

(No Model.)

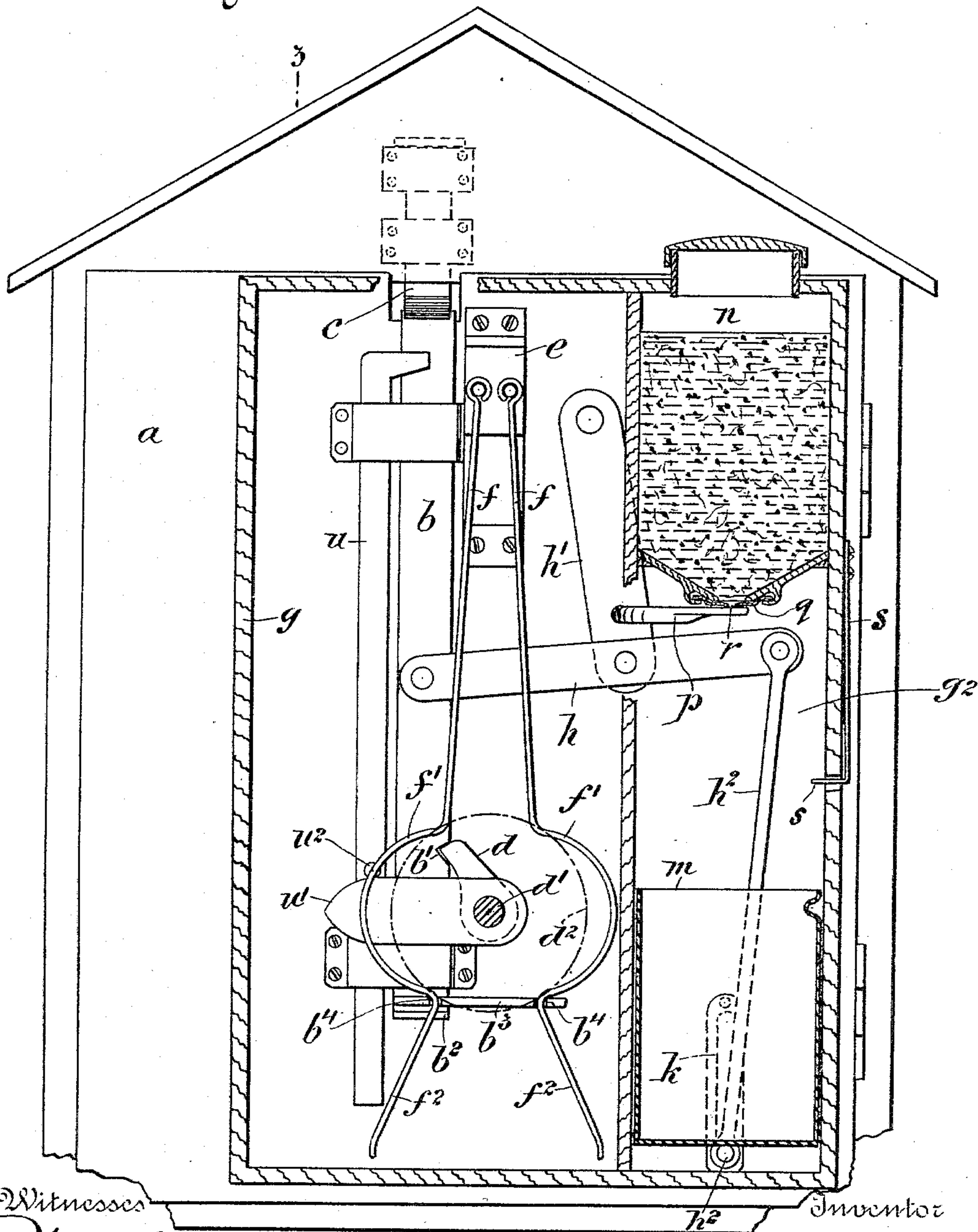
3 Sheets—Sheet 1.

T. WALSH.
FIRE ALARM BOX.

No. 545,141.

Patented Aug. 27, 1895.

Fig. 1



Witnesses

Thos. Walsh

Rept. B. Kimber

Inventor

Thomas Walsh

By *his* Attorney

Oliver N. Evans

(No Model.)

