No. 812,839. PATENTED FEB. 20, 1906.

J. FEUCHT.

GRAIN DOOR LOCK.

APPLICATION FILED APR. 27, 1905.

Fig. 2.

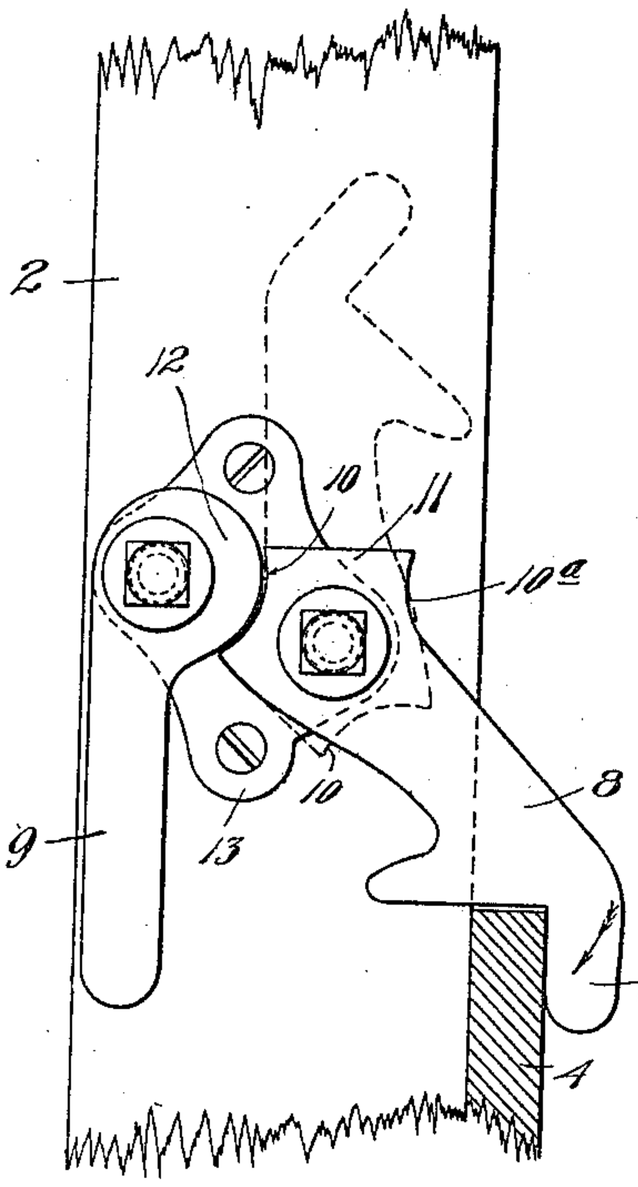


Fig. 3.

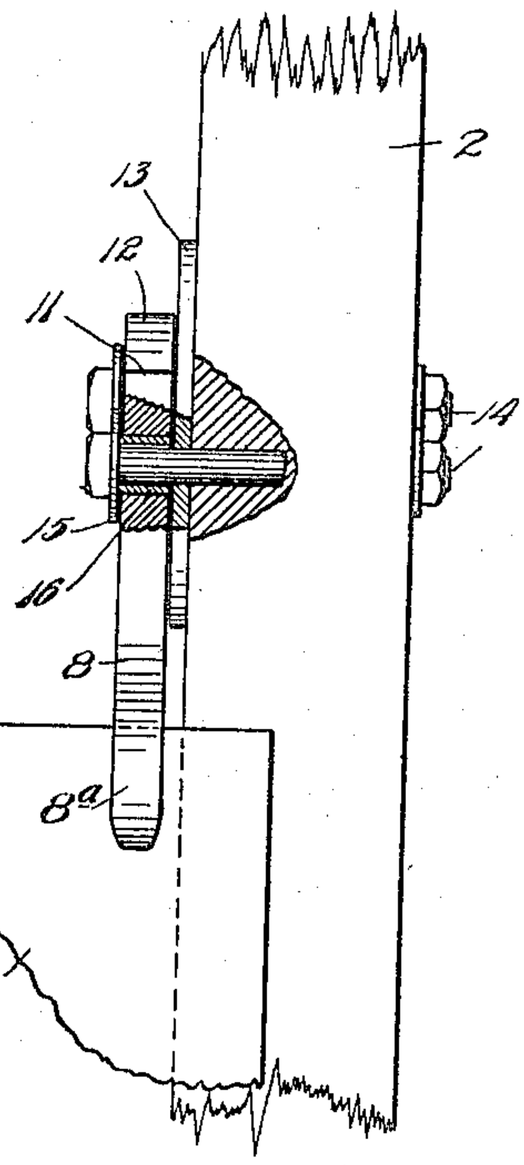


Fig. 1.

