March 10, 1925. 1,529,122

C. J. FISCHER

SILL PLATE FOR ELEVATOR DOORS

Filed July 27, 1922 2 Sheets-Sheet 1

FIG. 1.

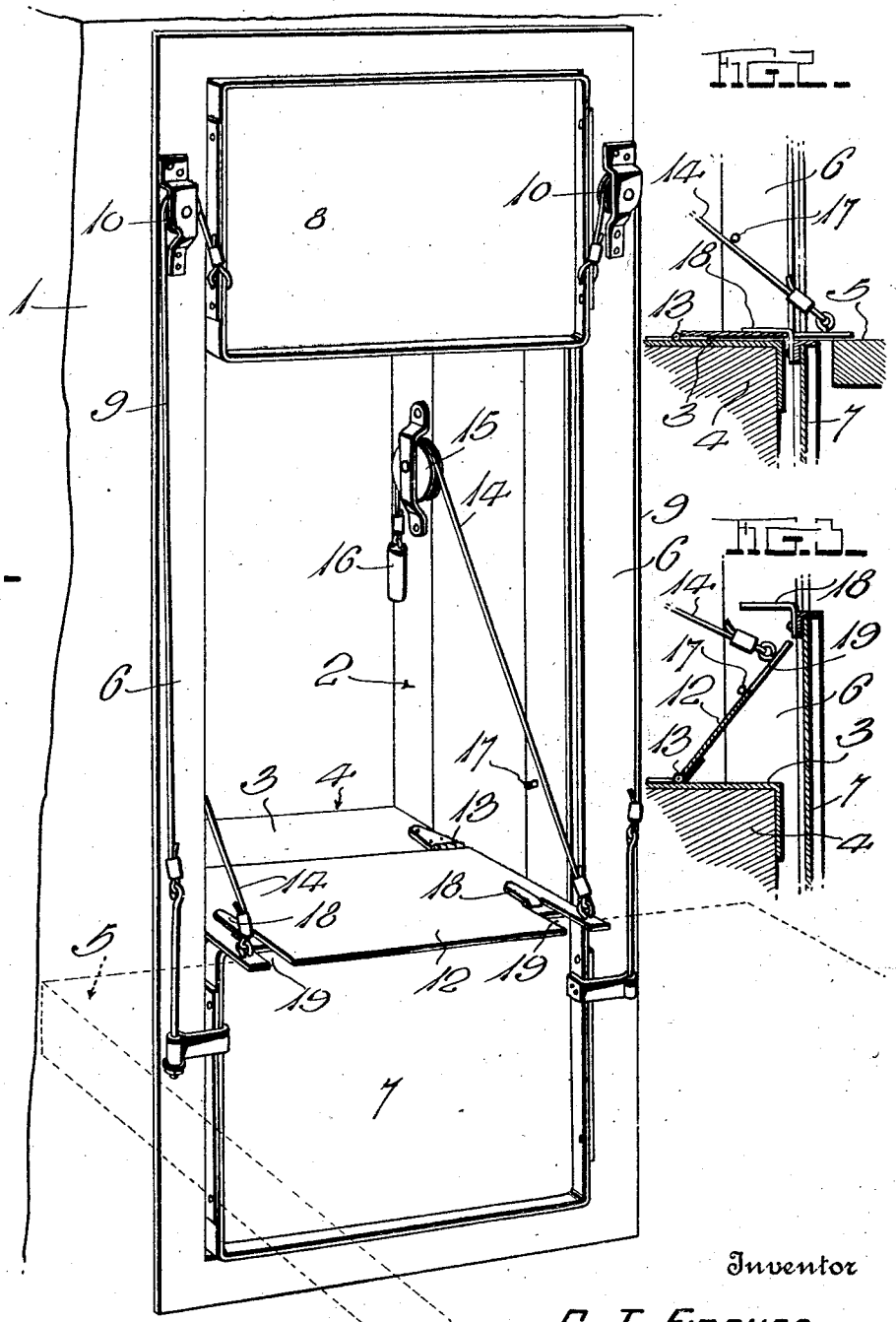


FIG. 2.

FIG. 3.

