C. HATFIELD.

ELEVATOR GUIDE SHOE.

APPLICATION FILED DEC. 16, 1909.

1,002,514. Patented Sept. 5, 1911.

Fig. 4,

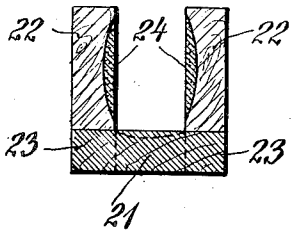


Fig. 1,

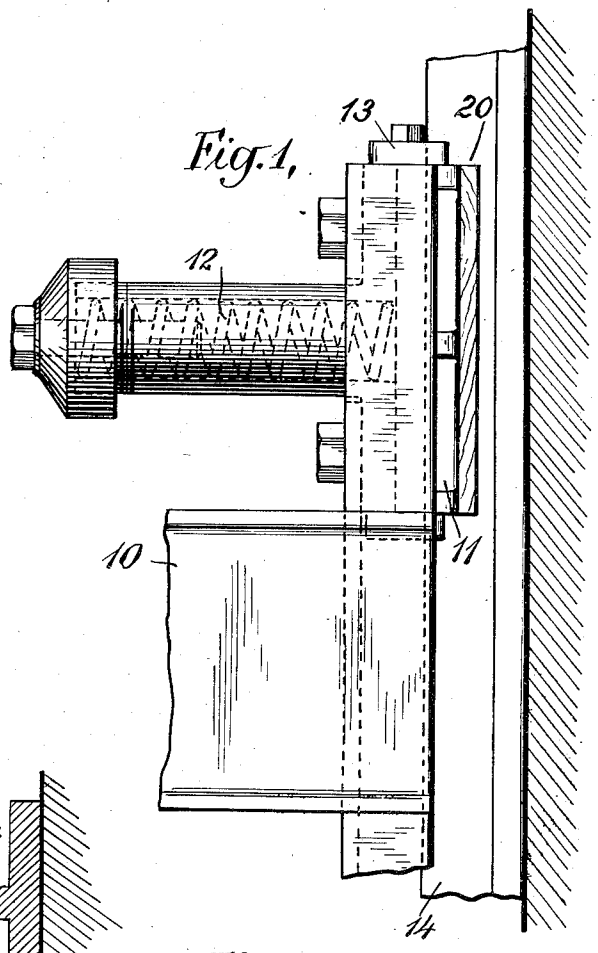


Fig. 2

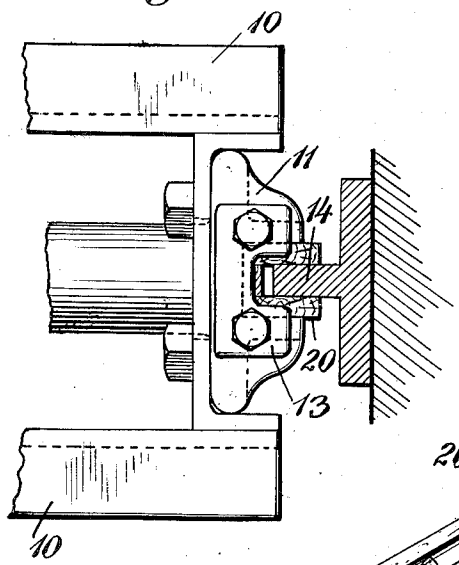
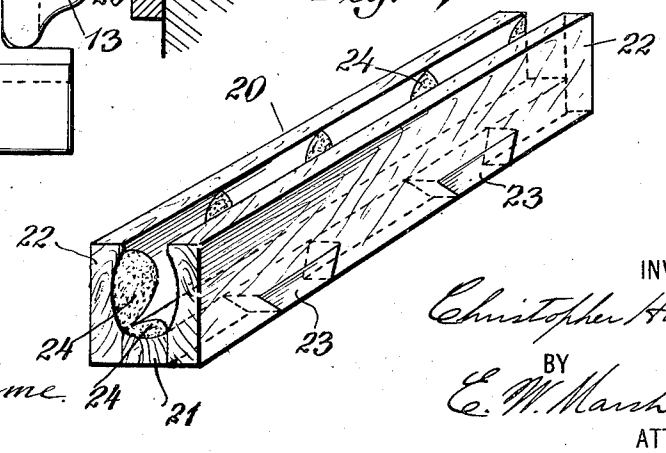


Fig. 3,



WITNESSES:

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ELEVATOR GUIDE-SHOE.

1,002,514. Specification of Letters Patent. Patented Sept. 5, 1911.

Application filed December 16, 1909. Serial No. 533,322.

To all whom it may concern:

Be it known that I, CHRISTOPHER HATFIELD, a citizen of the United States, and a resident of the borough of Brooklyn, in the county of Kings, city and State of New York, United States of America, have invented certain new and useful Improvements in Elevator Guide-Shoes, of which the following is a specification.

