No. 682,776. Patented Sept. 17, 1901.

A. ZITZMANN.

LATCH FOR ELEVATOR GATES.

(Application filed May 4, 1901.)

(No Model.)

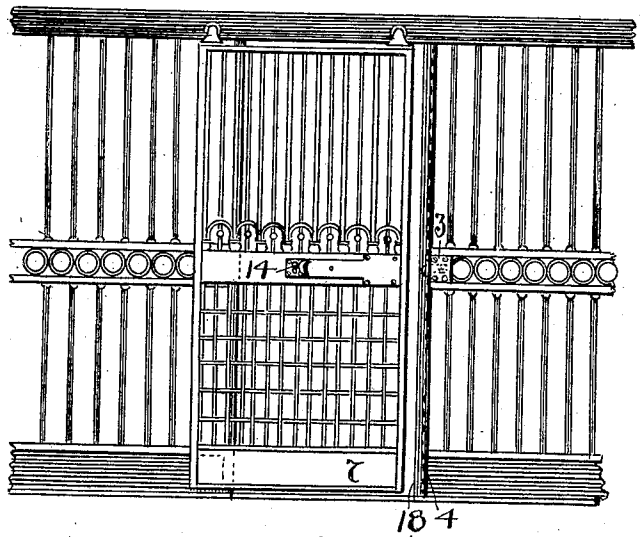


FIG. 1.

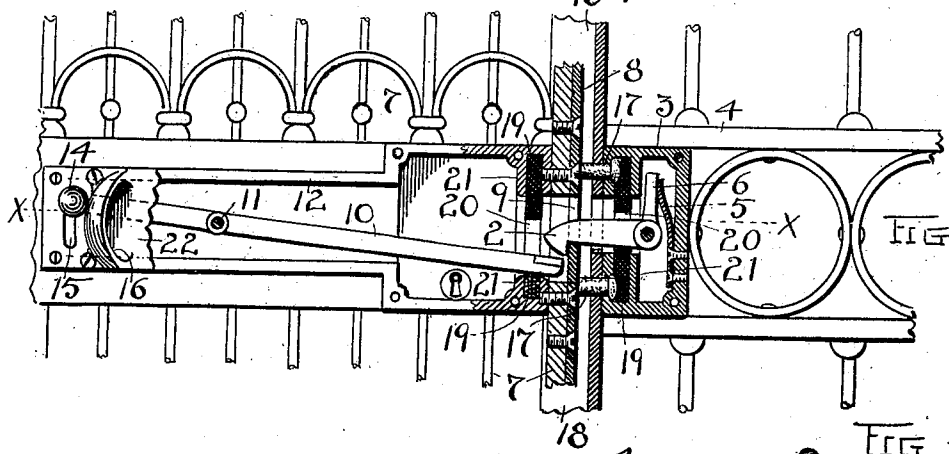


FIG. 2.

FIG. 3.

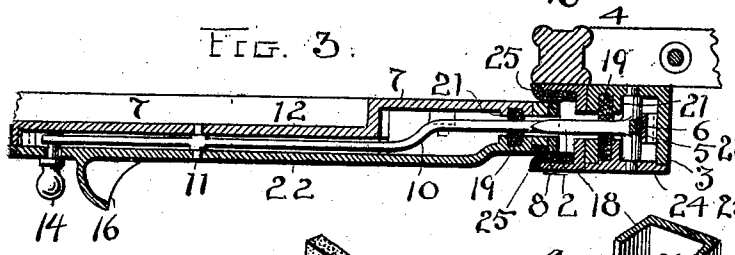
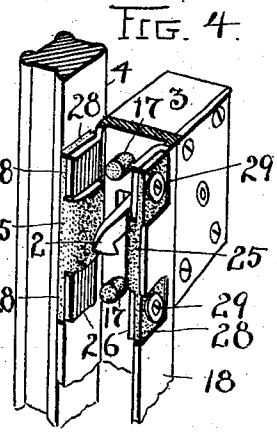


FIG. 4.



