

G. H. JOHNSON.
FIRE ESCAPE.
APPLICATION FILED AUG. 24, 1908.

914,661.

Patented Mar. 9, 1909.

Fig. 1.

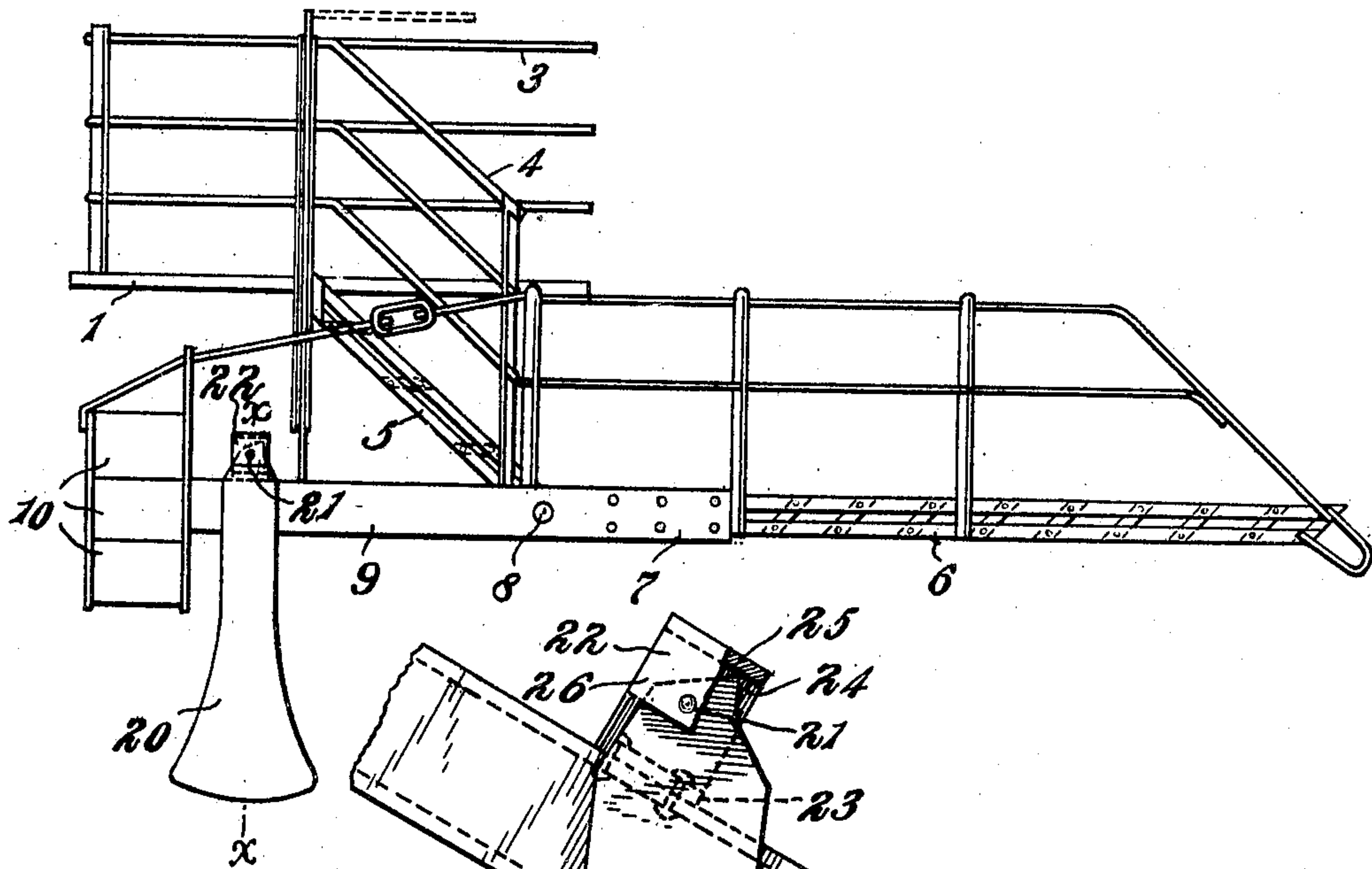


Fig. 2.