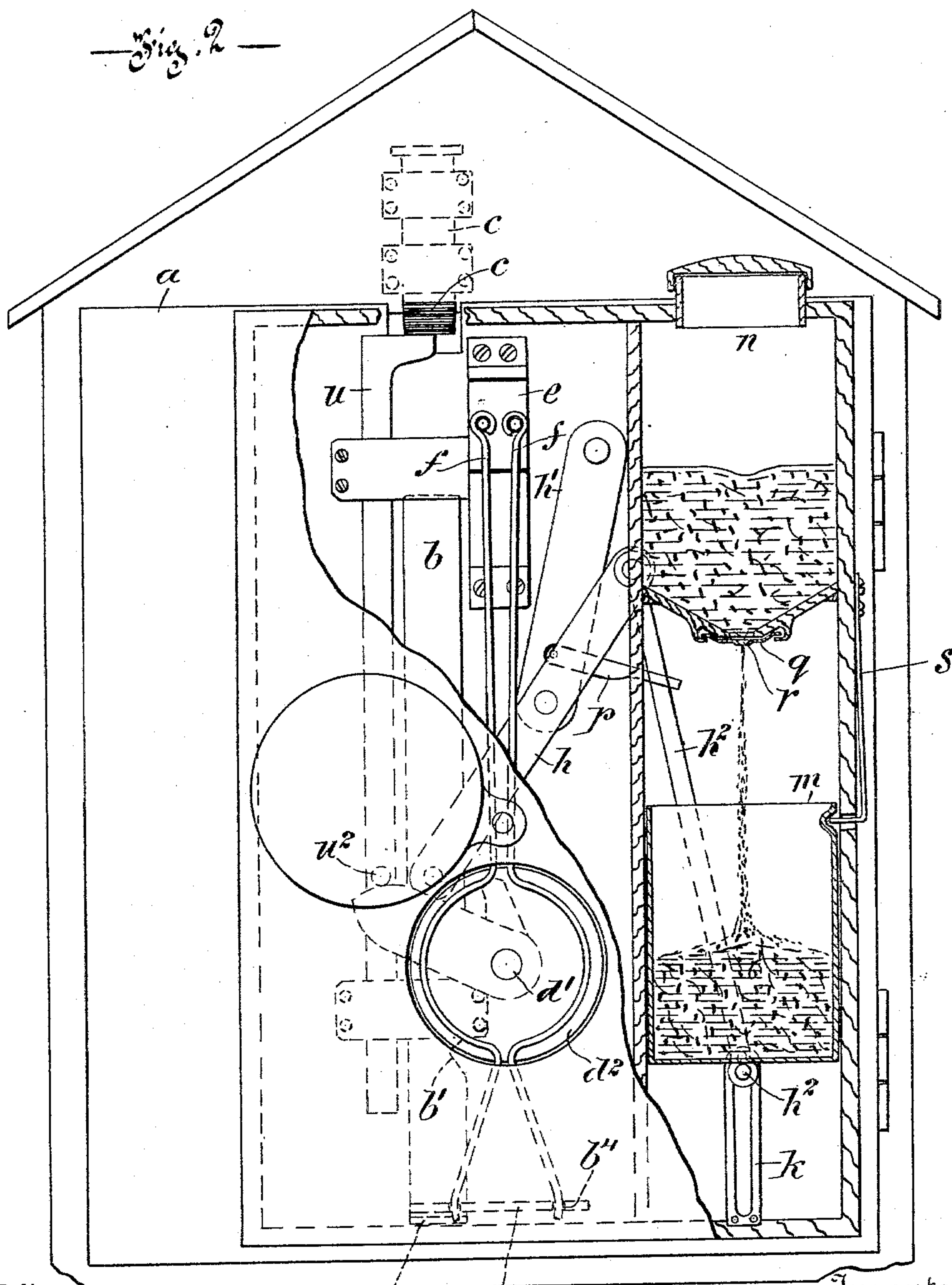
3 Sheets—Sheet 2.

T. WALSH.
FIRE ALARM BOX.

No. 545,141.

Patented Aug. 27, 1895.

