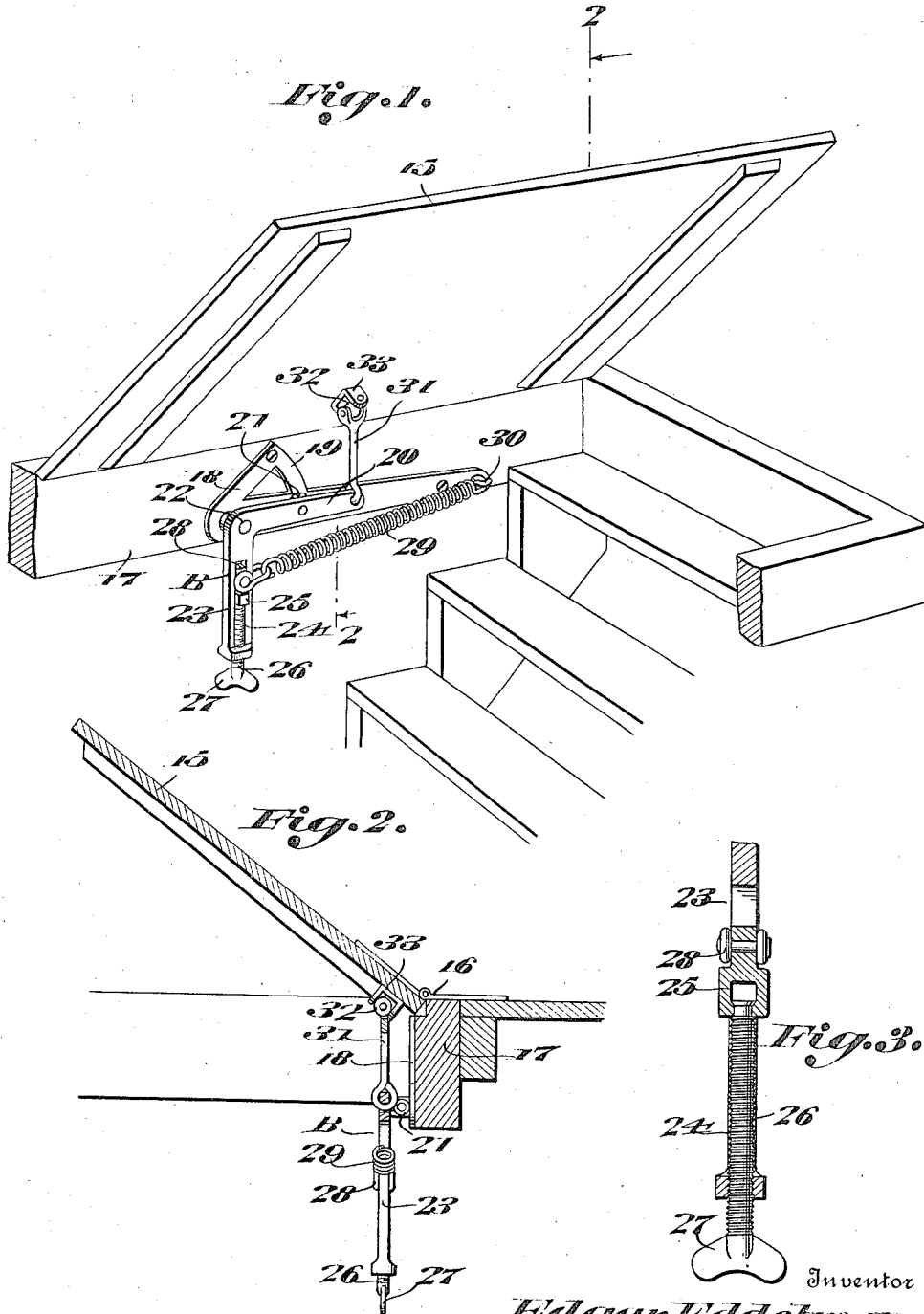


E. EDELMAN.
ATTACHMENT FOR TRAP DOORS.
APPLICATION FILED JULY 23, 1913.

1,090,697.

