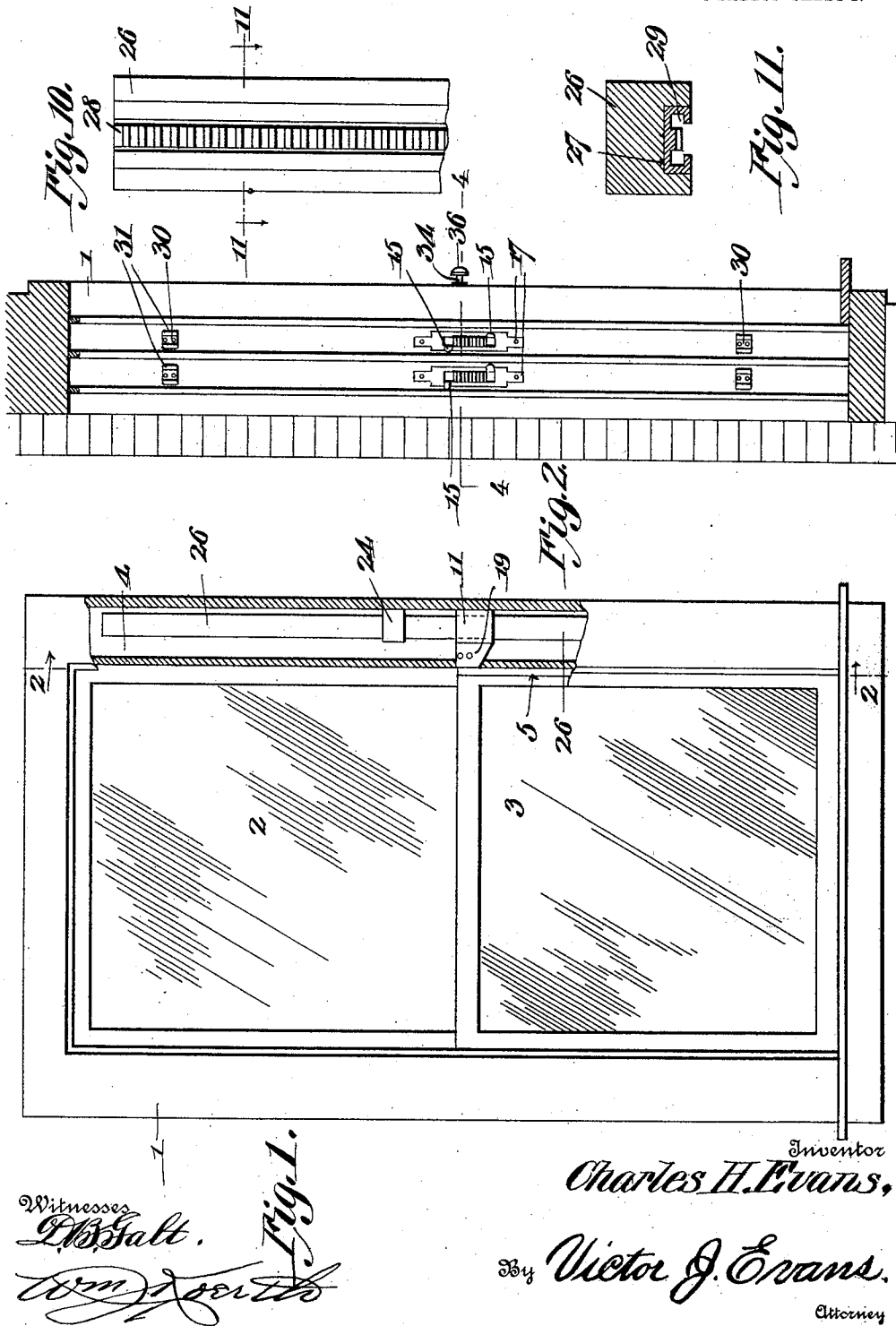


C. H. EVANS.
 COMBINED SASH WEIGHT AND LOCK.
 APPLICATION FILED JAN. 4, 1911.

1,047,018.

Patented Dec. 10, 1912.

