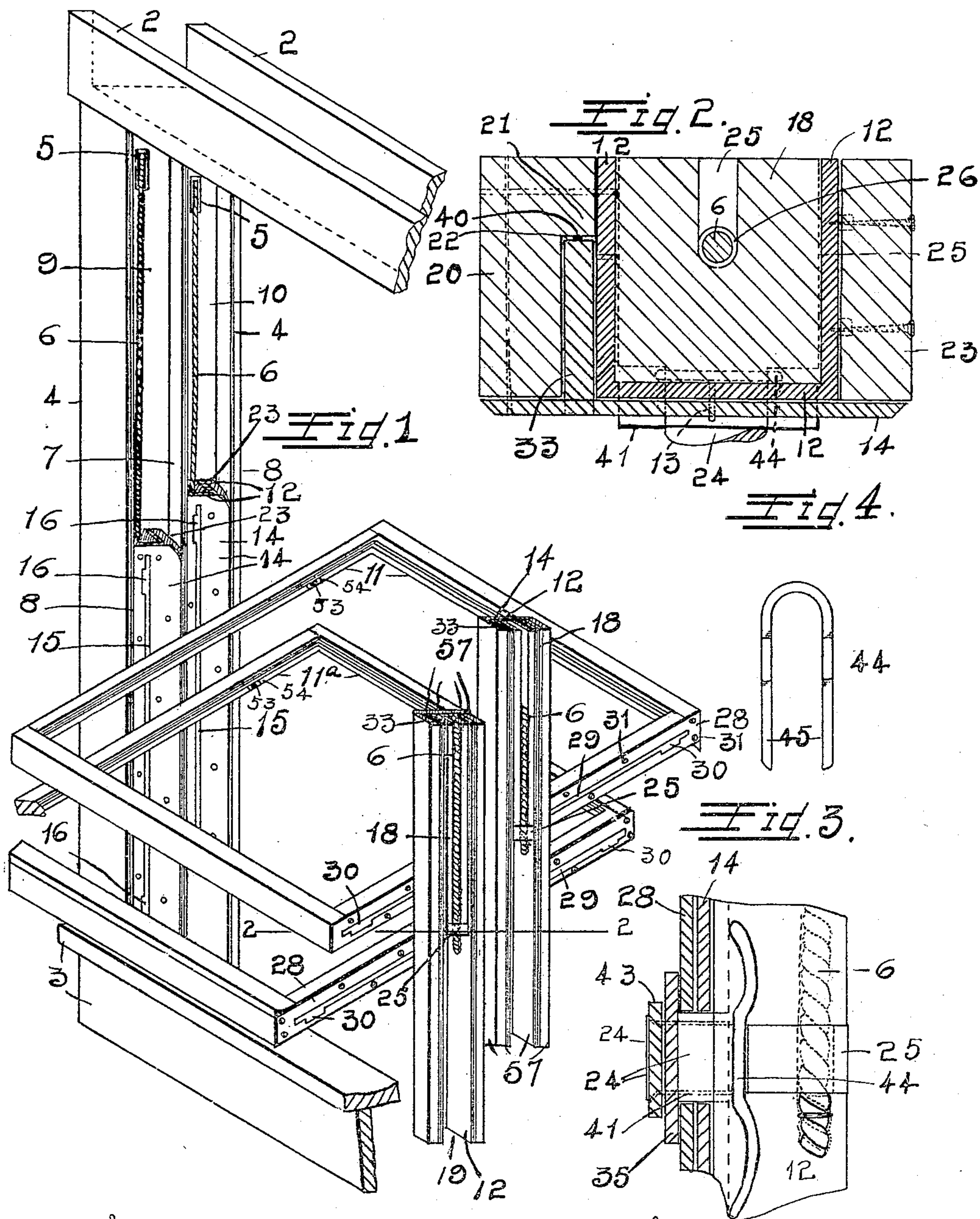


G. F. LINDGREN.
REVERSIBLE WINDOW.
APPLICATION FILED MAY 8, 1909.

954,746.

Patented Apr. 12, 1910.

2 SHEETS—SHEET 1.



WITNESSES:

Herbert S. Miller
L. F. Mason.

