(No Model.)

J. H. HECKMAN.

GRAIN DOOR FASTENER FOR RAILROAD CARS.

No. 362,890. Patented May 10, 1887.

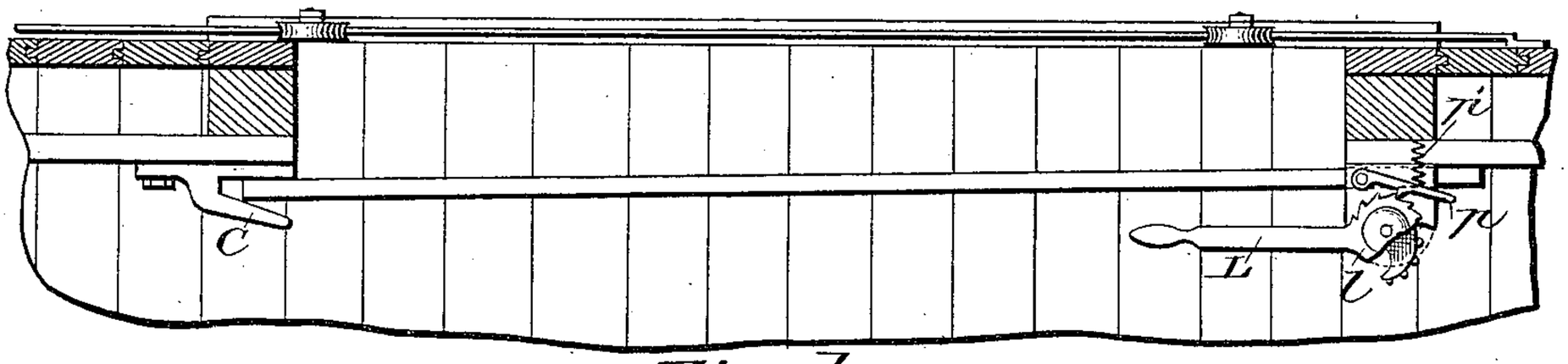


Fig. 1.

Fig. 3.