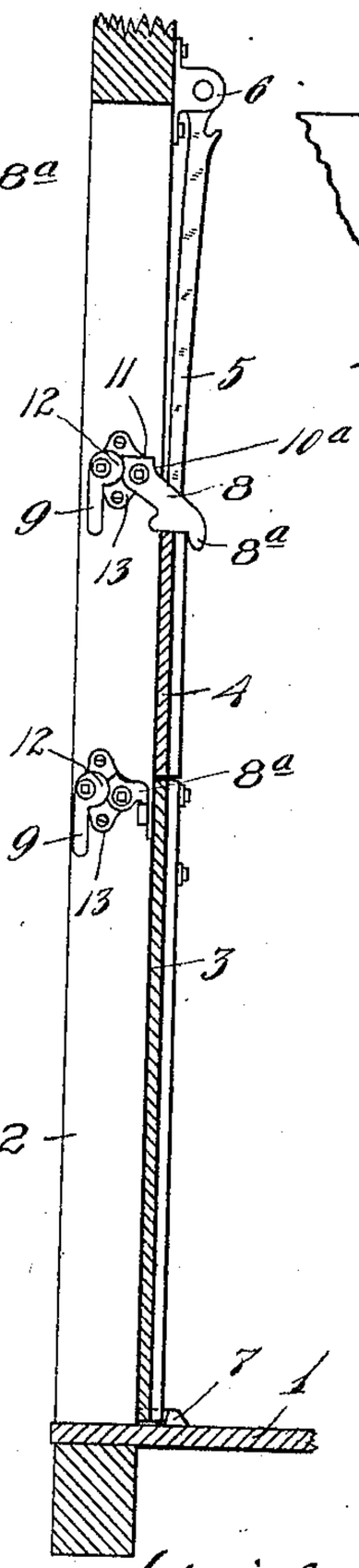
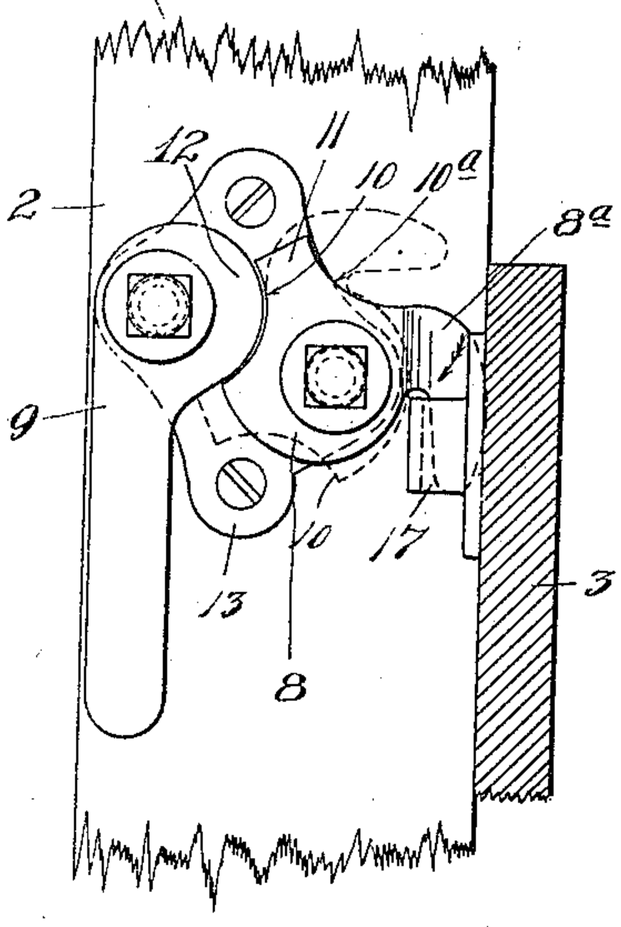


Fig. 4.



Witnesses.

E. W. Jepsen.

A. H. Opsahl.

Inventor.

John Feucht.

By his Attorneys.

Williamson & Merchant

UNITED STATES PATENT OFFICE.

JOHN FEUCHT, OF BRAINERD, MINNESOTA.

GRAIN-DOOR LOCK.

No. 812,839. Specification of Letters Patent. Patented Feb. 20, 1906.

Application filed April 27, 1905. Serial No. 257,599.

To all whom it may concern:

Be it known that I, JOHN FEUCHT, a citizen of the United States, residing at Brainerd, in the county of Crow Wing and State of Minnesota, have invented certain new and useful Improvements in Grain-Door Locks; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to grain-doors for freight-cars, and has for its object to provide improved locking mechanism therefor.

To the above ends the invention consists of the novel devices and combinations of devices hereinafter described, and defined in the claims.

