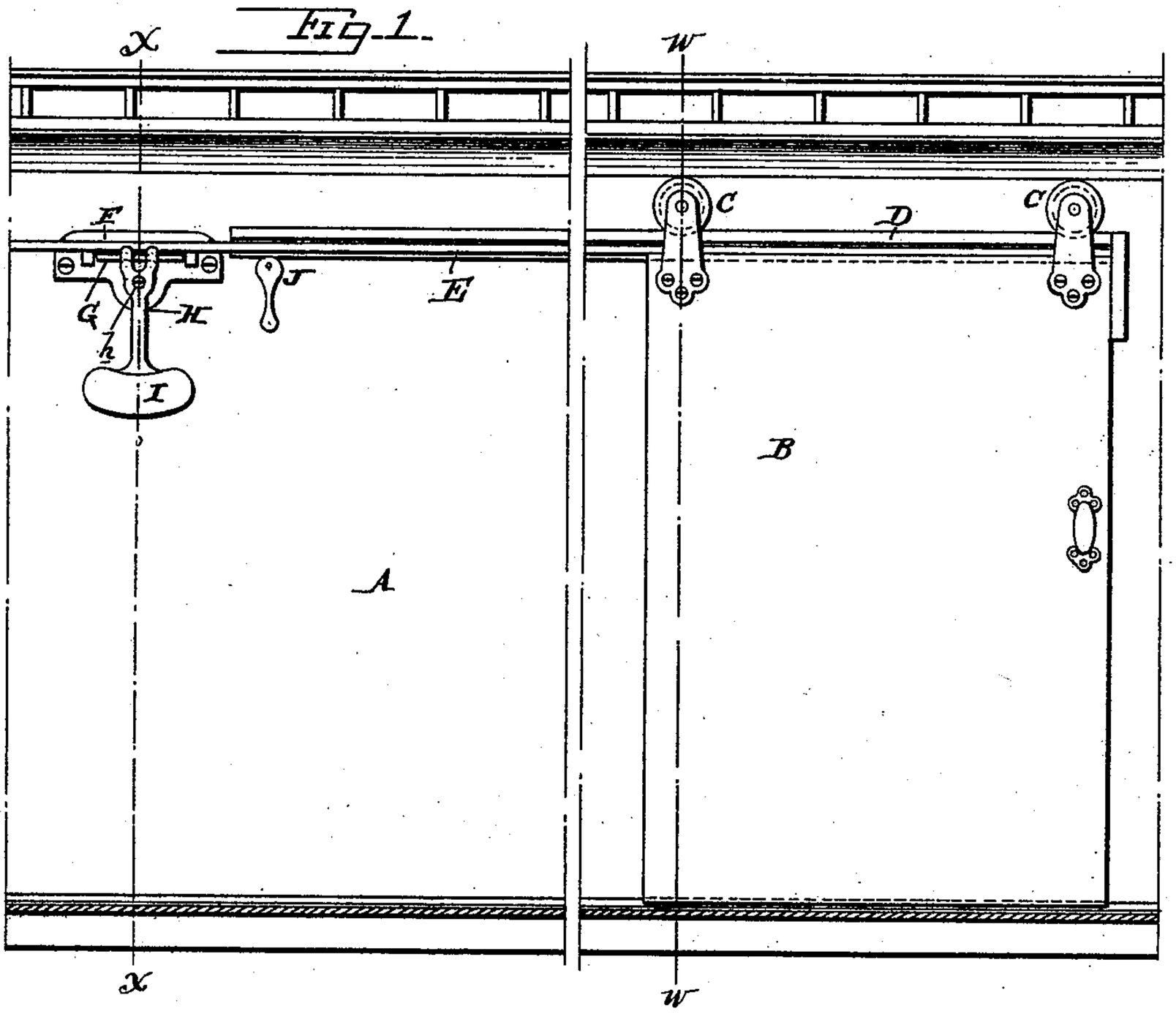


Fig. 2.