3 SHEETS-SHEET 1.



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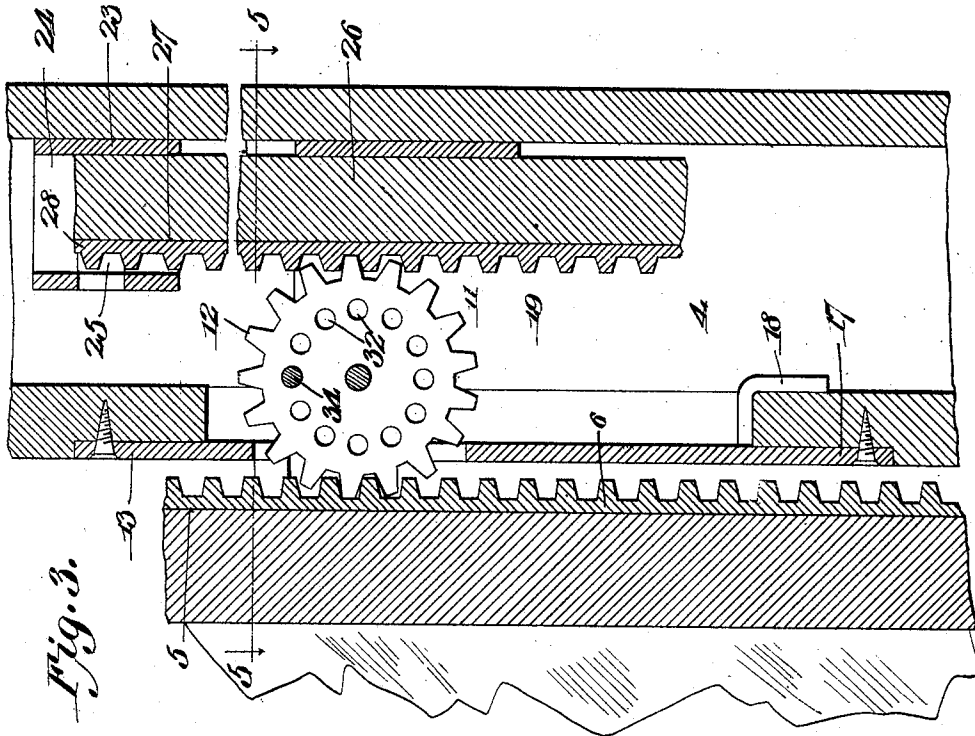


Fig. 3.

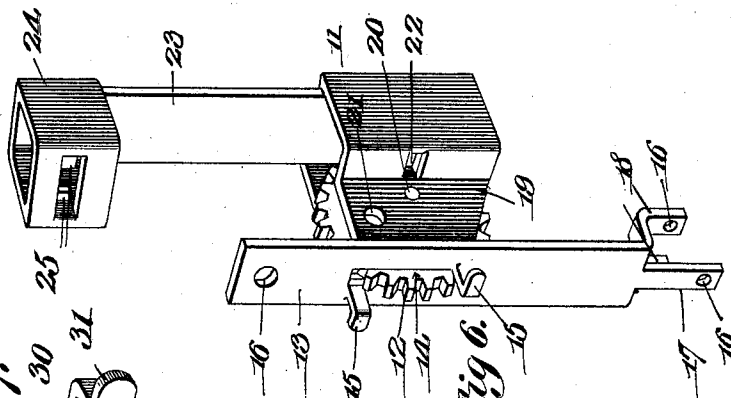
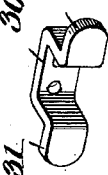


Fig. 6.

Fig. 7.



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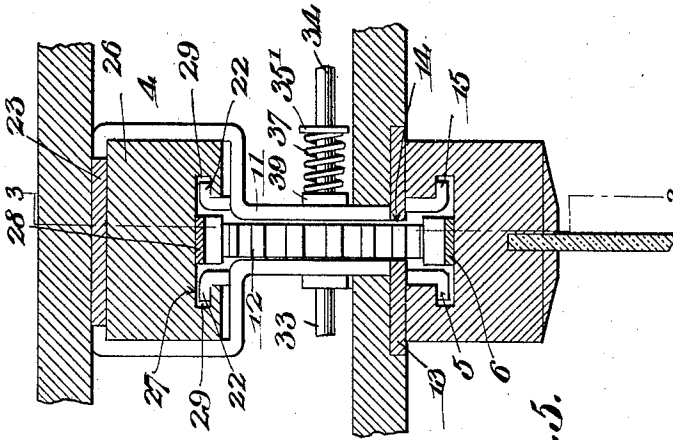


Fig. 5.