The invention is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a vertical section taken through a portion of one side of a freight-car and illustrating my improved lock mechanism applied for action on a grain-door of the general character disclosed and certain features of which are claimed in my companion application filed of even date herewith and entitled "Grain-door for cars." Fig. 2 is a detail in side elevation, with parts broken away, showing, on an enlarged scale, one of the upper door-locks applied in working position. Fig. 3 is a view in elevation, with parts broken away, looking at the parts shown in Fig. 2 from the inside of the car-body; and Fig. 4 is a view corresponding to Fig. 2, but showing the lower locking mechanism applied in working position.

The numeral 1 indicates a portion of the car-body, and the numeral 2 a portion of one of the doorway-frames.

The numerals 3 and 4 indicate, respectively, the main and supplemental sections of the grain-doors, which door-sections may be connected by hinges, such as those set forth and claimed in my said copending application. The main door-section 3 may also be slidably mounted on hanger-rods 5, which are pivoted at their upper ends to bearings 6, secured on the upper portion of the frame 2 and operating as set forth in said copending application. The lower edge of the door-section 3 is adapted to be held in operative position by means of floor-lugs 7.

The improved door-locks each comprise a pivoted dog 8 and a coöperating pivoted cam-lever 9. The lock-dog 8 is formed with a pair of cam-seats 10 10^a and between said cam-seats with a lug or stub-arm 11. The cam-lever 9 at its pivoted end is formed with an eccentric cam 12, which when the lever is thrown downward is adapted to engage one or the other of the seats 10 10^a, according to the position of the lock-dog, and thereby hold the lock-dog either in an operative or in an inoperative position. When the cam-lever is thrown upward, its cam 12 is thrown out of the arc of movement of the stub-arm 11, so that the lock-dog may be moved from an operative into an inoperative position, or vice versa. In the construction illustrated the lock-dog 8 and its coöperating lever 9 are pivoted to a common bearing 13, and the said bearing is rigidly secured to the jambs of the frame 2 by nutted bolts 14, which are passed the one through the pivot of the dog 8, the other through the pivot of the lever 9. As illustrated in Fig. 3, the bolts 14 hold in position washers 15 and thimbles 16, which thimbles afford pivotal bearings for the said dog and lever.

To secure the grain-door illustrated, one pair of locking devices are arranged for action on the upper edge of the door-section 3 and another pair is arranged for action on the upper edge of the door-section 4. In thus applying the locks to the particular uses noted the dogs are provided with hooked ends 8^a and the hooked ends of the upper pair of dogs are arranged to engage the inner surface of the upper edge of the door-section 4, while the hooks of the lower pair of dogs are arranged to engage within pockets formed by metallic clips 17, rigidly secured to the outer surface of the upper edge of the door-section 3. When the dogs 8 are turned upward, as indicated by dotted lines in Figs. 2 and 4, they may be securely held in such inoperative positions by the levers 9, the cams 12 of which then engage with the seats 10^a. When the dogs are turned downward into locking positions, as indicated by full lines in Figs. 2 and 4, they will be securely held in such operative positions by the levers 9, the cams 12 of which then engage the seats 10 thereof. The levers 9 will of course be held in operative positions by gravity and also by friction.

It is important to note that the relation of the cams 12 to the stub-arms 11 of the dogs 8 is such that under downward pivotal move-

ments of said levers 9 said cams, acting on said stub-arms, will impart slightly downward and outward pivotal movements, as indicated by the arrows marked thereon, to the hooked ends of the dogs, thereby causing the said dogs to tightly force the door-sections 3 and 4 against the door-jambs. These door-locking devices are therefore combined locking and clamping devices.

The locks described, while of small cost and easily operated, are very reliable in their locking action and are in all ways efficient for the purposes had in view. It will of course be understood that the said lock devices are capable of modification within the scope of my invention as herein set forth and claimed.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. A lock of the character described comprising a pivoted dog and a lever, said dog having a stub-arm formed between concave cylindrical cam-seats, and said lever having an eccentric cam engageable with said stub-arm and fitting in said seats, to lock said dog in either of two positions, substantially as described.

2. The combination with a grain-door, of a lock therefor comprising a pivoted dog 8 and a coöperating lever 9, said dog 8 having the hooked end 8^a for action on the door, and having a stub-arm 11 formed between cylindrical cam-seats 10–10^a, and said lever 9 having an eccentric cam 12 engageable at will with said seats 10 and 10^a to lock said dog respectively in operative and in inoperative positions, and operative on said stub-arm 11 to impart pivotal door-clamping movements to said dog, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN FEUCHT.

Witnesses:

A. T. LARSON,

CAROLINE FEUCHT.