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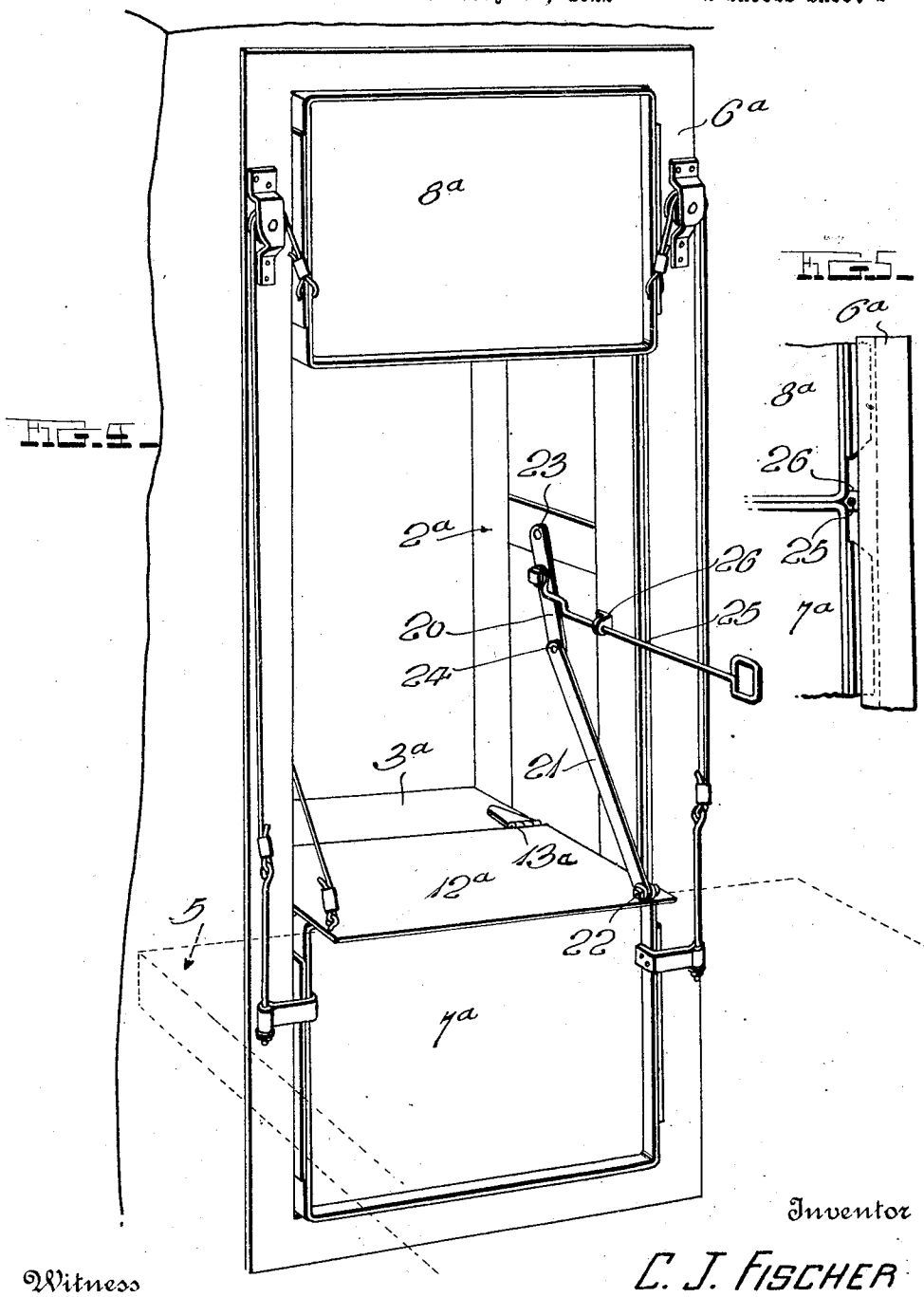


FIG. 5

FIG. 5

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UNITED STATES PATENT OFFICE.

CHARLES J. FISCHER, OF CHICAGO, ILLINOIS.

SILL PLATE FOR ELEVATOR DOORS.

Application filed July 27, 1922. Serial No. 577,917.

To all whom it may concern:

Be it known that I, CHARLES J. FISCHER, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Sill Plates for Elevator Doors; and I do 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 relates to improvements in sill plates adapted to bridge the gaps between the sills or lower ends of door frames opening into an elevator shaft, and the elevator, whereby trucks and the like may be more readily moved from the elevator onto the floor or vice versa.

One object of the invention is to provide a pivoted sill plate which is well adapted for use in connection with a vertically sliding door having at least one section which moves downwardly to open position, the arrangement being such that when this door section is lowered, the sill plate will extend over the same for engagement with the elevator, whereby when the door section is again raised, the sill plate will be moved to an inoperative position thereby.

A further aim is to provide the downwardly moving door section with novel means for engaging the sill plate and moving it to operative position when the door section is lowered to open position.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the descriptive matter being supplemented by the accompanying drawings.

Figure 1 is a perspective view showing one form of my improved sill plate pivotally mounted within the lower end of a door frame at one side of an elevator shaft, the door being opened and the sill plate shown in lowered position.

Figure 2 is a detail vertical section with the parts standing as in Figure 1.

Figure 3 is a duplicate of Figure 2 with the exception that it illustrates the lower door section partially raised and the sill plate in its raised inoperative position.

Figure 4 is a view similar to Figure 1 showing a slightly different form of construction.

Figure 5 is a detail elevation, partly in section, showing the upper and lower door sections closed instead of open as in Figure 4.

In the drawings above briefly described, the numeral 1 designates the wall at one side of an elevator shaft, while 2 has reference to a door frame in said wall. The numeral 3 designates a sill of the frame 2 which rests upon or may be a part of a floor 4 and the numeral 5 designates an elevator platform movable within the shaft.