—Fig. 2—



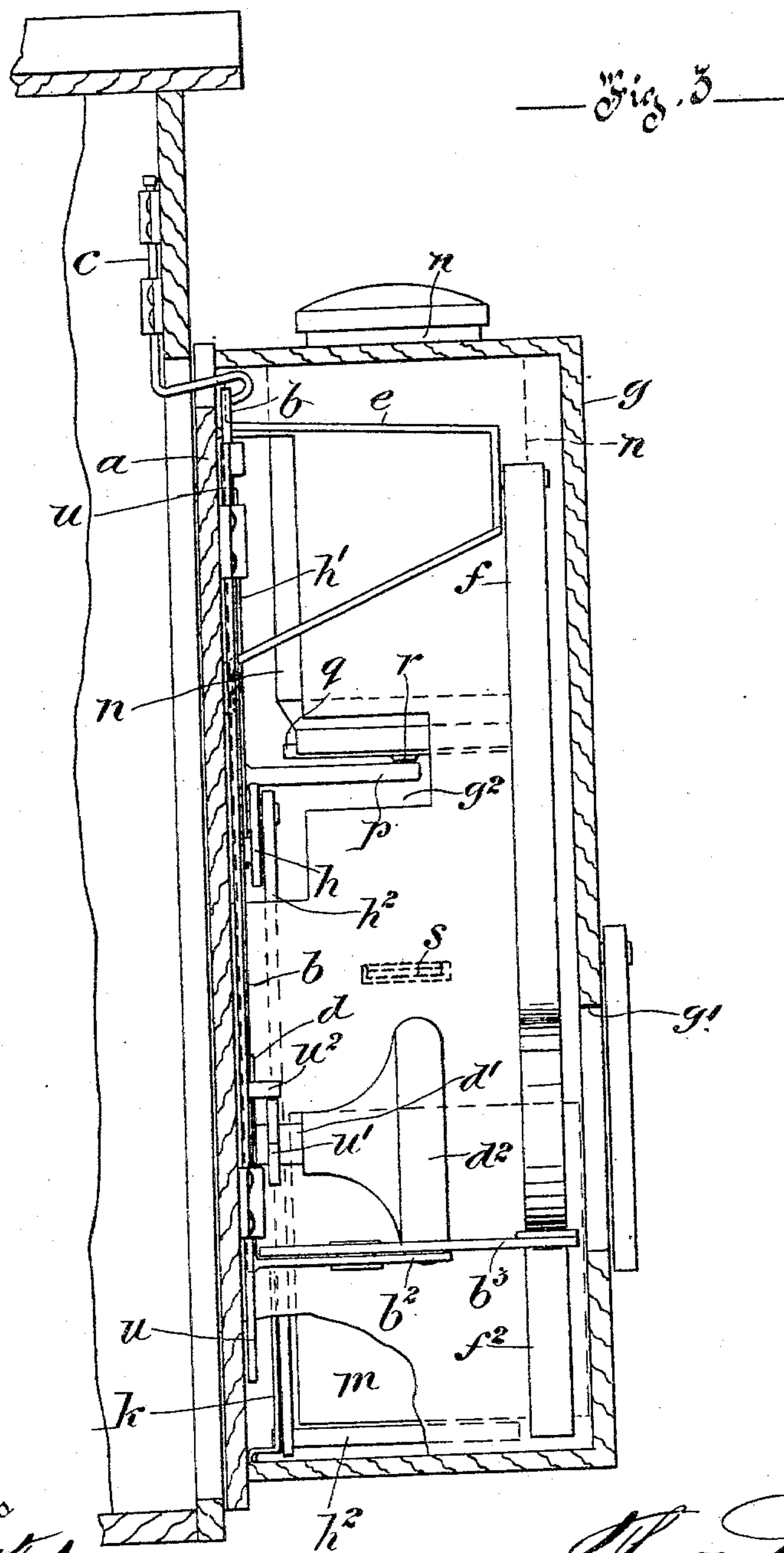
Witnesses
John P. Kimball
Respt. C. Kimber

Inventor
Thomas Walsh
By his Attorney
Oliver N. Evans

3 Sheets—Sheet 3.

No. 545,141.

Patented Aug. 27, 1895.



Witnesses

John M. East

Rup. G. Kimber

Inventor

Thomas Walsh

By his Attorney

John N. Warr

UNITED STATES PATENT OFFICE.

THOMAS WALSH, OF MONTREAL, CANADA.

FIRE-ALARM BOX.

SPECIFICATION forming part of Letters Patent No. 545,141, dated August 27, 1895.