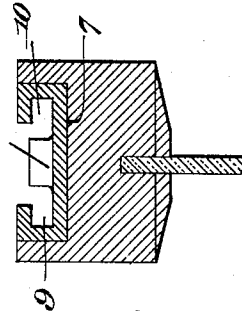


Fig. 9.

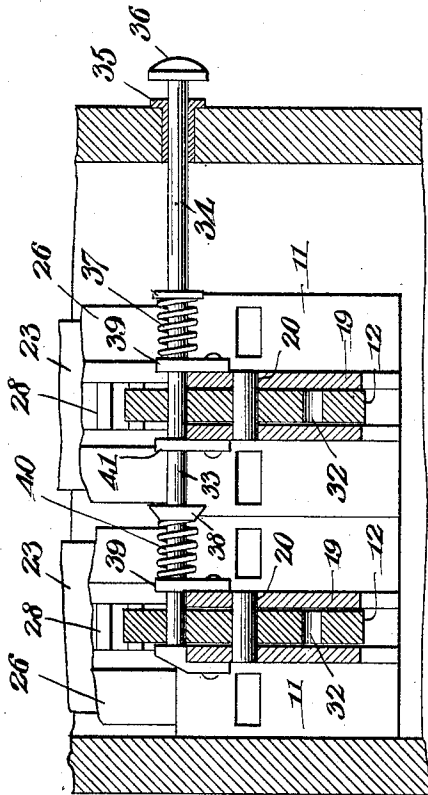


Fig. 4.

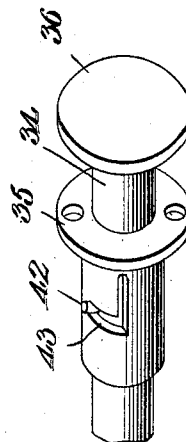


Fig. 8.

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UNITED STATES PATENT OFFICE.

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COMBINED SASH WEIGHT AND LOCK.

1,047,018.

Specification of Letters Patent.

Patented Dec. 10, 1912.

Application filed January 4, 1911. Serial No. 600,748.

To all whom it may concern:

Be it known that I, CHARLES H. EVANS, a citizen of the United States, residing at Fraser, in the county of Grand and State of Colorado, have invented new and useful Improvements in Combined Sash Weights and Locks, of which the following is a specification.

This invention relates to a combined window sash weight and lock and the primary object of the invention is to provide a cordless weight for window sashes which will hold the window sash in any desired position and which provides means for firmly locking the sash at any desired point, so that either the upper or lower sash may be lowered or raised a suitable distance for ventilation without danger of persons obtaining a fraudulent entrance to the room.

In the accompanying drawings, there has been illustrated a simple and preferred embodiment of the improvement, the showing of the drawings, however, is to be taken as merely illustrative and such minor changes in the details of construction as fall within the scope of the appended claims may be made if desired without departing from the spirit of the invention.

In the drawings, Figure 1 is a front elevation of a window casing, parts being shown in section. Fig. 2 is a sectional view upon the line 2—2 of Fig. 1. Fig. 3 is an enlarged sectional view upon the line 3—3 of Fig. 5. Fig. 4 is an enlarged sectional view upon the line 4—4 of Fig. 2, and looking in the direction of the arrows. Fig. 5 is a section upon the line 5—5 of Fig. 3. Fig. 6 is a detail perspective view of one of the wheel carrying housings. Fig. 7 is a similar view of one of the auxiliary spring supports. Fig. 8 is a detail perspective view illustrating the manner of securing the sashes in a locked position. Fig. 9 is a transverse sectional view taken through one of the stiles of the sash and illustrating a modification. Fig. 10 is a face view of a modified form of one of the weights. Fig. 11 is a sectional view upon the line 11—11 of Fig. 10.

In the accompanying drawings the numeral 1 designates an ordinary window casing, and 2 and 3 the sashes for the casing. The casing 1 is of the ordinary construction having both of its sides formed with what is known in the art as pockets 4. These pockets 4 are adapted for the reception of

suitable weights, which in the present instance comprise longitudinal cross sectional rectangular members which are adapted to slide within the pockets and whereby the use of cords or other flexible connecting devices is dispensed with. While, if desired, the weights may be brought into coaction with the sashes upon each of the side pockets of the casing, it has been found by experience that the sashes may be readily raised or lowered with the weights and other component parts positioned in only one of the said pockets 4 and that upon either side of the casing desired. For this reason the operating mechanism is illustrated and will be described in connection with only one of said pockets, it being understood, however, that one of the sliding weights must be employed to cooperate with one of the sashes.

