

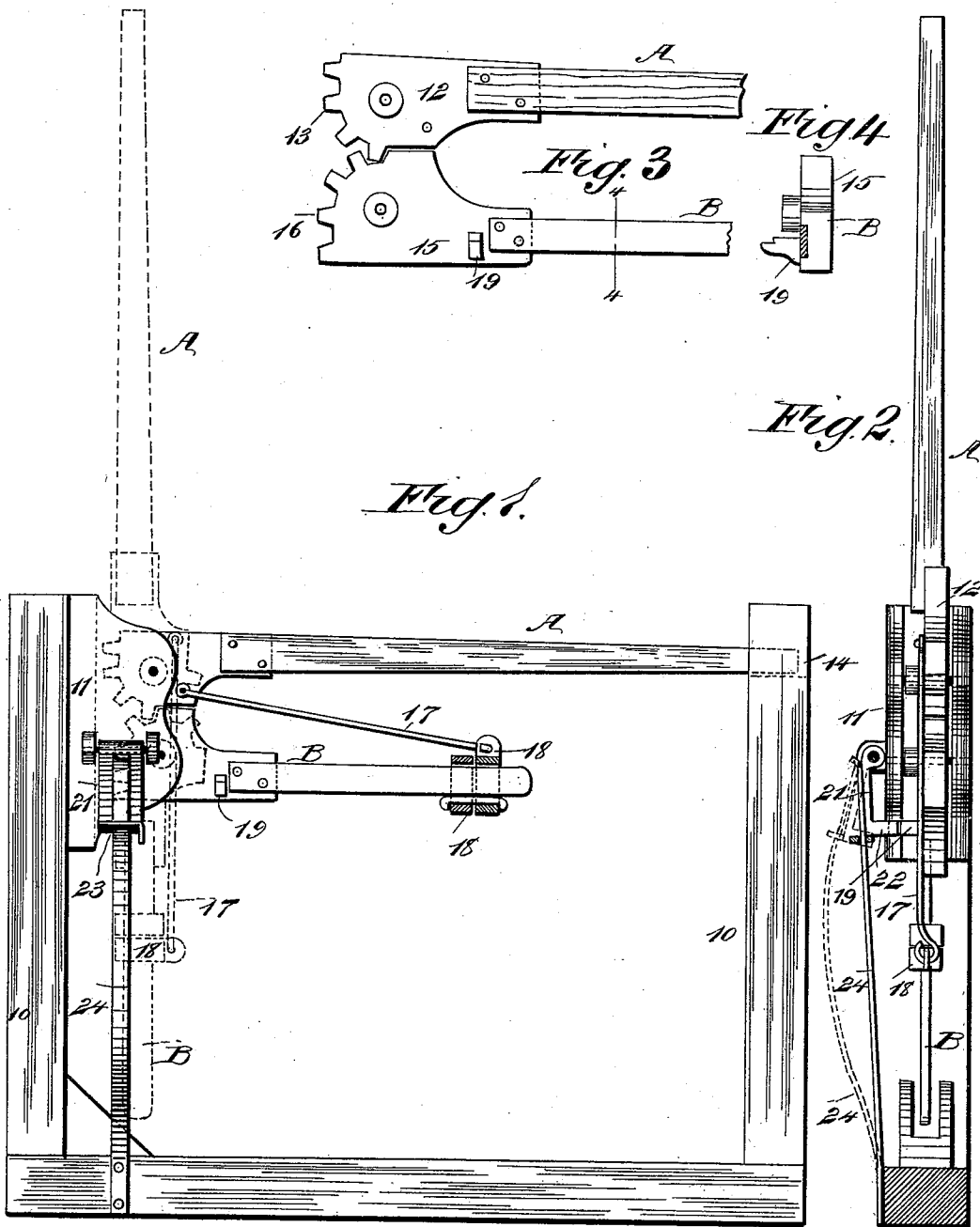
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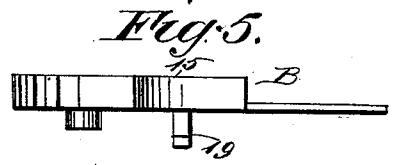
J. W. BURDWIN.
ELEVATOR HATCHWAY GUARD.

No. 523,196.

Patented July 17, 1894.



WITNESSES:
H. McArdle
J. H. Aker



INVENTOR
J. W. Burdwin
 BY *Munn & Co*

ATTORNEYS.

(No Model.)

