

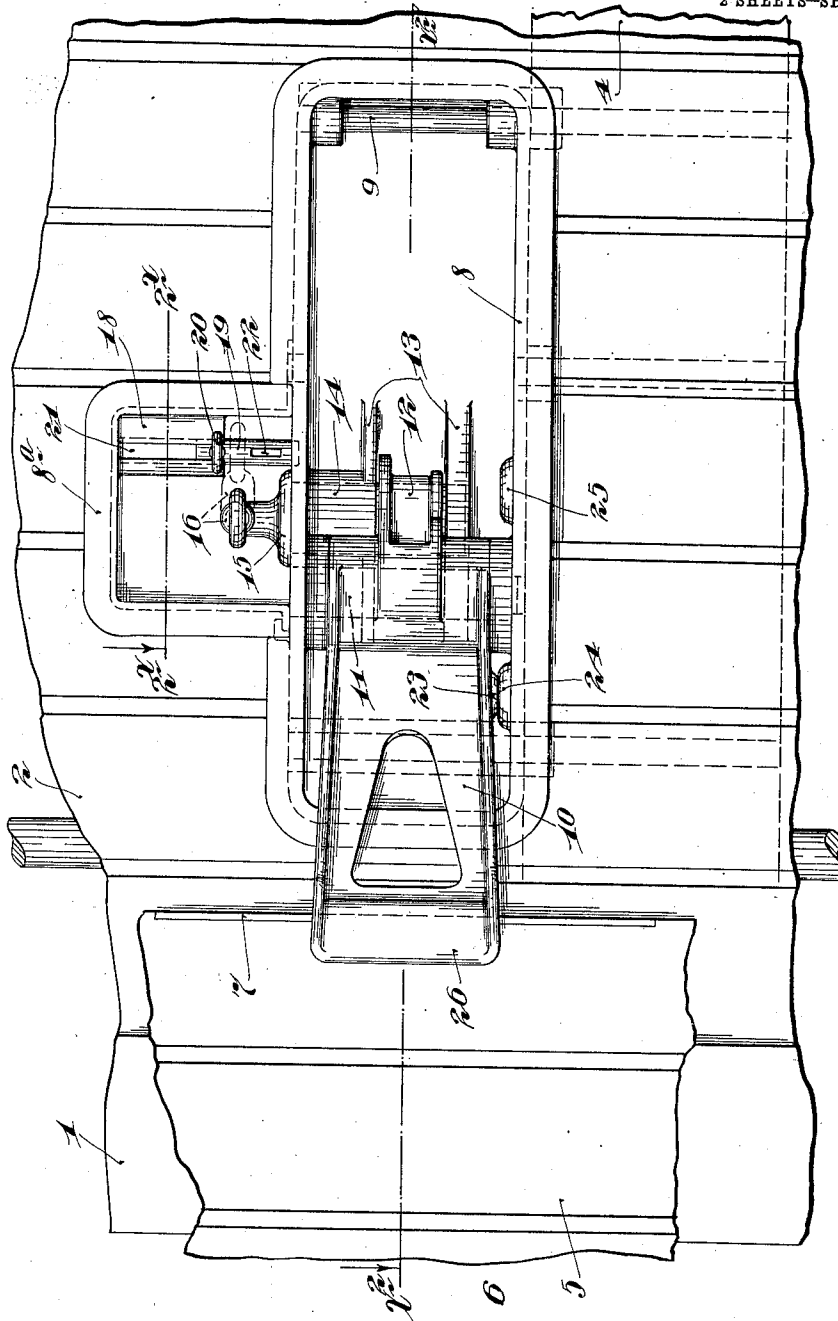
1,058,829.

W. H. WILSON.
 LOCK FOR FREIGHT CAR DOORS.
 APPLICATION FILED DEC. 30, 1912.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 1.