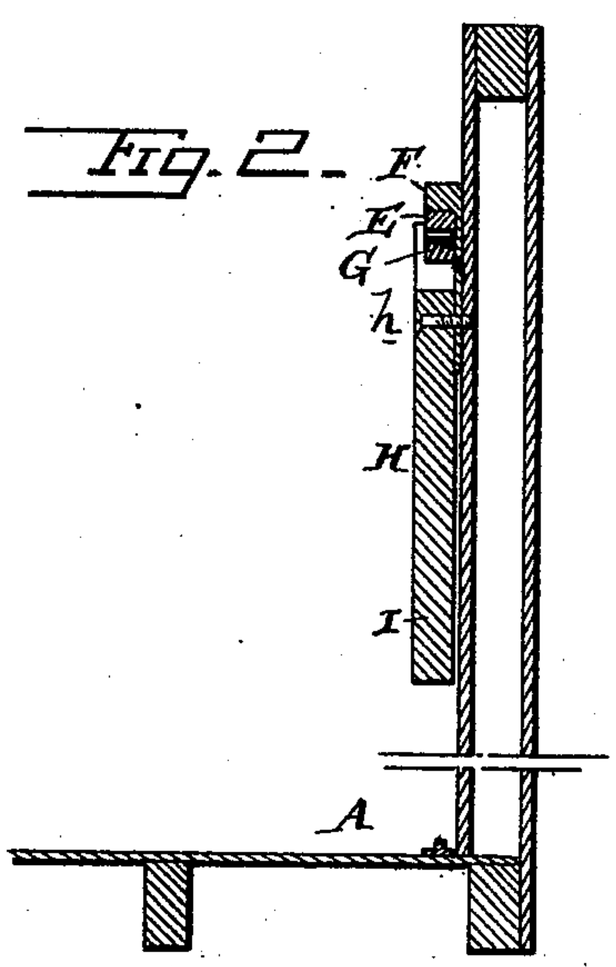
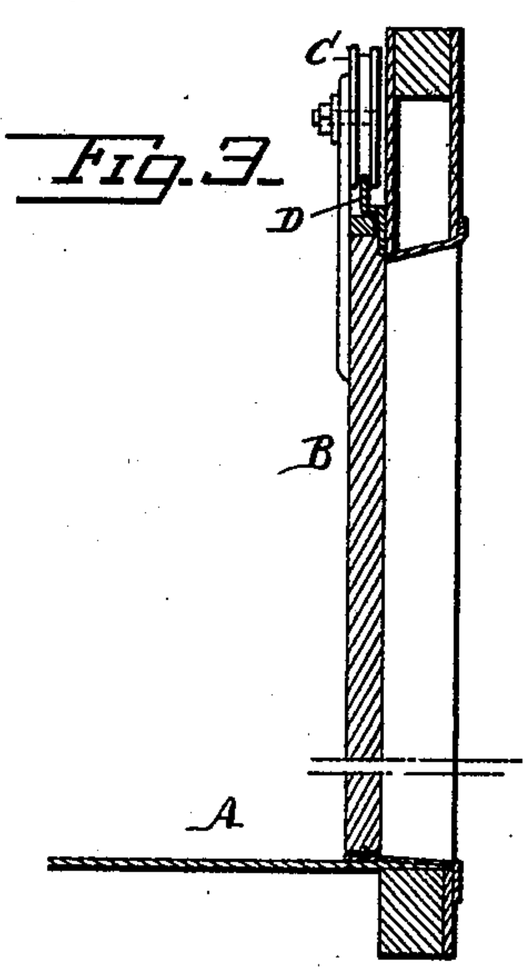


Fig. 3.



Witnesses:

Jesse B. Keller.

Helen L. Mothenwell

Inventor.

Chas. A. Wright

By Thos. Shuttleworth

Attorney.

UNITED STATES PATENT OFFICE.

CHARLES A. WRIGHT, OF PHILADELPHIA, PENNSYLVANIA.

LOCK FOR DOORS OF MOVING VEHICLES.

SPECIFICATION forming part of Letters Patent No. 528,581, dated November 6, 1894.

Application filed October 26, 1893. Serial No. 489,174. (No model.)

To all whom it may concern:

Be it known that I, CHARLES A. WRIGHT, of the city and county of Philadelphia, and State of Pennsylvania, have invented an Improvement in Locks or Fastenings for Doors for Moving Vehicles, of which the following is a specification.

My invention has reference to doors for moving vehicles, and consists of certain improvements which are fully set forth in the following specification and shown in the accompanying drawings, which form a part thereof.

In moving vehicles, such as cars and boats, accidents often arise from the fact that by sudden or quick changes of movement of the vehicle the doors thereon are caused to slam or shut violently, often crushing the hands or fingers of persons standing adjacent to them. This trouble particularly arises in baggage cars where the doors are hung upon rollers and guides and slide longitudinally with the car body. If the door is partly open, any sudden changes of movement to the car body, such as would occur by the locomotive backing on to the train, or due to the making up of a train by connecting additional cars or sudden starting or stopping, will cause the car body to change its velocity of movement quickly, and before the door can overcome its inertia there will be a relative movement between the door frame of the car and the said door with the liability of crushing anything which may be interposed. It frequently happens that railroad employés and those standing in the baggage car are injured from this cause.

The object of my invention is to overcome the above defects in hanging vehicle doors, and in carrying out my invention I arrange the doors in the usual manner and connect therewith a locking device which shall operate under the sudden movement of the car or vehicle in substantially the same manner as does the door, but so as to lock the door against movement.