Patented Mar. 17, 1914.



Witnesses

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1,090,697.

Specification of Letters Patent.

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Application filed July 23, 1913. Serial No. 780,733.

To all whom it may concern:

Be it known that I, EDGAR EDDELMAN, a citizen of the United States, residing at Westport, in the county of Decatur and State of Indiana, have invented new and useful Improvements in Attachments for Trap-Doors, of which the following is a specification.

This invention relates to attachments for trap doors, and it has for its object to produce a simple and efficient spring attachment, whereby the weight of a trap door may be counterbalanced so that such door may be opened or closed with slight effort.

A further object of the invention is to produce a simple and efficient spring attachment which may be readily applied to any trap door of ordinary construction for the purpose of facilitating the operation thereof.

A further object of the invention is to produce a simple and efficient device of the class described having means whereby the tension of the spring may be adjusted and regulated so that it may be efficiently used in connection with doors of varying weights and dimensions.

With these and other ends in view which will readily appear as the nature of the invention is better understood, the same consists in the improved construction and novel arrangement and combination of parts which will be hereinafter fully described and particularly pointed out in the claim.

In the accompanying drawing has been illustrated a simple and preferred form of the invention, it being, however, understood that no limitation is necessarily made to the precise structural details therein exhibited, but that changes, alterations and modifications within the scope of the claim may be resorted to when desired.

In the drawing,—Figure 1 is a perspective view, showing the improved device attached to a trap door of ordinary construction. Fig. 2 is a vertical sectional view taken on the line 2—2 in Fig. 1. Fig. 3 is a sectional view taken through the arm of the bell crank having the spring adjusting device.

Corresponding parts in the several figures are denoted by like characters of reference.

The trap door 15 is connected by means of hinges 16 with the door frame 17. Secured on the door frame is a bracket 18 having a segment arm 19. Fulcrumed on the bracket 18 is a bell crank B, one arm of which, 20, carries an anti-friction roller 21 riding on the curved arm or track 19 which is concentric with the axis of the pin or member 22 which constitutes the fulcrum of the bell crank. The other arm 23 of said bell crank has a slot 24 wherein is fitted a slide 25 which is operable by a set screw 26 that is threaded through the end of the arm 23 and which has a thumb piece 27 whereby it may be operated, the inner end of said screw being swiveled in the slide 25. The slide 25 has a clevis 28 with which one end of a spring 29 is connected, the other end of said spring being connected with the bracket 18 near one end thereof by a hook 30 or in some other convenient manner.

The arm 20 of the bell crank is connected with the trap door by means of a link 31, one end of which is connected by a universal joint 32 with a suitable socket 33 which is secured on the underside of the trap door in proximity to the hinged edge thereof, the ball receiving socket being obviously constructed in such a manner that the door may swing to an open position without being obstructed thereby. It will be readily seen that when the improved attachment has been applied in proper position for operation, the closing of the trap door will place the spring under tension, said tension being expended to assist in moving the door to an open position when desired. By a proper adjustment of the slide 25 by means of the screw 26, the tension of the spring may be regulated and varied so as to counterbalance the weight of the door so accurately that but very slight effort will be required to move it from one position to another, while it may be balanced at various intermediate positions. The device is extremely simple in construction, and it may be readily applied to almost any trap door of ordinary construction.

Having thus described the invention, what is claimed as new, is:—

An attachment for trap doors comprising a bracket secured on the door frame and
5 having an arcuate arm constituting a track, a bell crank fulcrumed on the bracket, a track engaging anti-friction roller on one arm of the bell crank, a link connecting the roller carrying arm of the bell crank with

the door, and a spring connected with the 10 other arm of the bell crank to exert tension thereon.

In testimony whereof I affix my signature in presence of two witnesses.

EDGAR EDELMAN.

Witnesses:

CHARLEY DENHAM,

JOHN THOMAS GEILING.