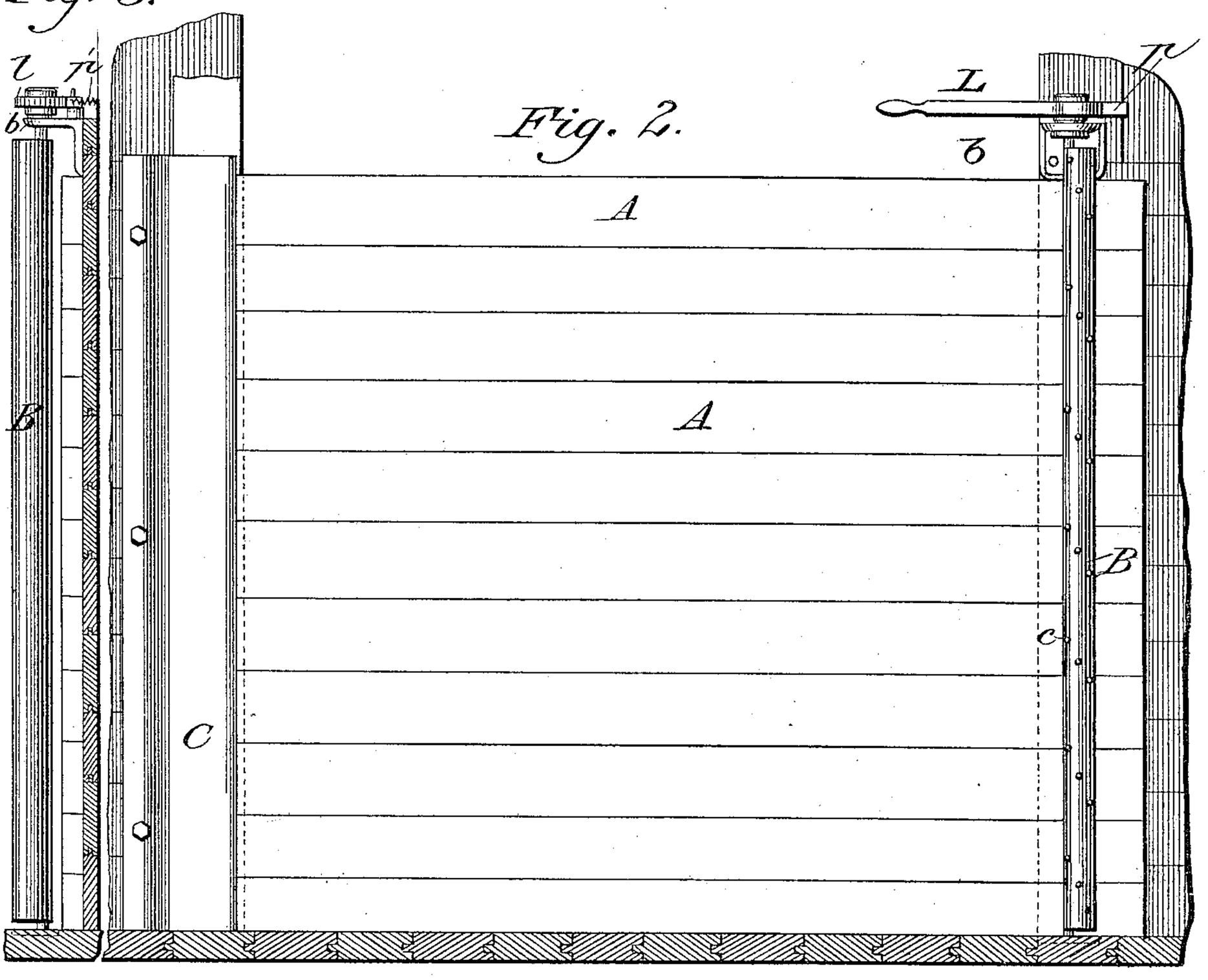


Fig. 2.

Fig. 4.

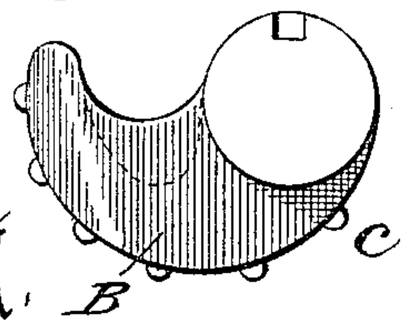
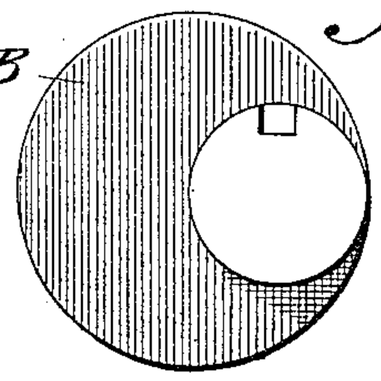


Fig. 5.



WITNESSES:

P. F. Eagle
Joshua Wallack, Jr.

INVENTOR

John H. Heckman
by his atty
G. H. Harding

UNITED STATES PATENT OFFICE.

JOHN H. HECKMAN, OF MAUCH CHUNK, PENNSYLVANIA.

GRAIN-DOOR FASTENER FOR RAILROAD-CARS.

SPECIFICATION forming part of Letters Patent No. 362,890, dated May 10, 1887.

Application filed February 9, 1887. Serial No. 227,012. (No model.)

To all whom it may concern:

Be it known that I, JOHN H. HECKMAN, of Mauch Chunk, Carbon county, State of Pennsylvania, have invented a new and useful Improvement in Grain-Door Fasteners for Railroad-Cars, of which the following is a true and exact description, due reference being had to the drawings which accompany and form part of this specification.