Fig. 1



Witnesses;
 Geo. Spuntson
 E. C. Skinkle

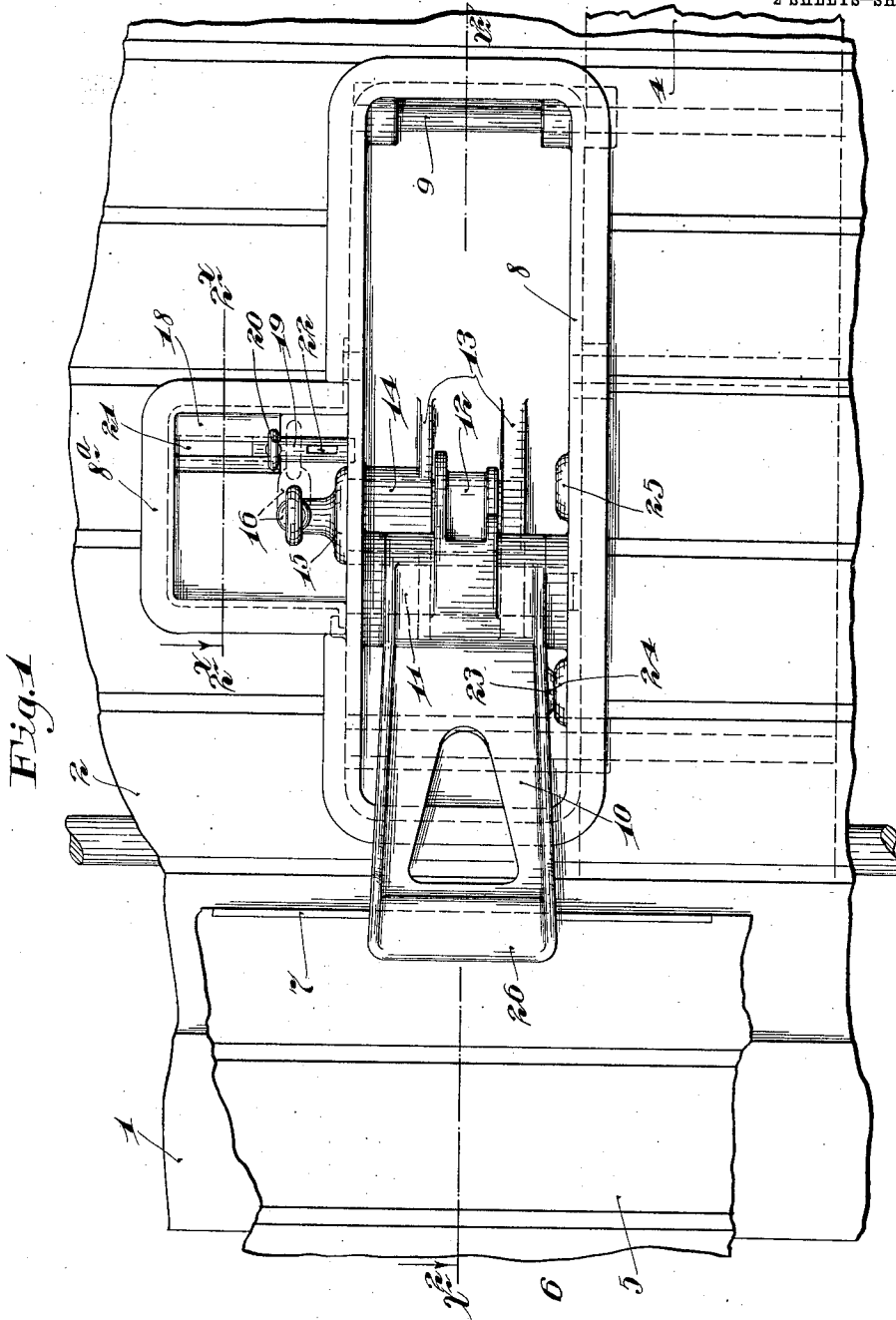
Inventor;
 W. H. Wilson
 By his Attorneys;
 Williamson Merchant

W. H. WILSON.
 LOCK FOR FREIGHT CAR DOORS.
 APPLICATION FILED DEC. 30, 1912.

1,058,829.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 1.