More specifically my invention consists in providing the door with a rod or bar, and arranging upon the car body at a suitable location a movable automatic locking device which shall be adapted to grasp or bind upon the rod or bar and prevent its movement at the moment of a sudden jarring of the car body or vehicle. The action is such that as the car body is moved, a portion of the locking device is under the influence of the inertia of its weight when at rest and does not respond quickly enough to prevent it locking the rod or bar against movement. In this manner the sudden change of movement of the car body is of itself caused to operate the lock by moving a portion thereof more rapidly than another portion of said lock can respond under the action of gravity to overcome the inertia, and hence the lock responds at all times in accordance with the requirements to prevent the damage above pointed out.

The details of construction will be more fully understood by reference to the accompanying drawings, in which—

Figure 1 is a sectional elevation through a portion of a car body illustrating my movements. Fig. 2 is a transverse section of same on line *x—x;* and Fig. 3 is a transverse sectional elevation of same on line *w—w.*

A is a car body or any portion of a moving vehicle such as a boat.

B is a sliding door closing a passageway and may be guided in any suitable manner. As shown the door is provided with grooved rollers C by which it is hung and permitted to move upon a rail D. The door is provided further with a rod E of any suitable shape extending parallel to the plane of its surface and guided between a stationary jaw F and a movable jaw G of a suitable locking device, which locking device is permanently secured at a proper distance from the doorway and to the vehicle body. The movable jaw G is a flat plate and is held in its movable position upon the plate carrying the fixed jaw F by means of lugs at each end and the pivoted locking lever H.

H is a pivoted arm moving about a pivot *h* on the vehicle body and having at its top cam projections adapted to press upon the under side of the jaw G and at its bottom a weight I. It acts as a pendulum, and in operation the pivot *h* is moved by the movements of the vehicle body before the inertia, of the weight I can be overcome, thereby causing the arm to take an oblique position whereby the cam portions of the said arm or lever H are made

topress upon the movable jaw G and clamp the rod E firmly to the stationary jaw F. The upper part of the lever H is notched as shown in Fig. 2, so as to prevent the movable jaw plate G from getting out of position. It will now be observed that the door B is partly open, any jarring or sudden movement transmitted through the vehicle in the plane of the door will cause the locking device to quickly and efficiently lock the rod E and prevent any movement to the door either in one direction or the other. The nature of the device however, is such that the instant the car or vehicle comes to a state of rest or to a very gentle movement, the locking lever H will hang in a vertical or substantially vertical position and will not act to grip the rod E. Hence the door B may be opened or closed with facility. This locking device therefore, only comes into action when the sudden jar or change of movement is given to the vehicle body, and is normally out of action. It is automatic in its operation and is exceedingly simple so that it cannot get out of order and requires little or no attention.

Where it is desired to lock the door B against movement, either when closed or open, an auxiliary lock J may be employed, which being turned causes a cam surface to press upon the rod E and clamp it against movement.

I do not confine myself to any particular details of construction as they would all be more or less varied to suit the particular requirements of the special application of my invention to the particuiar vehicle whether it be a car or a boat.

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

1. The combination of a vehicle frame adapted to be subjected to sudden changes of movement and provided with a passageway, with a movable door adapted to open and close the said passageway, and an automatic locking device to lock the door to the vehicle frame upon the sudden movement of said vehicle frame but inoperative when the vehicle frame is at rest or moving uniformly.

2. The combination of a vehicle frame adapted to be subjected to sudden changes of movement and provided with a passageway, with a movable door adapted to open or close the said passageway, and a pivoted gravity actuated locking device interposed between the vehicle frame and the movable door whereby sudden jars of the vehicle frame cannot cause the door to shut with force.

3. The combination of a vehicle frame adapted to be subjected to sudden changes of movement and provided with a passageway, with a movable door adapted to open or close the said passageway, a gravity actuated locking device interposed between the vehicle frame and the movable door consisting of suitable jaws and a pivoted weighted arm to operate said jaws carried by one of said parts, and a rod or bar adapted to be grasped by the jaws secured to the other part, whereby sudden jars to the vehicle frame cannot cause the door to shut with force.

4. The combination of a vehicle frame adapted to be subjected to the sudden changes of movement and provided with a passageway, with a movable door adapted to open or close the said passageway, a gravity actuated locking device interposed between the vehicle frame and the movable door consisting of stationary jaw on the vehicle frame, a movable jaw below the stationary jaw, and a pivoted weighted arm having parts to operate said movable jaw carried by the vehicle frame, and a rod or bar interposed between and adapted to be grasped by the said jaws secured to the door, whereby sudden jars to the vehicle frame cannot cause the door to shut with force.

5. The combination of a vehicle frame adapted to be subjected to sudden changes of movement and provided with an opening or doorway, with a movable door adapted to open or close the said doorway or opening, a rod carried by the said door, and a gravity actuated locking device secured to the vehicle frame and adapted to grasp the said rod upon any sudden movement to the vehicle frame.

In testimony of which invention I have hereunto set my hand.

CHARLES A. WRIGHT.

Witnesses:
ERNEST HOWARD HUNTER,
MAMIE J. FRIES.