INVENTOR:

G. F. Lindgren,
By H. W. Richards,
Atty.

G. F. LINDGREN.
REVERSIBLE WINDOW.
APPLICATION FILED MAY 8, 1909.

954,746.

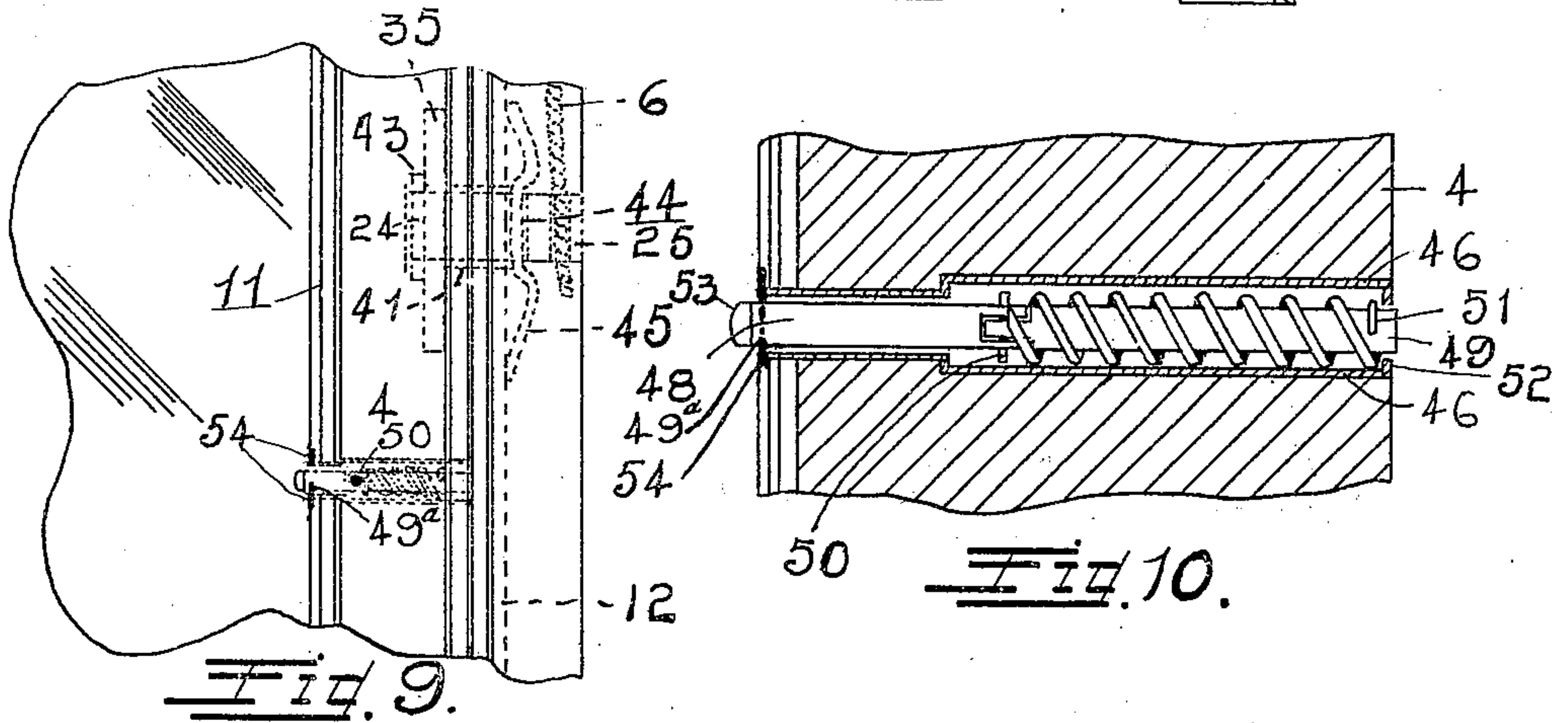
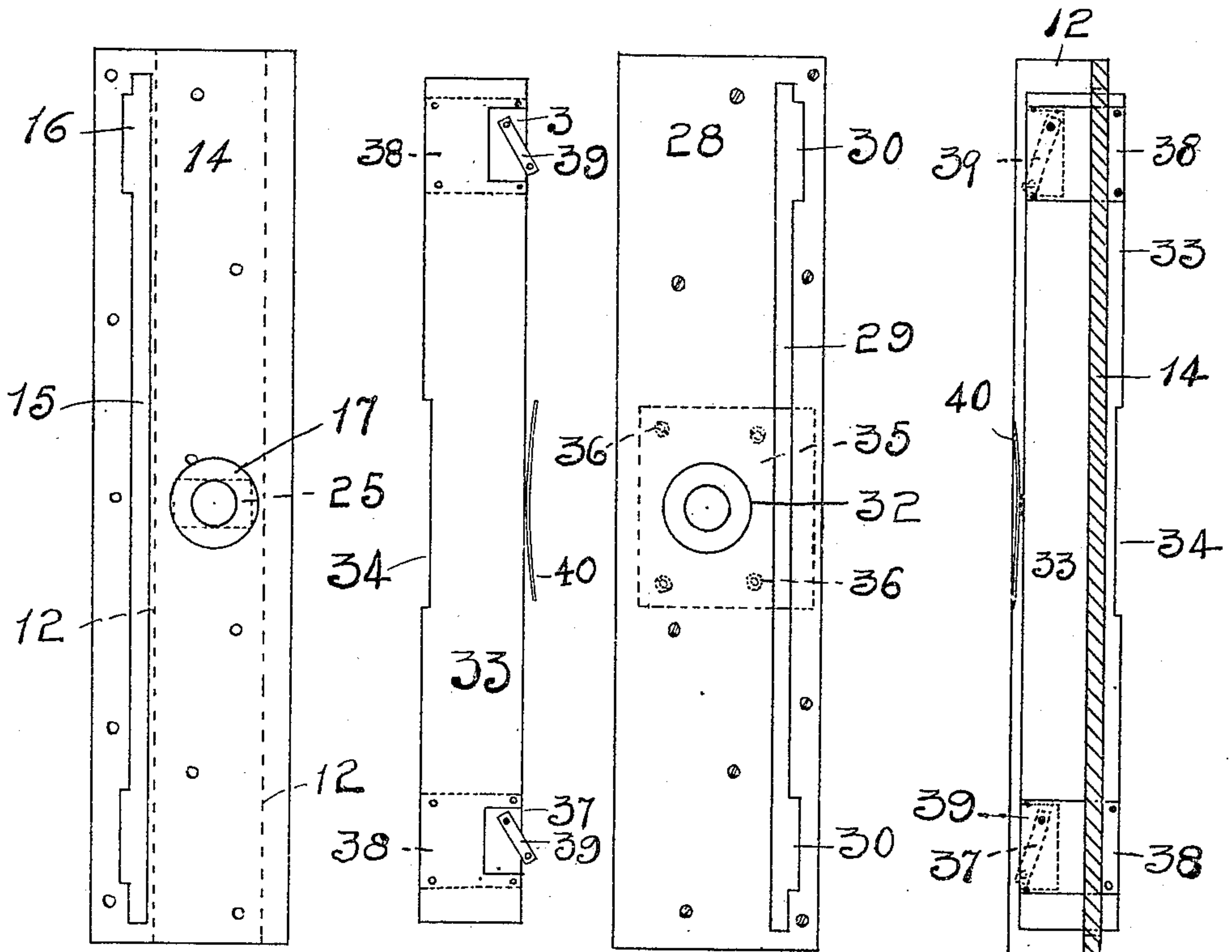
Patented Apr. 12, 1910.