Witnesses;
 Geo. Spurgeon
 E. C. Skinkle

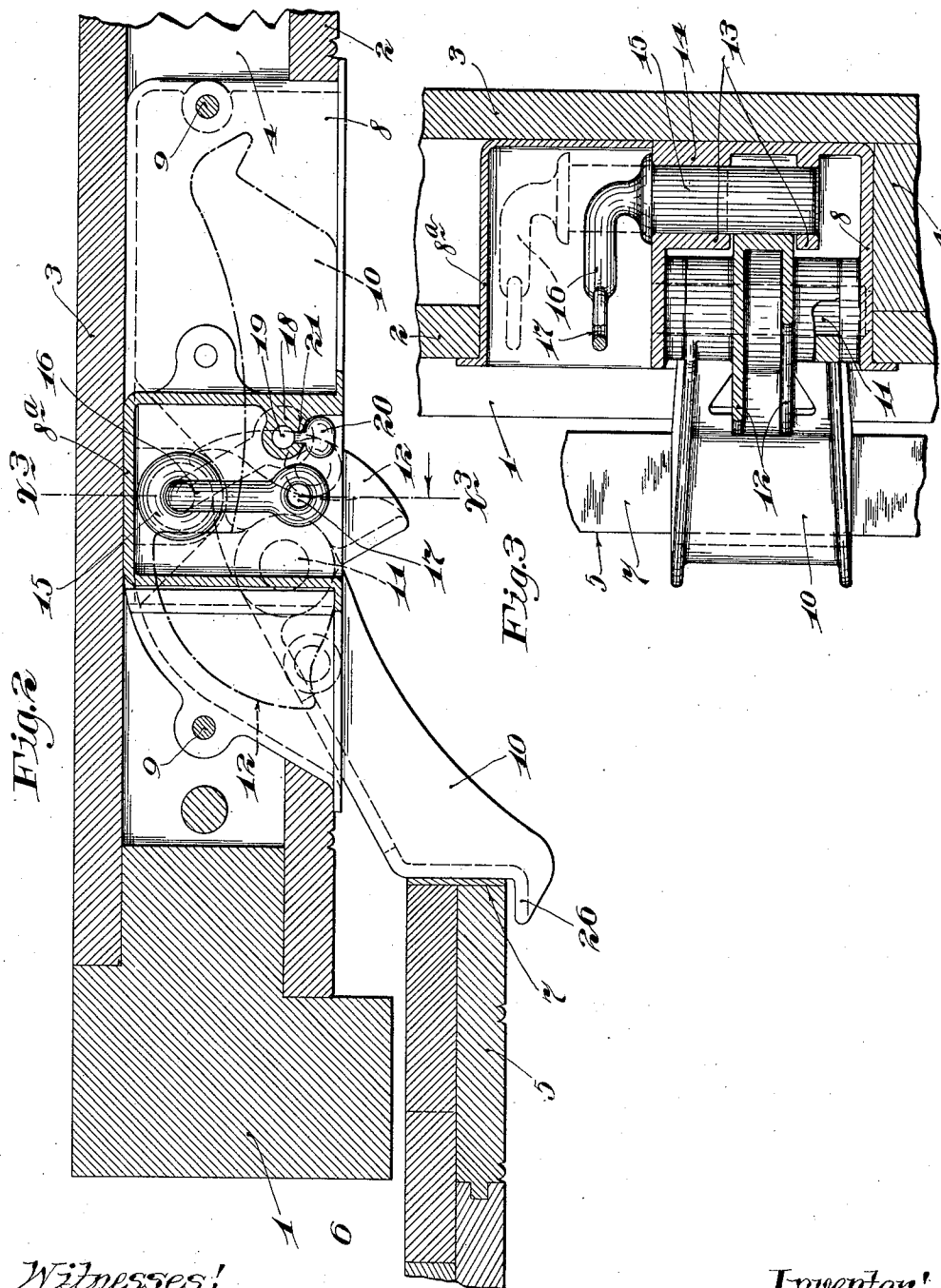
Inventor;
 W. H. Wilson
 By his Attorneys;
 Williamson & Churchill

W. H. WILSON.
 LOCK FOR FREIGHT CAR DOORS.
 APPLICATION FILED DEC. 30, 1912.

1,058,829.

Patented Apr. 15, 1913.

2 SHEETS—SHEET 2.



Witnesses:
 Geo. Snutson
 E. C. Skinkle

Inventor:
 W. H. Wilson
 By his Attorneys:
 William M. Muehler

UNITED STATES PATENT OFFICE.

WILLIAM H. WILSON, OF ST. PAUL, MINNESOTA.

LOCK FOR FREIGHT-CAR DOORS.

1,058,829.

Specification of Letters Patent.

Patented Apr. 15, 1913.

Application filed December 30, 1912. Serial No. 739,262.

To all whom it may concern:

Be it known that I, WILLIAM H. WILSON, a citizen of the United States, residing at St. Paul, in the county of Ramsey and State of Minnesota, have invented certain new and useful Improvements in Locks for Freight-Car Doors; 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 invention has for its object to provide an improved lock for the side doors of freight cars; and to such ends, generally stated, the invention consists of the novel devices and combinations of devices hereinafter described and defined in the claims.