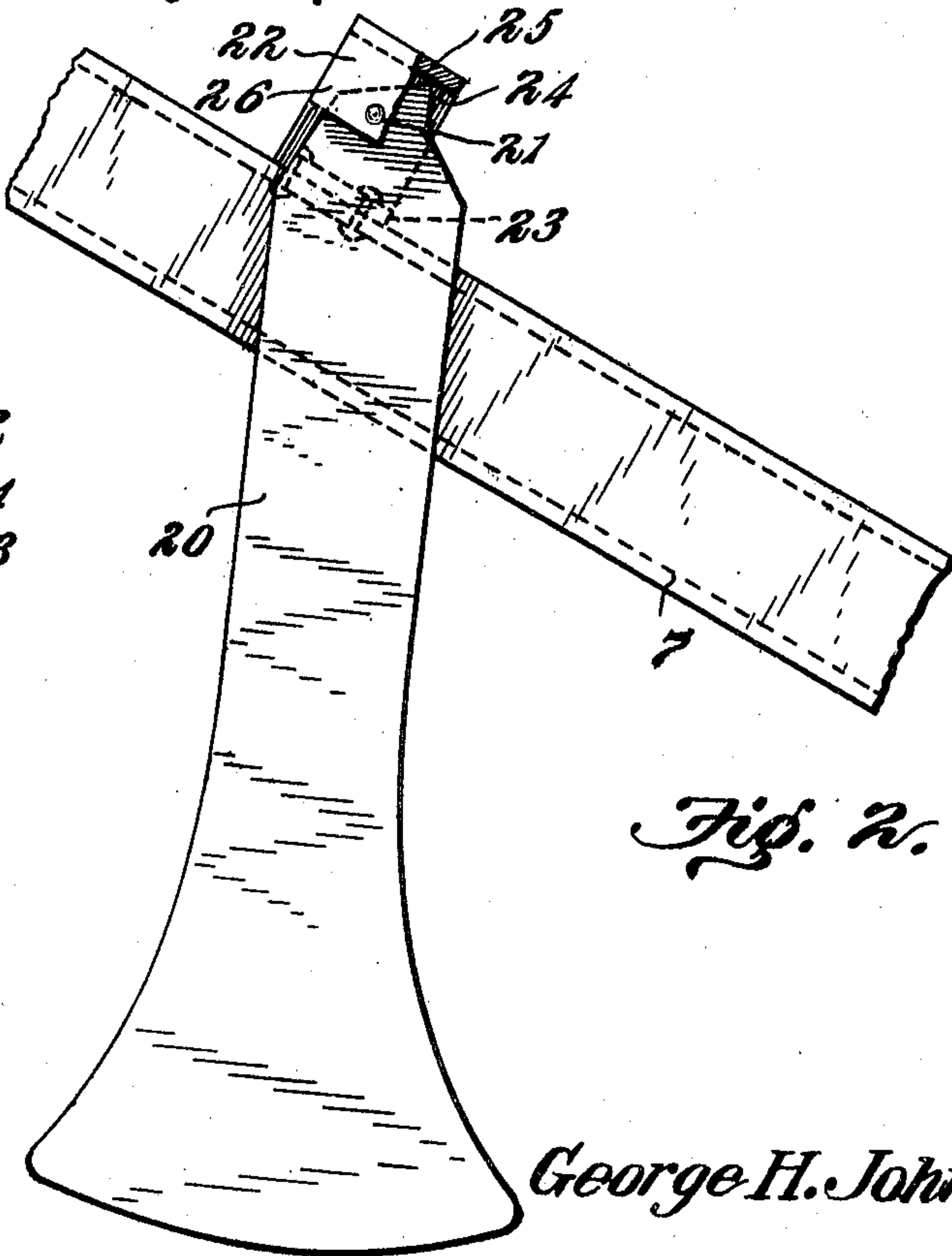