Application filed April 12, 1895. Serial No. 545,483. (No model.)

To all whom it may concern:

Be it known that I, THOMAS WALSH, of the city of Montreal, in the district of Montreal and Province of Quebec, Canada, have invented certain new and useful Improvements in Fire-Alarm Boxes; and I do hereby declare that the following is a full, clear, and exact description of the same.

This invention has for its object to provide, in connection with fire-alarm boxes or signaling apparatus, means which shall have a deterrent effect upon mischievous persons sending false alarms; and to such end the invention consists of an attachment in the form of an automatically-operated grip or handcuff acting to detain the person operating the alarm until the arrival of the firemen.

Having thus referred to the object and principle of my invention, I will now describe what I consider to be the most practical embodiment thereof in a fire-alarm box having the usual front hinged door requiring to be opened before the alarm can be rung, reference being had to the annexed drawings forming a part of this specification, in which like symbols indicate corresponding parts, and wherein—

Figure 1 is a front elevation of an alarm-box with the front of the casing or covering for my improved attachment removed; Fig. 2, a similar view, but with the front of the casing or covering partially broken away and showing the operating parts in different working positions; Fig. 3, a transverse vertical section on line 3 3, Fig. 1.

The alarm-box is in this case shown as of the usual type, having a hinged door *a*, and it is on this door that I place my attachment, although in other constructions of box it is equally applicable, since the main requirement is a connection with the locking mechanism of the alarm-box, whether it be carried by the door or any other part thereof. The door then in this case is preferably locked by means of a vertically-sliding bolt *b*, the upper end of which engages a projecting hook or latch *c*, carried by the frame of the box. The bolt is notched at *b'* on one side, and a trigger or detent *d*, adapted to engage such notch, is mounted on the spindle *d'* of an operating-handle *d''*, also carried by the door.

Pivotally suspended from a bracket *e*, extending some distance out from the face of the door, are a pair of rods *f f*, each having semicircular bends *f' f'*, and outwardly-inclined end portions *f² f²*, the concave sides of the bends facing each other and in effect forming a handcuff or grip adapted to open and close by the moving apart or drawing together of the rods. This operation of the rods is effected through a forward projection *b²*, from the lower end of the bolt *b*, carrying a bar or yoke-piece *b³*, (preferably pivoted to the projection *b²*, so as to avoid any chance of the bolt *b* being jammed by lateral movement of the handcuff,) having slots *b⁴* to receive the inclined portions *f²* of the grip-rods, which, upon the yoke-piece being moved vertically up or down with the bolt, are necessarily opened or closed by such movement. It will be seen, therefore, that if a hand is passed through the handcuff to reach the operating-handle *d''*, the moment it is rotated and the bolt freed so as to drop the rods *f* will be drawn together and so detain the person until such bolt is lifted.

To insure the passing of the hand through the handcuff an inclosing-casing *g* is used, which prevents the handle *d''* being reached except through an opening *g'* in such casing, which is directly in line with the handle and handcuff. Of course the lifting of the bolt could be performed by some special means, solely under control of the fire department; but I prefer to use an automatic release preferably of the following nature and construction: A lever *h* is pivoted to the lower end of a laterally-swinging bar *h'*, and has one end pivotally connected with the bolt *b* and its opposite end attached to a sliding carrier *h²*, moving in a suitable slotted guide *k* on the face of the door *a*.

The casing *g* is formed with a vertical compartment *g²*, in which the carrier works, and such carrier supports an open-topped receptacle *m* in the compartment, which receptacle is adapted to be gradually filled with sand or any other granular material normally carried in a hopper *n*, formed in the upper part of the casing above the compartment *g²*, and the flow of which sand therefrom is controlled by means of a finger *p*, extending from the swing-

ing bar h' , which, when the bolt b is raised into its locking position, is located across the open delivery-mouth of the hopper, and when the bolt is dropped is moved laterally away, so as to uncover the discharge and allow the sand to flow into the receptacle m until its weight overcomes the pressure of a retaining-spring s in the side of the casing when it will operate the lever h and so raise the bolt. The flow of the sand can be timed so that the person will not be released until the firemen have arrived and the period of detention can be varied by the use of interchangeable slides q , having discharge-apertures r of various sizes located at the mouth of the hopper. Of course other forms of automatic time-release mechanism, either electric clock-work or the like, might be used.