My invention relates to guide shoes which are carried by elevator-cars, and are arranged to slide over the fixed guides as the car passes along them.

The object of my invention is to provide a shoe of this character constructed of a plurality of parts which are so arranged that such of the parts as become worn may be replaced without renewing the whole. This and other objects of my invention will appear in the following specification, in which I will describe my invention, and in the appended claims I will set forth its novel features.

Referring to the drawings, Figure 1 shows in side elevation that part of an elevator-car which carries one of the guide shoes and a portion of the fixed guide over which the shoe runs. In Fig. 2 the same parts are shown in plan, the guide-rail being shown in section. Fig. 3 is a perspective view of a guide shoe made according to my invention, and Fig. 4 is a sectional plan view of the shoe.

Like characters of reference designate corresponding parts in all of the figures.

10 designates certain of the structural parts of an elevator-car. A guide shoe frame or holder 11 is carried by these parts. It may be connected with the car through the intermediary of a spring 12 which provides a limited amount of resiliency.

13 is the shoe-clamp, the purpose of which will be shown more fully hereinafter.

14 is the guide-rail. These guide-rails are commonly constructed of T-rails of steel rigidly affixed to a building or other structure in which they are supported in a vertical position, although, of course, my invention is applicable also to other forms of rails and to those which are in other than vertical position. The present invention relates to a shoe which is held in the frame 11 and slides over these guide-rails. In the drawings, 20 designates the shoe which I have invented for the above purpose. In its preferred form this shoe comprises a back portion 21 and two sides 22, 22. The sides overlap the back portion, but are cut away as shown in the drawings at 23, to fit over lugs projecting from the back portion at these points. These lugs have undercut edges; that is, they are narrower in the rear than they are in front, and the openings in the side pieces are made to fit over them. In other words, dovetail joints are provided between the back portion and the sides which hold these parts rigidly together to form a unit. These joints are so made that the sides may be removed from the back portion in only one direction, sidewise. These shoes may be made of different materials, such as bronze, or softer metal, fiber, or wood. I prefer to construct them of hard wood thoroughly permeated with oil or other lubricant. The surfaces of each member of the shoe which are adjacent to the guide are gouged out as at 24 so that little pockets are formed thereby between the shoe and the guide for the accumulation of lubricant.

The operation of this device is obvious. The shoe is placed in the holder 11 when the clamp 13 is removed. The clamp is then replaced and securely holds the shoe in place. This is common practice, but in the present invention it may be seen that the shoe holder not only holds the shoe in the desired position, but that it also holds the parts thereof together as the holder prevents sidewise movement of the shoe, and because of the dovetail joints between the parts of the shoe, this holds the side pieces onto the back portion of the shoe.

It is found in practice that in nearly every case the wear on the elevator guide shoes is uneven, and that it becomes worn on one particular part more than on another. One of the objects of this invention is to provide means for replacing a worn part without disturbing the other parts. It may be seen that either or both of the side pieces may be removed or replaced, or that the back portion may be removed without discarding the sides. The dovetail joints are also made alike and set symmetrically in relation to the back portion so that either side piece may be removed and turned around to expose its other side to the rail.

The guide rails are usually lubricated with grease which reduces the friction between the rail and the shoe, but when the shoes are constructed of wood permeated with lubricant, there is but little friction between these

parts even if the guides are not properly lubricated. When these shoes are used it is apparent that repairs may be quickly made and that the cost of maintenance is materially reduced.

What I claim is.—

1. An elevator guide shoe comprising a back portion having lugs with undercut edges projecting from the sides thereof, and side pieces overlapping said back portion, said side pieces being provided with flaring grooves adapted to fit over said lugs, said back portion and side pieces being constructed with lubricant pockets cut in their bearing surfaces.

2. An elevator guide shoe comprising a back portion having a pair of lugs with undercut edges projecting from the sides thereof, and side pieces overlapping said back portion, said side pieces being provided with flaring grooves adapted to fit over said lugs, said back portion and side pieces being constructed of wood permeated with lubricant and constructed with lubricant pockets cut in their bearing surfaces.

3. An elevator guide comprising a frame adapted to be connected with a car, and a three-piece shoe of wood permeated with lubricant and having lubricant pockets cut in the bearing surfaces thereof, said frame having means for holding the pieces of the shoe in two directions, and said pieces being constructed with joints between them arranged to hold said pieces together in a third direction.

4. An elevator guide comprising a frame adapted to be connected with a car, and a shoe comprising a back portion having lugs with undercut edges projecting from the sides thereof and side pieces overlapping said back portion, said side pieces being provided with flaring grooves adapted to fit over said lugs to hold said pieces together in one direction; said frame having means for holding the pieces of the shoe together in other directions.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHRISTOPHER HATFIELD.

Witnesses:
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MARIE L. BRESLIN.