2 SHEETS—SHEET 2.

Fig. 5.

Fig. 6. Fig. 7.

Fig. 8.



WITNESSES:
Herbert L. Miller
L. F. Mason.

INVENTOR:
G. F. Lindgren,
By *H. W. Richards*
Atty.

UNITED STATES PATENT OFFICE.

GUSTAF FREDRICK LINDGREN, OF GALESBURG, ILLINOIS, ASSIGNOR OF ONE-HALF
TO ARTHUR W. LINDGREN, OF GALESBURG, ILLINOIS.

REVERSIBLE WINDOW.

954,746.

Specification of Letters Patent.

Patented Apr. 12, 1910.

Application filed May 8, 1909. Serial No. 494,891.

To all whom it may concern:

Be it known that I, GUSTAF FREDRICK LINDGREN, a citizen of the United States, residing at Galesburg, in the county of Knox and State of Illinois, have invented a new and useful Reversible Window, of which the following is a specification.

My invention, as above stated, relates to reversible windows, and the principal object is to provide a simple, durable, easily manipulated window in which either the upper or the lower sash thereof may be revolved on horizontally disposed pivot-pins for cleaning, glazing, ventilation or other purpose.

A further object is to provide suitable means whereby, when it is desirable or necessary to replace the sash-cord by a new one, it may be readily accomplished without removal of the usual strips.

A further object is to provide certain parts of the device of metal, whereby, in the event of said parts being covered with paint, they will neither bind nor stick in the manner of wooden strips so covered.

A further object is to provide whereby either sash may be completely revolved on its pivots, and whereby either or both sashes may be raised or lowered to any extent within the limits of the casing in which it is mounted.

A further object is to provide a novel pivot-pin through which the sash-cord is passed for securement, instead of securing it to the sash as heretofore.

A further object is to provide novel means for holding the sashes in vertical locked position.

A further object is to provide means whereby the last aforesaid means may be readily actuated.

A further object is to provide simple and economic means for preventing drafts, rain, snow, dust etc., from entering the room.

Another object is to so construct certain parts of my improvement that it may be fitted to old sashes without damage thereto and with but a minimum of expense.

A further object is to provide non-warpage window-slides.

Other objects will be in part obvious and in part pointed out.

While I have in the appended drawings shown exact and specific details of construc-

tion I do not wish to be understood as limiting my claims to such, as various changes may be made in said details, some of the parts may be used without the others, and some may be used in windows differing in construction from that shown and described, without departing essentially from the spirit and scope of the invention.

In said drawings:—Figure 1 is a perspective, partly broken away, showing my improvement as embodied in a window frame or casing of ordinary construction, the upper sash having been lowered, and both sashes swung to approximately parallel and horizontal positions; Fig. 2, a transverse section, the plane thereof being taken in the line 2—2 in Fig. 1; Fig. 3, a fragmental, vertical section; Fig. 4, a detail, a front elevation of the spring which strides the pivot-pin; Fig. 5, a face elevation of the slotted facing-plate which is fixed on the face of a longitudinal filler hereinafter described, seen as if looking at the left-hand inner face of the casing; Fig. 6, a face elevation of the locking-strip or feather; Fig. 7, a face elevation of the metallic sash-strip; Fig. 8, a longitudinal sectional view of the U-bar and an elevation of the feather; Fig. 9, an elevation showing a push-pin and a pivot-pin and their attached parts in position on a fragment of a window sash and filler; and Fig. 10, a plan of the push-pin and a fragmental elevation of a sash-bar.

The several figures above described are enlarged with relation to Figs. 1—3, 4, 5, 9 and 10 being greatly so.

Like numerals of reference denote like parts throughout the drawings.

2 represents the top; 3, the bottom; and 4, the side portions of a window frame or casing of ordinary construction, the sides being apertured at 5 for the passage of the usual sash-cord 6. The inner face of each side of the casing is provided with an intermediate strip 7 and a stop 8 to provide the usual channels 9 and 10 in which the sashes of ordinary windows slide. Each sash 11, 11^a is of such width that it will revolve between without marring the faces of the stops 8 or other portion of the casing. Within each channel 9 or 10 is slidably mounted a U-shaped bar 12, the base or web of which is fixed by rivets 13 to a metallic plate 14, Fig. 2, somewhat broader than the base of

said bar. This plate is constructed of such material that it may be trimmed by a pair of snips to neatly fit sashes differing somewhat in their dimensions. It is provided with a longitudinal slot 15, cut away at 16, and at 17 is apertured for the reception of the pivot pin and boss presently described. Fixed within the channel of the U-bar in any suitable manner is a longitudinal strip 18. It is grooved at 25, as shown best at Fig. 2, and extends downwardly only to the pin, the groove permitting the sash-cord to be passed downwardly to and through the aperture in the head of the pivot-pin. Fixed within one of the angles formed by the U-bar and the plate 14 is a strip 20 having a shoulder 21 to provide a recess 22 between them. The angle at the other side of the U-bar is completely filled by a strip 23 which is detachable therefrom, thereby permitting the operation of trimming the plate as hereinbefore described, and is preferably beveled as shown at Fig. 1. The pivot-pin comprises a cylindrical shank 24 and an oblong head 25, the latter provided with an aperture 26 for the passage of the cord, the end of which after being passed through said aperture is doubled upon itself and secured by a wire. To each side of each sash is fixed by screws 31 a thin metallic sash-plate 28 (Fig. 7) provided with a longitudinal slot 29 which is widened at 30, and provided also with a central aperture 32 for the boss and pivot-pin. As shown best at Figs. 5 and 7 the plates 14 and 28 correspond when brought face to face.