Hitherto, it has been the common practice to provide the doors of freight cars with securing devices, usually in the form of well known so-called hasp locks, applied thereto at their front edges and arranged to fasten the same to the adjacent door post. By the "front edge" of the door, I mean that edge which moves ahead while the door is being closed. These hasp and similar lock devices, when thus applied, leave the doors free for slight sliding movements and, as these doors are very heavy, when cars are bumped together, the inertia and momentum of the doors produce a pounding action which soon tears loose or breaks such locks or fastening devices. To prevent this, and to hold the sliding doors closed, and with less play or freedom for pounding action, it has become a very common practice to nail heavy wooden strips to the sides of the cars abutting against the rear edges of the doors. In the first place, these wooden strips thus nailed, only to a limited extent, prevent pounding action of the doors and as they must be applied and removed every time a car is sealed and opened up, the sides of the cars where such strips are nailed, are soon so badly damaged and cut to pieces, that the wooden strips can no longer be securely fastened, and the cars then require repairs. The damage thus done to cars is very considerable.

My invention provides a highly efficient and very convenient form of lock device which, when secured to the side of the car adjacent to the rear edge of the door where it is adapted, at will, to engage the rear edge of the door and se-

curely hold the door against sliding movements, in respect to the car body. This improved lock, as preferably constructed, comprises a lock casing set into or on the side of the car and rigidly secured; a lock lever pivoted to the said casing and movable from an inoperative position with the same into an operative position against the so-called rear edge of the door; a lock bolt for securing the lock lever either in its operative or inoperative position, at will; and a cooperating lock bolt stop and so-called lock pin for securely holding the said lock bolt in an operative position. Provision is also preferably made for the application of the lock pin in working position by the application of a car seal thereto.

In the accompanying drawings which illustrate the invention, like characters indicate like parts throughout the several views.

Referring to the drawings, Figure 1 is a fragmentary view in side elevation, showing a portion of the one side of one of the sliding doors of a freight car, and illustrating my improved lock applied thereto; Fig. 2 is a horizontal section taken through the car and door on the line $x^2 x^2$ on Fig. 1, but with the lock case sectioned on the line $2^x 2^x$ on Fig. 1; and Fig. 3 is a vertical section taken approximately on the line $x^3 x^3$ on Fig. 2, some parts being broken away.

Of the parts of the car, the numeral 1 indicates one of the door posts, and the numeral 2 the outside sheathing, the numeral 3 the inside sheathing or lining, the numeral 4 the belt rails or other suitable support, and the numeral 5 the car door, which latter is mounted in the usual way for sliding movements along the outer side of the car, to open and close the doorway 6. The door 5, at that edge which, for definiteness of statement, is treated as the rear edge thereof, is preferably provided with a metallic wearing strip 7.

The lock casing 8 is open at its outer side, but its body portion is set on or into the side of the car with its flanged edge approximately flush with the outer surface of the outer sheathing 2. In this position, the said casing 8 is rigidly secured by vertically extended bolts or other fastenings 9, passed therethrough and into or through overlying or underlying belt rails, furring blocks or supports 4, or by other suitable means. The

casing 8, at its intermediate portion, is provided with an extended pocket 8^a which is also open at its outer side.

The lock lever 10 of the door locking device is pivotally connected to and within the casing 8, by a pivot pin 11, and it is provided with a segmental inner end 12 which is preferably of considerably less vertical dimensions than the body of the lever 10. The segmental portion 12 is arranged to work between the vertically spaced flanges 13 that project horizontally from the back of the casing 8. The flange 13 is also preferably connected to that portion of the casing 8 which supports the pocket 8^a, by means of a bearing sleeve 14.

Working vertically within the sleeve 14 and through perforations in the flanges 13, is a heavy lock bolt 15, one end of which is preferably flanged to limit its movement to a position in which the other end projects into or through the flange 13. The upper end of the said lock bolt 15 is provided with an outwardly extended arm 16, the end of which is provided with a perforation or eye 17. When the arm 16 is turned farther outward, as shown by full lines in Figs. 1 and 2, the lock bolt 15 may be raised from the operative position shown by full lines in the drawings, into an inoperative position shown by dotted lines in Fig. 3. When the said arm 16 is turned in the position indicated by dotted lines in Figs. 1 and 2, its free end registers with the end of a sleeve-like pin guide 18, which, as shown, is made integral with the pocket 8^a. Working vertically in the pin guide 18 is a bolt locking pin 19 provided as shown, at its upper end with a projecting finger piece 20 that works through a vertical slot 21 in the said pin guide. When this pin 19 is moved as far as possible toward the casing 8, the other end fits a depression in the plate of the casing 8. The last mentioned end of said pin is provided with a passage 22 through which an ordinary car seal may be inserted.

In the construction shown, the lock lever 10 is provided with a bearing boss 23, which, in the operative position of said lever, engages with the bearing boss 24, and in its inoperative position, engages with a similar bearing boss 25, both of which bosses are formed on the bottom plate of the casing 8. At its free end, the lever 10 is provided with a projecting nose 26 that overlaps the adjacent edge of the door 5.