Heretofore the inside doors for cars carrying grain have been secured, first, by permanent solid doors held in position by different devices; second, by loose boards nailed against the door-posts of the car.

The objection to the permanent doors is that when put in place, with the pressure of grain upon them it is difficult to raise them, and frequently causing delay in unloading—often necessitates the destruction of the door in order to unload the car. The general practice, however, has been to use loose boards, fastening them with large nails to the door-posts, and to release them consumed considerable time and damaged the boards to such an extent as to render them worthless, necessitating their replacement when the car was again used for the same purpose.

By my improvement there is a great saving of time, both in placing the boards in position to receive the grain and also when releasing them to unload the car.

The boards remaining intact can be used many times before being replaced, or can be used for other purposes.

In the drawings which accompany this specifiation, Figure 1 represents a plan view taken at or near the top of the car; Fig. 2, a vertical section, looking from the interior of the car; Fig. 3, a view of the cam shaft and operative mechanism; Figs. 4 and 5, plan views of cam-shaft.

Similar letters denote similar parts.

A A are the boards forming the grain-door.

B is an eccentric cam-shaft secured to the car.

C is the door-yoke, which is secured to the car at the opposite side of the grain-door. At the end of the cam-shaft is the bracket *b*, attached to the car-body and sustaining at its outer end the lever-ratchet *l*, having the lever L. A pawl, *p*, made active by the spring *p'*, is secured to the car-body in such a position as to prevent the lever L moving in more than one direction unless the pawl is moved.

The yoke C is made of any desired shape, so that it will admit and sustain one end of the board A.

The eccentric cam shaft may be made solid, as shown in Fig. 5, or a portion of its surface may be removed, as is shown in Fig. 4. The eccentric cam-shaft may have a plane surface, or a series of projections, *c*, can be placed upon its periphery.

The operation is as follows: The boards A are placed loosely in position, one end resting upon the door-yoke C and the other end being between the eccentric cam-shaft B and the side of the car. When the desired number of boards are in position, the lever L is turned, which causes the eccentric cam-shaft to rotate, forcing the boards into the door-yoke C and against the side of the car. The ratchet and pawl hold the eccentric cam-shaft in a fixed position, and the boards forming the grain-door are thus securely locked. When the point of delivery is reached, the pawl is released and the lever turned, so that the pressure of the eccentric cam-shaft against the boards is released, and the boards can then be easily removed in such a condition that the lumber is not destroyed or its value lessened by its use as a grain-door.

Having now described my invention, what I claim, and desire to protect by Letters Patent, is—

1. In a grain-door fastener, in combination, one or more boards, a door-yoke secured to the car and capable of supporting one end of said boards, an eccentric cam-shaft secured to the body of the car at or near the other end of said boards, and means to rotate said eccentric cam-shaft, whereby when the eccentric cam-shaft is rotated the board or boards are forced into the door-yoke and against the side of the car-body, substantially as and for the purpose described.

2. In a grain-door fastener, in combination, one or more boards, a door-yoke secured to the car and capable of supporting one end of said boards, an eccentric cam-shaft secured to the body of the car at or near the other end of said boards, means to rotate said eccentric cam-shaft, and means to lock said cam-shaft when it has rotated the desired distance, whereby when

the eccentric cam-shaft is rotated the board or boards are forced into and securely held in the door-yoke and against the side of the car-body.

3. In a grain-door fastener, in combination, one or more boards, an eccentric cam-shaft, a lever attached to said cam-shaft, having a ratchet, and a pawl attached to the side of the car adapted to work in said ratchet.

4. In a grain-door fastener, in combination, one or more boards, an eccentric cam-shaft, one or more projections upon said cam-shaft, a lever attached to said cam-shaft, having a ratchet, and a pawl attached to the side of the car adapted to work in said ratchet.

JOHN H. HECKMAN.

Witnesses:
E. F. LUCKENBACH,
O. H. KAUFFMAN.