The locking-bar or feather 33 comprises a metallic plate having a longitudinal central cutaway portion 34 at its front edge, adapted to stride a stop-plate 35 seated in a mortise in the edge of each sash and fixed thereto by wood-screws 36. Near each end of its rear edge the feather is cut away at 37. A thin metallic plate 38 is suitably fixed on the outer side of the feather to cover each of the cutaway portions 37, and to the plate 38 is pivoted a link 39, the other ends of said links being pivoted to the outer side of one of the flanges of the U-bar. The links rest in the pockets provided by the cutaway portions 37. A curved spring 40 of strap metal or spring wire is soldered to the rear edge of the feather.

As shown best at Figs. 2, 3 and 9, the oblong head of the pivot-pin fits within the channel of the U-bar when it lies transversely thereof. The plate 35 is centrally apertured and carries a boss or hub 41 projecting therefrom, which boss projects through an aperture in the U-bar, through the aperture in the plate 14, and through the aperture in the plate 28. The stem of the pivot-pin is passed through this boss, its head resting (flatwise) within the channel of the U-bar. A countersunk washer 43 is

then slipped over the point of the pivot-pin and said point riveted therein.

A spring 44 (Figs. 3 and 4) comprising duplicate bent legs 45 straddles the stem of the pivot-pin close up to the head thereof, both ends of the spring bearing against the web of the U-bar, within the channel thereof. This spring serves to draw the U-bar, the plates 14 and 28, and the sash-plate and boss firmly together. It will be evident that when so assembled the operation of fitting the plate to the sash may be readily and easily accomplished, the apertures in the plates and U-bar being of sufficient diameter to permit of the free passage of the boss and the head of the pin.

As hereinbefore stated, one end of each of the wings 39 is pivoted to a flange of the U-bar. The feather lies parallel with and close up against said flange, and within the recess 22 in the strip 20 (see Fig. 2) its front edge resting normally (or in locked position) through the slot 15 in the plate 14 and extending into the slot 29 in the plate 28. The movement of the feather is by its own gravity, and in a downward and outward or rotary direction, but should it fail to so act by gravity, its movement will be facilitated by the spring 40, the free ends of which take against the shoulder provided by the ledge 21.

At Figs. 9 and 10 I have shown the push-pin which is employed to actuate the feather. It seats within a casing 46 in each sash, at any readily accessible place, and is in two parts, 48, 49, united by a pintle 50, whereby said parts are hinged together. A coil spring 51 encircling the pin-member 49 rests at one of its ends against the annular flange 52 at the outer end of the casing 46, and its other end takes against the pintle 50. The member 48 is provided with a head 53 and a transverse slot or niche 49^a, which niche is adapted to engage a thin plate 54 fixed on the inner side of the sash-bar, after the pin has been pushed in and flexed on its pintle 50. The end of the member 49 is of such diameter that it will pass through the slot of the plate 28 to force the feather entirely therethrough and until the edge of the feather is flush with the face of the outer plate 14 and resting in the slot therein. The feather is preferably slightly beveled or rounded off along its front edge in order that, in the event of its not being pushed entirely free from the slot in the plate 28, it will, in the act of turning on the pivot, wipe over the edge of the slot in the plate 28 to free it therefrom to permit the sash to readily turn. It will be evident that, the feather being swung on the links near the upper and lower ends thereof, and extending practically throughout the entire length of the slots which it engages, the push-pins may be selectively positioned to be most ac-

cessible, as said method of hinging the feather causes a pressure on any point of its edge to be equally distributed throughout its length, whereby neither its lower nor its upper portion will retreat in advance of the other; in other words, its edge lies at all times in a plane parallel with that of the vertical plane of the faces of the plates 14 and 28. The feather effectually prevents rain, sleet, snow, drafts of air etc. from entering the room.