Suitably associated with the door frame 2, are vertical guide tracks 6 for a lower door section 7 and in the present showing these tracks also guide an upper door section 8, the two sections being connected by cables 9 trained over sheaves 10 so that the one counterbalances the other.

All of the parts so far mentioned may be of any conventional construction and it is to be understood that as far as the present invention is concerned, only the lower door section 7 is necessary, as this section alone co-operates with the sill plate 12 which is adapted to bridge the gap between the floor 4 and the elevator 5. The plate 12 in the present showing, is hinged at 13 to the sill 3 and by means of cables 14 trained over sheaves 15 and weights 16, this plate is normally raised to the position shown in Figure 3, being limited in its upward swing by any preferred means, such as a stop 17. When the plate is in this position, the lower door section 7 is either entirely or partially raised. I provide this section however with means to engage the sill plate 12 and automatically lower it to a position above the door section when the latter is lowered, as will be seen by reference to Figure 2. In the present showing, this means is in the form of a pair of hooks 18 carried by the door section 7 and receivable in slots 19 with which the free edge of the sill plate 12 is formed. When the door section 7 lowers, the hooks 18 hook over the inner end walls of the slots 19 and pull downwardly upon the sill plate 12 until the door section is completely lowered and the sill plate stands in the horizontal position shown in Fig. 2. In this position, the sill plate rests upon the elevator platform 5 and effectively bridges the gap between this platform and the floor whereby trucks and the like may be readily rolled from one onto the other. As soon as the door section 7 is raised, the sill plate 12

returns to its normal position against the stop or stops 17 and is held in this position by the weights 16.

In the form of construction shown in Figures 4 and 5, the door frame 2^a is provided with suitable guides 6^a for upper and lower door sections 8^a and 7^a respectively, said sections being counter-balanced and mounted in the same manner as the sections 7 and 8. A sill plate 12^a is hinged at 13^a to the sill 3^a to swing outwardly over the door section 7^a when the latter is lowered, but instead of providing said door section with means to lower the sill plate 12^a, I provide suitable manual operating means. As here shown, this means consists of upper and lower links 20 and 21 respectively, the latter being pivoted at 22 to the sill plate 12^a while the former is pivoted at 23 to a suitable fixed part adjacent one side of the door frame 2^a. The two links 20 and 21 are pivoted to each other at 24 and an operating rod 25 is connected with one of said links, being passed through a suitable guide 26 in such a position that it may be grasped by the elevator operator. Thus, when the elevator is stopped at the proper point, the rod 25 may be operated to lower the sill plate 12^a onto the lower door section 7^a. It will be seen that closing of the door section 7^a will move the sill plate 12^a to inoperative position, but if desired said sill plate may be raised by operating the rod 25, before said door section is raised.

Attention is directed to the fact that when the sill plate is raised as seen in Fig. 3, it forms a barrier preventing unauthorized persons from easily opening the door. It also guards the door against injury which might otherwise occur by striking the same with packing cases, trucks, etc., handled carelessly.

From the foregoing, taken in connection with the accompanying drawings, it will be seen that both forms of my invention are simple and inexpensive, yet that they will be practicable and in every way desirable for the purposes intended. Since excellent results may be obtained from the details disclosed, they may well be followed, and within the scope of the invention as claimed, numerous minor changes may be made.

I claim:—

1. The combination with an elevator shaft doorway including a sill in the doorway, and a door slidable upwardly from an open position below the sill to a closed position, of a bridge in the doorway hingedly mounted at the sill and extending along the sill and across the upper edge of the door into the elevator shaft when the door is in a lowered and opened position and extending at an upward incline from the sill towards the door to guard the lower portion of the door when the door is in a raised and closed position.

2. The combination with an elevator shaft doorway including a sill in the doorway, and a door slidable upwardly from an open position below the sill to a closed position, of a bridge in the doorway mounted for vertical swinging movement and extending across the upper edge of the door into the elevator shaft when the door is moved downwardly to an open position and extending at an upward incline towards the outer face of the door to guard the lower portion of the door when the door is in a raised and closing position, and abutment means carried by the door for engaging the bridge and swinging the bridge downwardly and over the door when the door is moved downwardly to an open position.

3. The structure of claim 2 having the free end portion of the bridge provided with a slot extending towards the pivoted end thereof, the abutment means being in the form of a tongue carried by the door for extending into the slot and engaging the bridge to swing the bridge downwardly when the door is moved downwardly to the open position.

4. The structure of claim 2 and counterbalancing means for said bridge to facilitate vertical swinging movement thereof.

5. The combination with an elevator shaft and a door movable vertically through a floor opening adjacent the shaft, of a sill-plate mounted in the door opening and movable about a fixed axis to and from a position across the floor opening into and out of engagement with the elevator by the lowering and raising of the door.

6. The combination with an elevator shaft and a door movable vertically through a floor opening adjacent the shaft, of a sill-plate mounted in the door opening and movable about a fixed axis to and from a position across the floor opening into and out of engagement with the elevator by the lowering and raising of the door, and a stop for limiting the opening movement of the sill-plate.

In testimony whereof I have hereunto affixed my signature.

CHARLES J. FISCHER.