

(No Model.)

W. F. SEXTON, Sr. & W. F. SEXTON, Jr.

DOOR BALANCE.

No. 261,487.

Patented July 18, 1882.

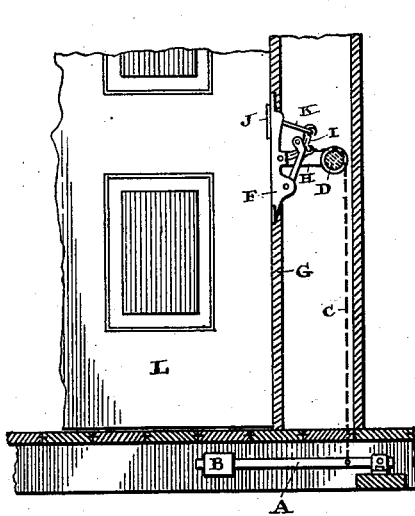


Fig. 1.

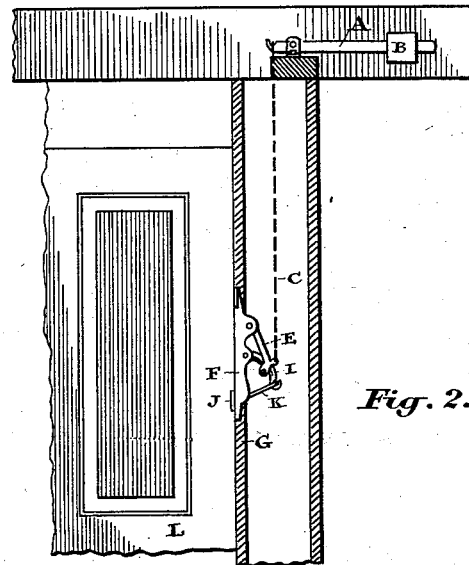


Fig. 2.

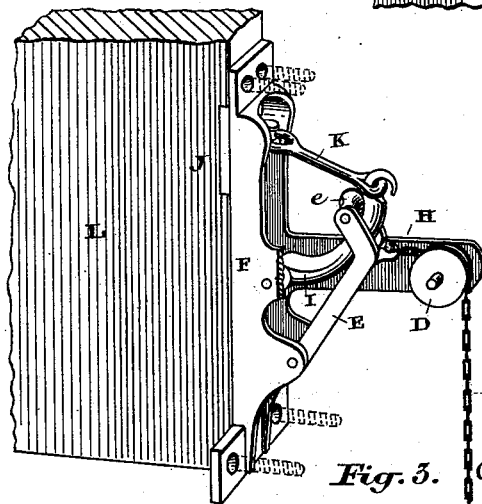


Fig. 3.

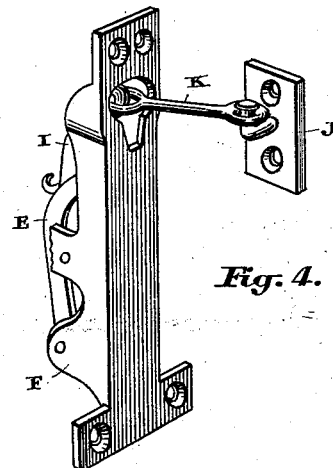
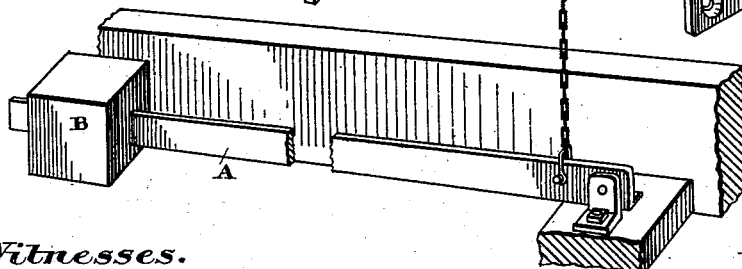


Fig. 4.



Witnesses.

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UNITED STATES PATENT OFFICE.

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DOOR-BALANCE.

SPECIFICATION forming part of Letters Patent No. 261,487, dated July 18, 1882.

Application filed February 20, 1882. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM FRANCIS SEXTON, Sr., and WILLIAM FRANCIS SEXTON, Jr., both of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in Door-Balances, of which the following is a specification.

The object of the invention is to provide a door-balance which will be positive in its action, readily adjusted to suit any variation in the weight of the door, and in which its greatest strength will be exerted when the door is closed and its power gradually diminishing as the door opens; and it consists in the application of a lever provided with an adjustable weight and connected by a chain to a lever pivoted on a casting attached to the jamb of the door and acting against a lever similarly pivoted and connected to the door, as hereinafter explained.

In the drawings, Figure 1 exhibits the application of our door-balance with the lever arranged below the floor. Fig. 2 is a similar view, showing the lever arranged in the ceiling. Fig. 3 is an enlarged detail of our improved door-balance, showing it in the position in which it will appear when the door is closed. Fig. 4 is a detail showing the parts connecting the door to our balance as they appear when the door is opened.

In the drawings like letters indicate corresponding parts in each figure.

A is a lever, pivoted as represented, and provided with an adjustable weight, B.

C is a chain connected at one end of the lever A, and, after passing over the sheave-pulley D, is attached to the lever E. This lever is pivoted upon the casting F, screwed or otherwise secured to the door-jamb G. An arm, H, extending from this casting, as indicated, forms a support for the sheave-pulley D, which carries the chain at right angles to the door and directs the effect of the weighted lever to the door.

I is a lever pivoted to the casting F, and connected to the plate J by the link K. The plate J is screwed or otherwise fastened to the inner

edge of the door L, and therefore moves freely with the door, while the casting F is held stationary with the door-jamb. The end of the lever E is provided with an anti-friction roller, e, which rests against the top edge of the lever I. It therefore follows that as the lever E is connected to the lever A, as represented, the weight upon this latter lever will exert a downward pressure upon the lever E, drawing with it the lever I, which in turn, being connected to the door L, conveys the force to it, and as the door is hinged to the jamb as it opens its back edge opens from the jamb and the weight of the balance described draws the door to a closed position. As the door opens the anti-friction roller e slides down toward the fulcrum of the lever I. The power of the weight is thereby decreased by the shortening of this lever I in proportion as the door opens. The weight B upon the lever A being made adjustable thereon, it will be easy to regulate the pressure required for operating the door. As there are no springs employed in our balance, it is practically everlasting, as the parts are very strongly constructed and are not easily put out of order. It might be arranged to connect the chain C direct to the door; but it would not act so effectually.

What we claim as our invention is—

1. In connection with a hinged door, a pivoted and weighted lever connected by a chain to a lever pivoted to the door-jamb, in combination with a lever also pivoted to the door-jamb, its other end being connected to the back edge of the door by a link.

2. The combination, with the pivoted lever A, provided with an adjustable weight, B, of the chain C, the levers E I, the roller e, the link K, and the casting F, one end of the link K being connected to a door and the casting F secured to a door-jamb, substantially as and for the purpose specified.

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Witnesses:

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