Each of the sashes 2 and 3 has the face of one of its vertical stiles plowed to provide a vertical depression 5. The depression or channel upon each of the end faces of the sashes 2 and 3 extends the entire length thereof and secured within the channel 5 of each of the said sashes is a toothed bar 6, the latter being of a lesser width than the width of the said channels, the purpose of which will be presently set forth. The sides formed by the channel 5 of each of the sashes are intumed to provide what may be termed ways for offset oppositely disposed lips provided upon the housing or casing as well as spring catch members which will hereinafter be fully set forth. In some instances, as illustrated in Fig. 9 of the drawings, the rack bar 6' is formed integrally with a rack plate 7, the said plate having its opposite longitudinal edges bent inwardly to form ways 9 and 10 for the purpose hereinafter referred to. The plate 7 is of a width and length sufficient to fit snugly within the channel provided upon the sash.

The numeral 11 designates the housing or casing, which is adapted to support the toothed wheel 12, the said wheel being adapted to cooperate with the teeth provided upon the end faces of the sash. It is, of course, obvious that at least two of said housings are employed upon one side of a window casing, the wheels carried by one engaging the teeth of one of the sashes, while the wheel of the second casing or housing engages the teeth of the second sash. The housing 11 comprises a front plate 13 which,

in some instances is removably connected therewith. The plate is provided with a longitudinally extending slit 14 through which a portion of the teeth of the wheel 12 is projected, the said projecting teeth being adapted to engage with the teeth of the window sashes. The face plate 13 is formed with oppositely extending wings or flanges 15, the same being of suitable resilient material and adapted to engage the ways 5 adjacent the opposite ends of the teeth of the sashes so as to contact the walls formed thereby and to press the sashes toward the face plates of the housings and the teeth of the said sashes snugly into engagement with the teeth of the wheels 12.

The face plate 13 is formed with suitable openings 16, the latter being adapted for the reception of suitable securing elements whereby the housing 11 is connected with the side of the casing adjacent its pocket 4. The lower extremity of the face plate 13 is slitted, so as to provide a depending tongue 17, and the portions adjacent the slits forming the tongue are bent rearwardly and downwardly to provide substantially L-shaped flanges 18. The material forming the face of the pockets is adapted to be inserted between the tongue and flanges, so that the housing 11 is effectively connected therewith.

The central and rearwardly projecting sides 19 of the housing are each formed with a pair of spaced alining openings designated by the numerals 20 and 21. The openings 20 are adapted for the reception of the pintle whereby the wheel 12 is rotatably mounted within the housing, the purpose of the openings 21 being hereinafter set forth. The rear portions of the sides 19 are enlarged so as to provide a substantially rectangular pocket, and the portions of the metal forming the sides between the enlarged and reduced portions thereof are provided with resilient wings or flanges 22.

The numeral 23 designates the rear plate of the housing. This plate is adapted to project a suitable distance above the front plate 13 and the upper portion of the said plate is of a rectangular formation, as designated by the numeral 24, the said member 24 being of a size equaling the pocket provided by the sides 19, and the outer face of the said rectangular member 24 is also provided with oppositely arranged inwardly extending wings or flanges 25, the same being formed of some suitable resilient material adapted to exert pressure in the same direction as the wings or flanges 22, the said pressure being directed toward the outer face plate 13.

The numeral 26 designates one of the sliding weights. One weight is, in the present instance, adapted to counterbalance one of the sashes, and it is to be understood that weights of various sizes may be employed in

connection with sashes of various corresponding sizes.

Each of the weights, in the showing of the drawings comprises a rectangular member of a length equaling the length of the sash with which it is to be operated. The weight 26 has one of its faces provided with a longitudinally extending depression or channel 27. The said channel is provided with a rack bar 28 and the side walls formed by the channel are intumed to form ways 29, the same being adapted for engagement by the wings or flanges 22 and 25. The channels, if desired, may be provided with a plate formed with teeth and having its edges bent to provide the ways, the structure being substantially similar to that hereinbefore described in connection with Fig. 9 of the drawings.