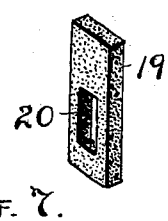


FIG. 7.

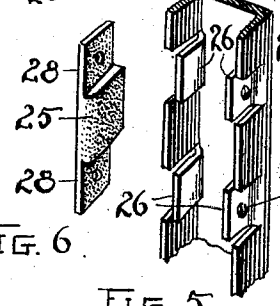


FIG. 6.

FIG. 5.

ATTEST

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UNITED STATES PATENT OFFICE.

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LATCH FOR ELEVATOR-GATES.

SPECIFICATION forming part of Letters Patent No. 682,776, dated September 17, 1901.

Application filed May 4, 1901. Serial No. 58,680. (No model.)

To all whom it may concern:

Be it known that I, AUGUST ZITZMANN, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Latches for Elevator-Gates; and I do declare that the following is a full, clear, and exact description of the invention, which will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in latches for elevator-gates; and the improvement consists in a construction substantially as shown and described, and more particularly pointed out in the claims.

One of the objects of the invention is to provide latch mechanism for elevator gates or doors which will securely lock the gate or door when in closed position.

Another object is to make a noiseless operating-latch construction; and another object is embraced in the arrangement of parts whereby none of the operating members project beyond the meeting edges of the door and casing. This arrangement prevents possible accidents which might occur to the person passing between said edges after the door or gate is opened, because there are no projecting parts to catch the clothing.

In the accompanying drawings, Figure 1 is an inside face elevation of a sliding door and its supporting-casing. Fig. 2 is an enlarged sectional view of the latch and locking mechanism on the door and casing. Fig. 3 is a sectional view on line *x x*, Fig. 2, and looking down therefrom. Fig. 4 is a perspective view of that portion of the jamb which receives the door edge and showing more particularly the cushioning-strips attached to the angle-bar at each side of the catch of the lock. Fig. 5 is a perspective elevation of a portion of the U-shaped angle-bar, showing the struck-up parts thereof which confine the cushioning-strips. Fig. 6 is a perspective view of one of said cushioning-strips. Fig. 7 is a perspective view of one of the cushioning-blocks for the latch members.

The latch mechanism, as shown and described, is operatively mounted to work in connection with a sliding door or gate such as is used in elevator hatch-cribs and the like, and, to begin with, differs from the usual construction in that the catch or latch proper for the gate is mounted on the fixed or stationary casing instead of on the door or gate. This latch 2 is pivotally mounted on a cross-shaft within a cast-iron box 3, fastened to and forming part of the casing or cribwork 4, and a flat spring 5 within said box bears against a right-angled arm 6, rigid with said latch, and keeps the same normally in position to engage and lock the sliding door 7. The sliding door 7 is provided at its front or meeting edge with a plate 8, which has an opening 9 in its face opposite latch 2, and the hook or depending portion of said latch engages and drops behind plate 8 at the bottom of said opening, and thereby locks the gate securely to casing 4 until released. The releasing member is mounted on the sliding door 7 and comprises a lever 10, pivotally supported at 11 within a cast frame or casing 12, attached to the door. The outer end of the longer arm of this lever normally rests, by reason of its own weight, upon a cushioning-block 19 below the hook end of latch 2, and a knob 14 on the shorter arm of lever 10 projects through a slot 15 in casing 12 and provides means whereby said lever is operated to raise latch 2 out of engagement with plate 8. A handle 16 is arranged adjacent to the side of knob 14, and the operator can depress knob 14 by means of his thumb, while at the same time his fingers grip said handle to slide the door open when the latch is thereby released.

When the gate is carried to locked position, the meeting edge plate 8 abuts against rubber cushioning pins or projections 17, which are located above and below latch 2 and project through box 3 and the U-shaped angle-bar 18, into which gate-plate 8 retires. The sides of angle-bar 18 overlap latch 2, and when gate 7 is open there are no projecting parts from either the gate edge or bar 18 upon which accidental catching of the clothing of a person passing between can occur.