As an auxiliary device, to be used when there is no necessity for operating the handcuff through the bolt b , I arrange a second bolt u alongside the one b and provide a finger u' on the spindle of the handle to engage a projection u^2 on the bolt u , by which such bolt can be raised independently to elevate the hook or latch c , serving to hold the door closed.

What I claim is as follows:

1. In combination with the locking mechanism of a fire alarm box, an automatically operated grip or handcuff adapted to open and close, and connections between same and said locking mechanism whereby upon the movement of the latter to unlock the box the handcuff will be closed together with means for opening the handcuff, for the purpose set forth.

2. In combination with the locking mechanism of a fire alarm box, an automatically operated grip or handcuff adapted to open and close, and connections between same and said locking mechanism whereby upon the movement of the latter to unlock the box, the handcuff will be closed together with means for automatically opening the handcuff, for the purpose set forth.

3. In combination with the door of a fire alarm box,—of a locking bolt, a pair of rods forming a handcuff, a yoke piece connected with such locking bolt and adapted upon the movement in one direction of such bolt to close such handcuff, and means for operating such locking bolt for the purpose set forth.

4. In combination with the door of a fire alarm box, of a locking bolt, a pair of rods forming a handcuff, and each having an inclined portion, a yoke piece connected with such locking bolt and having slots to receive the inclined portions of such rods, and means for operating such locking bolt for the purpose set forth.

5. In combination with the door of a fire alarm box, of a locking bolt, a pair of rods forming a handcuff and each having an inclined portion, a yoke piece pivotally connected with such locking bolt and having

slots to receive the inclined portions of such rods, and means for operating such locking bolt for the purpose set forth.

6. In combination with a fire alarm box and locking mechanism therefor, a secondary box or casing carried by the box proper and inclosing the locking mechanism, a hand hole through said secondary casing, a hand cuff or gripping device within such casing, means connected with said locking mechanism and said gripping device whereby upon movement of the locking mechanism the gripping device is caused to close and means for opening same for the purpose set forth.

7. In combination with a fire alarm box and locking mechanism therefor, an automatically operated grip or hand cuff adapted to open and close, and connections between same and said locking mechanism to secure the simultaneous closing of the handcuff with the unlocking of the box, and an automatically operating time release serving to open said handcuff for the purpose set forth.

8. In combination with a fire alarm box, a gravity hook carried by the frame thereof so as to overhang the upper edge of the door, a sliding bolt carried by the door and a rotary handle with connections between it and said bolt for raising same to operate said gravity hook, and an inclosing casing carried by the door having an opening therethrough in line with said handle for the purpose set forth.

9. In combination with the door of a fire alarm box,—of a vertically sliding locking bolt supported by an engaging detent, a pair of rods forming a handcuff normally open, a yoke piece connected with such locking bolt and adapted, upon the disengagement of such detent from the locking bolt and the consequent fall of same, to close such handcuff and means for operating such detent for the purpose set forth.

10. The combination of the secondary inclosing casing the locking bolt, the rods forming the handcuff, connections between said bolt and rods, an operating handle with detent engaging said bolt and an automatic time release comprising a lever, a movable supply of sand, a hopper for same and a receptacle into which such sand flows from the hopper, a finger controlling the flow operated by said lever and means for supporting said receptacle until filled with sand so as to depress said lever for the purpose set forth.

11. In combination with the door of a fire alarm box carrying a hopper with an outlet opening in its bottom,—of a locking bolt, a detaining device capable of being opened and closed, operative connection between same and the locking bolt, a device adapted to be moved in one direction by the closing of the detaining device and to open such detaining device by its return movement to its normal position, and means for operating such locking bolt for the purpose set forth.

12. In combination with the door of a fire

alarm box carrying a hopper with an outlet opening in its bottom,—of a locking bolt, a detaining device capable of being opened and closed, operative connection between same and the locking bolt adapted to be moved in one direction by the closing of the detaining device and to open such detaining device by its return movement to its normal position, and means for returning such device to its normal position and for operating such locking bolt for the purpose set forth.

13. In a fire alarm box the combination with the door carrying a hopper provided with a temporarily covered outlet opening in its bottom,—of a locking bolt, a detaining device capable of being opened and closed, operative connection between same and the locking bolt, a device adapted upon the closing of the detaining device to uncover the outlet opening in the hopper and to move such open top receptacle to a position in close proximity to such uncovered outlet opening for the purpose set forth.