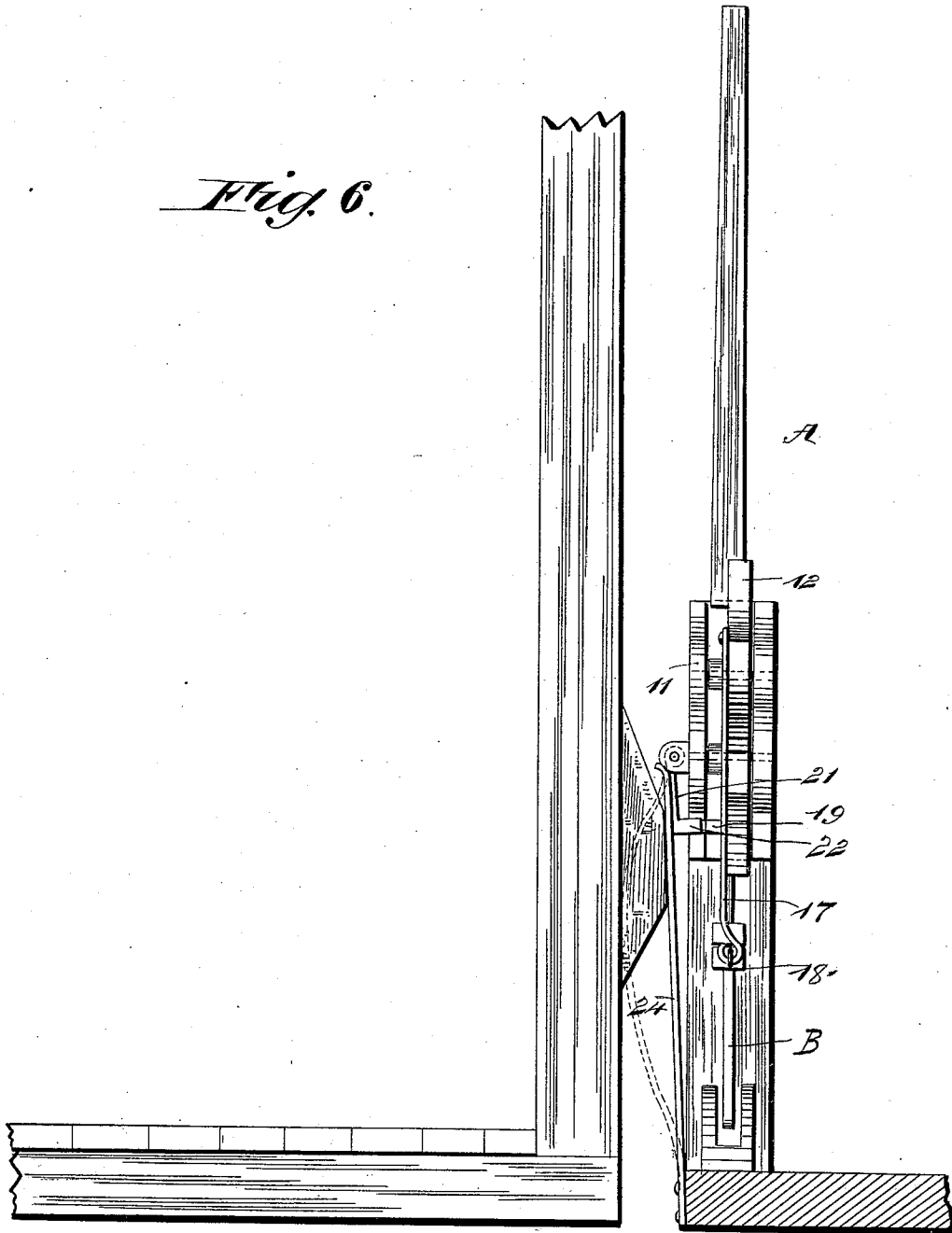
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Fig. 6.



WITNESSES:

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UNITED STATES PATENT OFFICE.

JOHN W. BURDWIN, OF CHICAGO, ILLINOIS, ASSIGNOR TO CHARLES H. MITCHELL, OF SAME PLACE.

ELEVATOR-HATCHWAY GUARD.

SPECIFICATION forming part of Letters Patent No. 523,196, dated July 17, 1894.

Application filed March 28, 1894. Serial No. 505,452. (No model.)

To all whom it may concern:

Be it known that I, JOHN W. BURDWIN, of Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Elevator-Hatchway Guards, of which the following is a full, clear, and exact description.

My invention relates to an improvement in hatchway inclosures, and it has for its object to provide an inclosure fitted with an arm adapted to be elevated by hand when the elevator car or platform is at the landing at which freight is to be unloaded, or passengers discharged, the invention being particularly adapted for use in the hatchways of freight elevators. The said arm is so constructed and connected with a counterbalance arm that when it is elevated the car or platform will hold it in its elevated position. The moment, however, that the car or platform passes the hatchway either upward or downward, the said arm will automatically drop to a position, protecting the hatchway.

The invention consists in the novel construction and combination of the several parts, as will be hereinafter fully set forth and pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar figures and letters of reference indicate corresponding parts in all the views.

Figure 1 is a side elevation of a portion of that part of the hatchway facing the room, for example, the guard arm being in its lower or guard position in positive lines and in its elevated position in dotted lines. Fig. 2 is a section through the hatchway, the guard arm being shown in its elevated position. Fig. 3 is a broken detail view of the guard arm and its counterweight arm, illustrating its construction. Fig. 4 is a transverse section taken essentially on the line 4—4 of Fig. 3. Fig. 5 is an edge view of a portion of the heel of the counterbalance arm. Fig. 6 is a section corresponding to Fig. 2, with the elevator car in position to lock the guard arm.