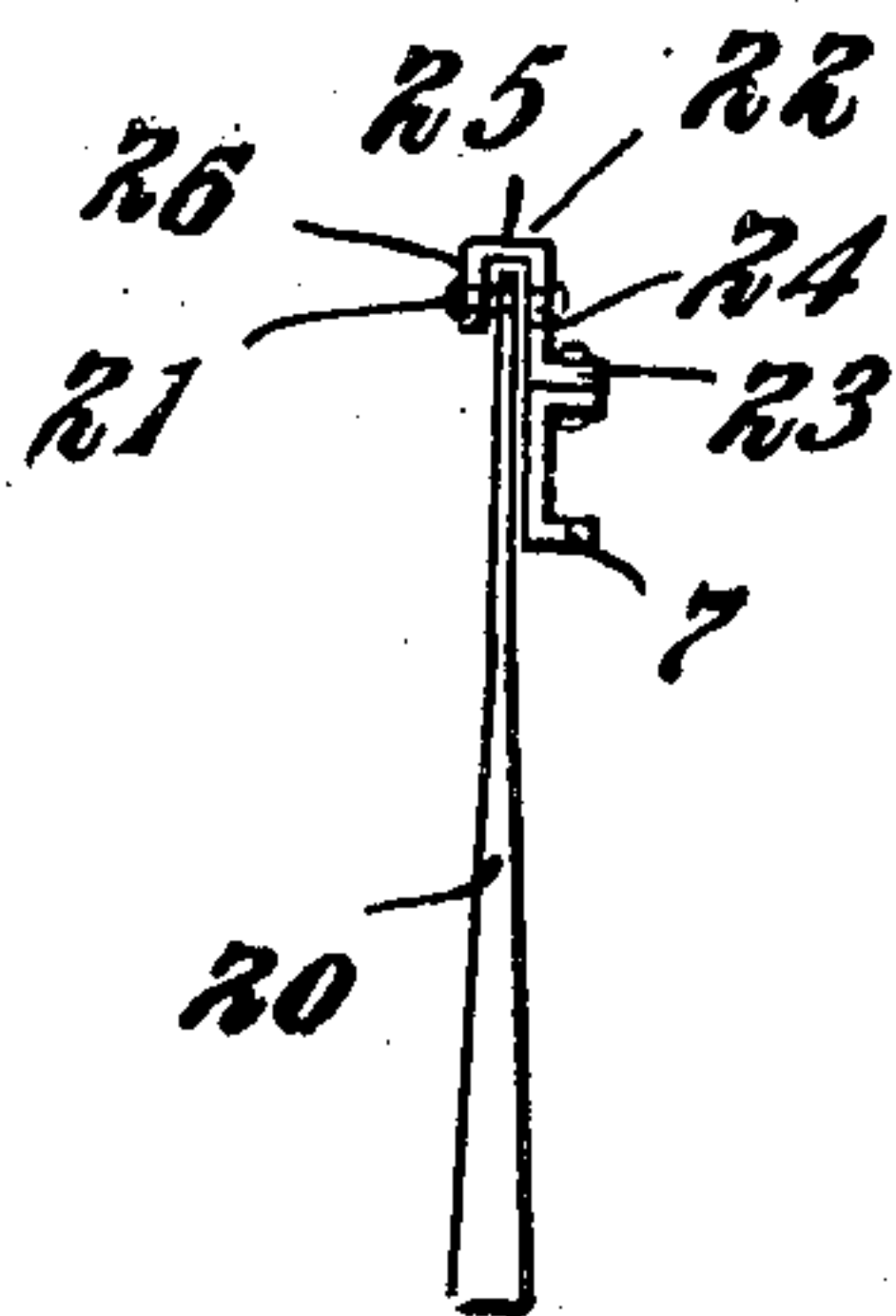