With this improved lock, any suitable form of stop device may be provided at the front edge of the door for preventing the door from being moved past its closed position, but such device is not herein illustrated, because, in itself, it constitutes no part of the present invention. When the lock lever 10 is in the protracted position shown by dotted lines in Fig. 2, and the lock bolt 15 is

then moved into the position shown by full lines, said bolt will engage in front of the segmental inner end 12 of said lock lever and positively hold the said lever within the casing where it is out of the way and will not interfere with the sliding movements of the door.

When the door is closed, the lock lever 10 is forced against the same, as shown in Fig. 2, the said lever may be locked in that position, by moving the lock bolt 15 into the position shown by full lines, just back of the inner edge of the segmental inner end 12 of the said lever. To lock the lock bolt 15 in this operative position, its arm 16 is turned to register with the lower end of the sleeve-like stop 18, and the bolt locking pin 19 is then passed through the eye 17 of the said arm 16. Then, as is evident, when a car seal is applied through the passage 22 of the said pin 19, the lock lever 10 will be securely held in its operative position, and the door in its closed position, in such manner that the door cannot shift and pound, and cannot possibly be opened without breaking the car seal. This improved lock mechanism, therefore, is not only a very convenient device, capable of being very quickly and easily opened, but affords means for more securely locking the door in a closed position, and removes one of the causes of rapid destruction of the car body. Furthermore, the device may be easily applied to freight or box cars of standard construction.

What I claim is:

1. The combination with a car body having a sliding door, of a lock casing set on the side of the car body, a lock lever pivoted to said casing and movable from a position within the same into an operative position within the line of movement of the rear edge of said door, and a lock bolt movable within said casing and operative on said lever to lock the same both in operative and inoperative positions.

2. The combination with a car body having a sliding door, of a lock casing set on the side of the car body, a lock lever pivoted to said casing and movable from a position within the same into an operative position within the line of movement of the rear edge of said door, a lock bolt movable within said casing and operative on said lever to lock the same both in operative and inoperative positions, and means for locking said bolt in its operative position.

3. The combination with a car body having a sliding door, of a lock casing set on the side of the car body, a lock lever pivoted to said casing and movable from a position within the same into an operative position within the line of movement of the rear edge of said door, a lock bolt movable within said casing and operative on said lever to lock the same both in operative and in-

operative positions, said bolt having a laterally projecting arm and said casing having a stop to register with which said arm is adapted to be swung, and means for locking said arm to said stop to thereby hold said bolt in an operative position.

4. The combination with a car body having a sliding door, of a lock casing set on the side of the car body, a lock lever pivoted to said casing and movable from a position within the same into an operative position within the line of movement of the rear edge of said door, a lock bolt movable within said casing and operative on said lever to lock the same both in operative and inoperative positions, said lock bolt having a laterally projecting arm and said casing having a sleeve-like guide to register with which the free end of said arm is adapted to be swung, and a lock pin slidably mounted on said sleeve-like guide and engageable with the free end of said arm to lock said bolt in its operative position.

5. The combination with a car body having a sliding door, of a casing set on the side of the car, a lock lever pivoted to said casing and movable from a retracted position within the line of movement of the rear edge of said door, said lock lever having a segmental inner end, a lock bolt mounted for vertical and oscillatory movements within said casing and engageable with the segmental end of said lock lever to lock the latter either in an operative or inoperative position, said lock bolt having a laterally projecting arm at one end and said casing having a sleeve-like guide to register with which the free end of said arm is adapt-

ed to be moved, a lock pin mounted for vertical movements within said sleeve-like guide and engageable with the free end of said arm, said lock pin having at one end a passage through which a car seal is adapted to be passed to secure the same in an operative position.

6. The combination with a car body having a sliding door, of a casing set on the side of the car, said casing being also open at its outer side and having an upwardly extended pocket, the said pocket having a sleeve-like guide, a lock lever pivoted to and within the main compartment of said casing and movable from a position within the same into an operative position within the line of movement of the rear edge of said door, said lock lever having a segmental inner end, a lock bolt mounted for vertical movements within said casing and engageable with the segmental end of said lock lever to lock the same either in an operative or inoperative position, said lock bolt having a laterally projecting arm at one end, the free end of which arm is movable to register with the sleeve-like guide of said casing, and a lock pin mounted for vertical movement within the sleeve-like guide, engageable with the free end of said arm to secure the same, and provided at one end with a passage through which a car seal is adapted to be passed.

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

WILLIAM H. WILSON.

Witnesses:

F. J. GEHAN,
GEO. W. TAYLOR.