The resilient wings or flanges 22 and 25 are adapted to exert an inward pressure upon the weight so as to bring the teeth 28 thereof into engagement with the teeth provided upon the wheel 12. By the construction as above described, it will be noted that both the weight and the sash are effectively guided in their respective movements and that both the sash and the weight coöperating therewith have their teeth pressed into engagement with the teeth of the wheel 12.

The wall of the casing dividing the pocket from the sash is provided with spring catches 30, the same being located at desirable points and being formed with oppositely disposed wings or ears 31, the same being adapted to be engaged within the ways formed in the side of the sash, and the said wings are adapted to materially assist in retaining the sash in proper alinement with the toothed wheels 12.

By reference to the figures of the drawings, it will be noted that each of the toothed wheels 12 is provided with a plurality of openings 32. These openings are arranged concentric of the pivot of the wheel and are in proper spaced relation with each other and the said openings are adapted to receive the locking pins 33 and 34 of the device. The pin 34 is adapted to project through a suitable collar 35 provided upon the outer face of the casing 1 and the said projecting portion is formed with a head 36.

The numeral 37 indicates a contractile spring which has one of its ends connected with a collar 35'. The contractile spring has a tendency to normally force the pin 34 out of engagement with one of the openings 32 of the wheel 12 operating one of the sashes. It will be noted by reference to Fig. 4 of the drawings that the pin 33 is sustained in alinement with the pin 34, the said pin 33 being provided with a head 38 which is adapted to be contacted by the pin 34 to force the pin 33 into engagement with the opening 32 provided by the inner toothed

wheel 12. The pin 33 is slidably mounted within a suitable sleeve 39, and positioned between the said sleeve and the head 38 of the pin is an expansion spring 40. This
 5 spring is adapted to force the pin 33 out of engagement with its opening 32 of the wheel 12, and to also assist the spring 37 in forcing the pin 34 outwardly from its engagement with the inner toothed wheel 12.
 10 The stop 41 is provided to limit the movement of the pin 33 so that the same cannot be brought into contact with the housing for the inner wheel 12. The pin 34 is provided with an offset or projection 42, and
 15 the said offset is adapted to engage within a bayonet slot 43 provided within the projecting portion of the collar 35 so as to lock both of the pins in engagement with the openings 32 of both of the wheels 12.

20 From the above description taken in connection with the accompanying drawings, the advantages as well as the simplicity of the device just described will, it is thought, be apparent to those skilled in the art to
 25 which the invention appertains, it being noted that the housing carrying the toothed wheels may be positioned upon the casing of an ordinary window frame, that the weights may be readily interchanged so as
 30 to compensate for different sizes and weights of window sashes, that the construction at all times retains both the weights and sashes in contact with the toothed wheel 12 and that the device may be readily applied by
 35 any person not necessarily a mechanic, but who is acquainted with the ordinary use of tools.

Having thus fully described the invention, what I claim as new, is:—

40 1. The combination with a window casing and a slidable sash therefor, a housing for the casing, said housing comprising a face plate adapted to be secured to the side of the casing, the face plate having rearwardly
 45 extending spaced arms and being further

provided with an opening, a rotary toothed element pivoted between the arms and partially projecting through the opening, the arms of the housing being provided with a
 50 vertically extending connecting member, the upper portion of said connecting member being shaped to provide a guide-way, a weight member mounted to slide within the guide-way and the rear portion of the housing
 55 between the arms thereof, the said weight being formed with a longitudinally arranged depression, teeth within the depression, ways adjacent the sides of the teeth, means provided upon the guide-way
 60 and upon the arms of the housing for engaging the said ways to sustain the teeth of the weight in engagement with the teeth of the rotary member, and resilient means provided upon the outer face plate of the housing adapted to engage with and
 65 sustain the stile of the sash against the rotary toothed member.

2. In combination with a window casing and a sash for the casing, said sash having one of its stiles provided with a member
 70 having its sides formed with ways and its central portion formed with teeth, a housing secured to the casing, a rotary toothed member carried by the housing and partly projecting through the point of the housing
 75 to engage with the teeth of the sash member, the plate of the housing being provided with resilient wings which are adapted to be arranged within the ways of the member of the sash, a toothed weight within
 80 the housing, the said weight being provided with ways adjacent its teeth, and the housing being provided with resilient offset fingers which are adapted to engage within the ways, substantially as and for the purpose
 85 set forth.

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Witnesses:

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