14. In a fire alarm box, the combination with the door and its locking bolt, an automatically operated grip or handcuff adapted to open and close, connections between same and said locking bolt and means for operating such locking bolt,—of a latch adapted to engage such locking bolt and a secondary bolt adapted to disengage such latch, with means for operating same for the purpose set forth.

15. The combination with the door of a fire alarm box carrying a hopper with an outlet opening in its bottom,—of the vertically sliding locking bolt, the rods forming the handcuff pivotally connected to the door of the box, and each having an inclined portion, a yoke piece pivotally connected with such locking bolt and having slots to receive the inclined portions of such rods, an operating handle with detent engaging and supporting such vertically sliding bolt, an automatic time release comprising a swinging bar pivoted to the door of the box, a lever fulcrumed to such swinging bar and having one arm pivotally connected to the locking bolt and the other arm pivotally connected to a sliding carrier supporting an open topped receptacle beneath the hopper, a finger projecting from such swinging lever across and closing the outlet opening in the bottom of the hopper, a movable supply of sand carried by such hopper and an inclosing casing for such locking bolt, handcuff and releasing mechanism, with a hand opening in line with the operating handle, all for the purpose set forth.

16. The combination with the door of a fire alarm box carrying a hopper with an outlet opening in its bottom,—of the vertically sliding locking bolt, the latch and its operating bolt, the rods forming the handcuff pivotally connected to the door of the box and each having an inclined portion, a yoke piece pivotally connected with such locking bolt and

having slots to receive the inclined portions of such rods, an operating handle with detent and finger for engaging and supporting such vertically sliding bolt and operating such latch operating bolt respectively, an automatic time release comprising a swinging bar pivoted to the door of the box, a lever fulcrumed to such swinging bar and having one arm pivotally connected to the locking bolt and the other arm pivotally connected to a sliding carrier supporting an open topped receptacle beneath the hopper, a finger projecting from such swinging lever across and closing the outlet opening in the bottom of the hopper, a movable supply of sand carried by such hopper and an inclosing casing for such locking bolt, handcuff and releasing mechanism with a hand opening in line with the operating handle all for the purpose set forth.

17. The combination with the door of a fire alarm box carrying a hopper with an outlet opening in its bottom,—of the vertically sliding locking bolt, the rods forming the handcuff pivotally connected to the door of the box, and each having an inclined portion, a yoke piece pivotally connected with such locking bolt and having slots to receive the inclined portions of such rods, an operating handle with detent engaging and supporting such vertically sliding bolt, an automatic time release comprising a swinging bar pivoted to the door of the box, a lever fulcrumed to such swinging bar and having one arm pivotally connected to the locking bolt and the other arm pivotally connected to a sliding carrier supporting an open topped receptacle beneath the hopper, a retaining spring carried by the side of the casing, a finger projecting from such swinging lever across and closing the outlet opening in the bottom of the hopper, a movable supply of sand carried by such hopper and an inclosing casing for such locking bolt, handcuff and releasing mechanism, with a hand opening in line with the operating handle, all for the purpose set forth.

18. The combination with the door of a fire alarm box carrying a hopper with an outlet opening in its bottom,—of the vertically sliding locking bolt, the latch and its operating bolt, the rods forming the handcuff pivotally connected to the door of the box and each having an inclined portion, a yoke piece pivotally connected with such locking bolt and having slots to receive the inclined portions of such rods, an operating handle with detent and finger for engaging and supporting such vertically sliding bolt and operating such latch operating bolt respectively, an automatic time release comprising a swinging bar pivoted to the door of the box, a lever fulcrumed to such swinging bar and having one arm pivotally connected to the locking bolt and the other arm pivotally connected to a sliding carrier supporting an open topped receptacle beneath the hopper, a retaining

spring carried by the side of the casing, a finger projecting from such swinging lever across and closing the outlet opening in the bottom of the hopper, a movable supply of sand carried by such hopper and an inclosing casing for such locking bolt, handcuff and releasing mechanism with a hand opening in line with

the operating handle all for the purpose set forth.

Montreal, March 26, 1895.

THOMAS WALSH.

In presence of—

FRED. J. SEARS,

RUPT. C. KIMLE.