Fig. 3.



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FIRE-ESCAPE.

No. 914,661.

Specification of Letters Patent.

Patented March 9, 1909.

Application filed August 24, 1908. Serial No. 449,945.

To all whom it may concern:

Be it known that I, GEORGE HENRY JOHNSON, a citizen of the United States, residing at Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Fire-Escapes, of which the following is a specification.

My invention relates to fire-escapes and has particular reference to fire-escapes having a swinging and counterbalanced lower flight of steps.

The object of my invention is to provide a fire escape equipped with improved means for regulating or governing the downward swing of the steps to avoid undue shock when they reach the bottom or lowermost position.

Other objects will appear hereinafter.

My invention will be more readily understood by reference to the accompanying drawings forming a part of this specification and in which—

Figure 1, is a side elevation of a portion of a fire-escape equipped with the governor embodying my invention in its preferred form, and Fig. 2, is a detail elevation of the governor. Fig. 3 is a longitudinal section thereof taken on the line X—X of Fig. 1.

Referring to the drawings, 1 indicates the lower landing of the fire-escape having the rails 3 and 4 forming a passageway to the lower flight of steps. The lower flight usually comprises the stationary upper portion 5 and the pivoted lower portion 6. The side members 7 of the lower portion are pivotally connected as at 8 to the side members of the upper portion 5, and the outer side member 7 is extended beyond the pivot as indicated at 9 and provided with the counterbalance weights 10.

As soon as a person steps upon the upper step of the flight 6 the flight begins to descend, at first slowly, but increasing with each succeeding step. To prevent too sudden descent of the flight and an undue shock or jar when it reaches its lowermost position, I provide a governor. This comprises the weight 20 pivotally mounted as at 21 in a bracket 22 secured to the extension 9.

I am aware that weights have been rigidly fixed to the swinging flight of stairs of a fire-escape which act as a counterbalance. Such weights usually have their greatest leverage, and hence retard the drop of the steps when they first begin to descend more than they do toward the end of the drop. Further

when the greatest leverage of such weight is exerted, the weight of the person exerts the least leverage in as much as they are then closer to the pivotal point, and as the leverage due to the weight of the person increases, the leverage due to the weight decreases permitting a shock or jar when the flight reaches its lowermost position. I counteract this inequality by pivotally mounting a pendulous weight so that the leverage due to the weight is rapidly decreased at first owing to the center of gravity of the weight swinging toward the pivot point, and then as the leverage due to the weight of the person is materially increased by the person advancing further from the pivot point arresting its inward swing and throwing its center of gravity outwardly in the opposite direction from its pivot point and the pivot point of the flight.

The bracket 22 comprises a base flange 23 by which it is secured to the member 9, the vertical portion 24, the offset portion 25 and the depending portion 26. The weight is pivoted between the vertical portions 24 and 26 and is provided on the side adjacent to the pivot 8 with an ear or lug 27 which engages the offset portion 25 after the steps have swung downwardly a short distance, in practice about 20 or 30 degrees. This causes the weight to be raised or swung outwardly from this pivot in the opposite direction from the advancing weight on the stairs 6, which counteracts the increasing leverage of the person on the steps. It is obvious that the device may be arranged upon any fire-escape characterized by a counterbalanced lower flight of steps and that at little cost and without change or alteration to the fire-escape.

Having described my invention what I claim as new and desire to secure by Letters Patent is:

1. In a fire-escape the lower landing in combination with the lower flight of steps hingedly connected thereto, a weight pivotally secured to said steps and adapted to swing toward the pivotal point of the steps during the first portion of the downward swing thereof and means adapted to arrest the inward swing of said weight during the remainder of the downward movement, substantially as described.

2. In a fire-escape the lower landing in combination with the lower flight of steps hingedly connected thereto, said flight hav-

ing a rearward extension beyond its pivotal point, a bracket secured to said extension and a depending weight pivotally connected to said bracket, said weight being adapted
5 to swing inwardly during the first portion of the downward swing of the steps and co-acting means on said weight and said bracket for arresting the inward swing of the weight during the remainder of the downward swing
10 and causing the same to swing outwardly in

the opposite direction from the steps, substantially as described.

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

GEORGE HENRY JOHNSON.

Witnesses:

ANNA L. EKVALL,
JANET E. HOGAN.