In carrying out the invention, a railing of any description may be located around the hatchway, but at the exit portion of the hatchway uprights 10 are located at each side, as

shown in Fig. 1; and upon one of the said uprights upon its inner face a casing 11 is firmly secured. In this casing the heel extremity of an upper or guard arm A is pivoted, and the heel of a lower or counterbalance arm B.

The body of the arm A, may be and preferably is made of wood, but its heel section 12 is of metal, and is shaped at its inner extremity as a mutilated gear, being of cylindrical formation and provided with teeth 13.

When the guard arm is in its lower or guard position it is made to enter at its free end a recess 14, made in the upper end of one of the standards 10. The lower or counterbalance arm is preferably made shorter, and it may be made entirely of metal. Its body, however, is usually attached to its heel 15, and the said heel at its rear end is made cylindrical and is provided with teeth 16, adapted to mesh with those upon the heel of the guard arm, one arm being pivoted immediately below the other.

A link 17, is fitted to the heel of the guard arm and connected with a slide 18, located upon the body of the counterweight arm.

A number of slides may be employed, and they are preferably connected, as shown in Fig. 1, and act in the capacity of weights, the weight being sufficient to counterbalance the guard arm. The function of the link 17 is to cause the weight or weights to slide on the arm B during the swinging movement of the same, to increase the leverage of the weights when the arms move toward each other, so that the arms will swing down with a gradually increasing speed. When the arms are swung apart toward the vertical position (Fig. 6), the weights slide toward the pivot and thereby facilitate the lifting of the arm A.

Upon the heel of the counterweight arm a lug or keeper 19, is formed, which is preferably made to extend outwardly therefrom.

A latch plate 21 is hinged upon the front face of the casing 11 in such manner that it will extend beyond the lower edge of the said casing, and upon the inner side of said plate at its lower end an inwardly projecting lug 22, is produced. The hinged plate at its lower end is provided upon its outer face preferably with a guideway 23, through which the upper

end of a spring 24, passes, said spring being preferably a strap spring, having a bearing upon the plate at one end, its opposite end being secured to any convenient support upon the railing or casing around the hatchway.

In operation, when an elevator car approaches a landing at which, for example, freight is to be discharged, the guard arm is lifted by the attendant of the elevator to a vertical upper position, whereupon the counterweight arm is carried to a like lower position, shown in dotted lines in Fig. 2, and at that time the lug upon the pivoted or hinged plate 21 will be brought in locking engagement with the lug upon the heel of the counterweight arm, and as the car or platform assumes a position to discharge its freight, or passengers, an offset on the car, for example, will compress the spring 24 inwardly from the position shown in dotted lines Fig. 2, to the position shown in positive lines in the same figure, and the plate 21, will therefore be held rigid, and the counterweight arm locked in its lower position; but as soon as the elevator car or platform passes the spring 24, the spring will return to its normal position, releasing the plate 21, and the weight of the guard arm will draw the counterbalance arm upward, freeing it from the plate, and the weight upon the counterbalance arm is so calculated that it will cause the upper or guard arm to descend slowly to its guard position, thus insuring the hatchway being closed almost at the moment that the elevator car or platform has passed a floor.

Having thus described my invention, I claim as new and desire to secure by Letters Patent—

1. A guard for elevator hatches; the same consisting of a guard arm, a counterbalance arm in gear connection with the guard arm, a latch adapted for locking engagement with

the counterbalance arm, and a spring adapted to be operated by the elevator car or platform and controlling said latch, as and for the purpose specified.

2. In a guard for elevator hatchways, a guard arm pivoted to a fixed support and adapted normally to be in guard position, a counterbalance arm pivoted beneath the guard arm and having gear connection with its pivot end, weights held to slide upon the counterbalance arm, the weights being in link connection with the guard arm, a latch adapted for locking engagement with the counterbalance arm, and a spring controlling the said latch, adapted to be operated upon by the elevator car or platform, substantially as shown and described.

3. In a guard for hatchways, the combination, with supports located at opposite sides of the hatchway, a casing secured to one of the supports, a guard arm pivoted in the said casing and adapted for engagement with the opposite upright or support, the said guard arm at its pivoted end being provided with teeth, a counterweight arm likewise pivoted in the casing, provided with teeth at its pivoted end meshing with the teeth in the guard arm, weights held to slide on the counterweight arm and a link connecting the outermost weight with the pivot portion of the guard arm, of a latch adapted for engagement with a keeper upon the counterweight arm, and a spring having bearing upon said latch, adapted to be compressed and hold the latch in locking position by contact with the elevator car or platform, as and for the purpose set forth.

JOHN W. BURDWIN.

Witnesses:

CHARLES ALBERTE MELIN,
JOHN F. CONWAY.