Both lever 10 and latch 2 have cushioning-blocks 19 to prevent the said parts from striking or rattling against the metal casing, thereby providing against unnecessary noise. This feature is very desirable, because in office-blocks where elevator-latches of this kind are used the clatter of the latches and banging of the gates throughout the day are

very annoying and trying to the tenants. Each block 19 has an opening 20 for the lever or latch, as the case may be, which is of such size as to allow said parts to pass through and work freely therein, but which is of less size than the openings in the iron casings or boxes 3 and 12, thus keeping said lever and latch out of contact with their inclosures and permitting only engagement between said lever and latch. These cushioning-blocks 19 are preferably held in place between walls 21, forming part of each casing or box 12 or 3, and are slipped in from one side, a removable plate 22 on casing 12 and a like plate 24 on box 3 permitting this to be done.

A further feature in connection with the cushioning of door 7, whereby the noise and banging are greatly eliminated, is embraced in the cushioning-strips 25, which are removably attached to the sides of angle-bar 18 of the cribwork 4. At each side of latch 2 and struck up out of the angle-bar proper are offset flanges 26, bent inward toward the latch, but lying parallel with the sides of said bar and having screw-threaded holes 27 centrally in two of said flanges. The cushioning-strips 26 are shaped with thin flattened extremities 28, which fit on the outside face of flanges 26 and have their outer face flush with the outside of angle-bar 18. Separate screws and washers 29 fasten the strips securely in place. The thicker central portions of cushioning-strips 26 are placed inside of angle-bar 18 opposite latch 2, and the edge of door 7 is guided by the rounded edges of strips 26 to seat the door edge centrally within angle-bar 18. These cushioning-strips thus act as guides to line up the door when engaging latch 2 and also deaden the noise when the gate is closed. When these strips become worn out with excessive use, a new set can be slipped or screwed in their place.

What I claim is—

1. The casing and a latch supported thereon, and a cushioning-block about said latch, in combination with a sliding door having a locking-plate and a lever for releasing said latch, and a separate cushioning-block for said lever mounted on said door, substantially as described.

2. In elevator-doors, the combination of the stationary casing having a U-shaped angle-bar mounted thereon, a pivoted latch on said casing and within said angle-bar, a sliding door constructed with an edge plate to retire within said U-shaped bar and having an engaging portion for said latch, and a pivoted lever on said door to release said latch from said plate, substantially as described.

3. The U-shaped angle-bar and the supporting-casing therefor, an opening in said bar and a spring-pressed pivoted latch on said casing projecting through said opening, and cushioning-blocks for said latch, in combination with a sliding door constructed with an edge plate to engage said latch when retired within said U-bar, a pivoted lever to release said latch from said plate, and cushioning-blocks for said lever mounted on said door, substantially as described.

4. The combination of the sliding door and the fixed casing therefor, a U-shaped angle-bar on said casing within which the edge of said door retires, latch mechanism on said door and casing, and removable cushioning and guiding strips for said door mounted on said angle-bar, substantially as described.

5. The casing and the U-shaped angle-bar thereon having offset flanges, cushioning-strips removably secured to said flanges and arranged on the inner face of the sides of said angle-bar, and a latch on said casing, in combination with a sliding door having an edge plate to engage said latch and constructed to retire within said angle-bar and between said cushioning-strips, substantially as described.

6. The sliding door, and the fixed casing having a U-shaped angle-bar to receive the edge of the door, said bar having offset flanges, in combination with removable cushioning and guiding strips for the door having engaging portions to fit between said flanges and said bar, substantially as described.

Witness my hand to the foregoing specification this 6th day of April, 1901.

AUGUST ZITZMANN.

Witnesses:
R. B. MOSER,
H. E. MUDRA.