In operation, suppose the sashes to be in the relative positions shown at Fig. 1. To return the upper sash to its normal position the operator would exert a slight upward pressure thereon until it had been raised a distance sufficient to permit it to be turned on the pivot-pins, which pins will carry the filler 57 (by which term and numeral I shall designate the U-bar, the strips 20 and 23, the plate 14, the feather 33 and the wings 39) up with them, the usual sash-weight (not shown) performing its ordinary function. When the sash has been turned to a vertical position the feather will automatically fall into the slot 29, the enlargements 30 permitting the plates 38 to pass thereinto. When it is desirable to raise or lower said sash it may be done in the usual manner, the filler 57 sliding freely in the channels 10. The lower sash operates in a like manner.

By reason of attaching the usual sash weight to the pivot pin (by means of the cord) I overcome a hitherto very objectionable feature. In all devices of like character of which I have knowledge the sash weight and sash have been supported by the filler or supplementary stile, tending to draw the latter out of its proper position and to cause inefficient operation. By attaching the weight (through the medium of the cord) directly to the pivot pin; by disposing said pin in the stile, and by passing said cord downwardly through the channel in the filler, it will be manifest that in the event of said cord breaking, which is a very frequent occurrence, another cord may be secured to the pin without removal of the sash from the casing, as has heretofore been necessary. This I deem one of the most valuable features of the invention, and is accomplished as follows: The cord, after being passed over the usual sash-pulley, is threaded downwardly through the channel in the U-bar, the supplemental filler and the aperture in the head of the pivot-pin, said channels and aperture being arranged in permanent alinement to permit thereof, and passed thence downwardly through the uninterrupted space below the filler and pin, to the lower edge of the main stile, where it may be grasped and its end secured as shown, whereupon it may be released and the sash-weight will draw its end up to rest

against the head of the pin in the manner shown. This, it will be evident, obviates the necessity of removal of any part of the casing, which removal has not only caused unsightly nail holes to appear (the paint and putty covering them having been disturbed) and it further prevents the nails afterward working loose and marring the wood and causing unsuccessful operation.

Having thus set forth the preferred construction, and having described the purposes, advantages and operation of my invention, I claim as new and desire to secure by Letters Patent the following, to-wit:—

1. In combination with a window sash and a frame having a channel, a plate fixed to said sash and provided with a pivot-pin aperture and a longitudinal slot, a filler slidably disposed within said channel and including a U-bar provided with a pivot-pin aperture, a plate fixed to and projecting beyond the sides of the web of said bar, it being provided with a longitudinal slot and an aperture corresponding with those in the sash plate when the parts are assembled, strips disposed in the angles formed by the filler-plate and the U-bar, a feather adapted to engage said slots, and a pivot-pin, its head seated in the channel of the U-bar and its stem adapted to engage the aforesaid apertures.

2. The combination with a window sash and an apertured frame having a channel, a plate fixed to said sash and provided with a pivot pin aperture and a longitudinal slot, a supplemental stile slidably disposed within said channel but not extending to the bottom thereof and including a U-bar provided with a pivot pin aperture, a plate fixed to and projecting beyond the sides of the web of said bar, it being provided with a longitudinal slot and an aperture corresponding with those in the sash plate when the parts are assembled, strips disposed in the angles formed by the filler-plate and the U-bar, a feather adapted to engage said slots, a pivot pin having an apertured head seated in the channel of the U-bar, its stem adapted for engagement with the last recited apertures, the channel of the U-bar, the channel of the supplemental stile, and the aperture of the pivot-pin being in permanent and fixed alinement for the purpose described, and a sash cord passed through and removably secured to the head of the pivot pin at one of its ends, its median portion disposed within the channels in the filler and frame, and its other end adapted for engagement with a sash weight.

3. In combination with a window sash and a frame having a channel, a supplemental stile within said channel but not extending to the bottom thereof, it also having a channel, a U-bar disposed in the last recited channel and constituting a part of

the supplemental stile, a pivot-pin having
an apertured head disposed within the chan-
nel in the filler and its point within the
main stile, the channel of the U-bar, the
5 channel of the supplemental stile, and the
aperture in the head of the pivot pin being
in alinement for the purpose described, and
a sash-cord adapted to be passed lineally
through said channels in the U-bar and sup-
10 plemental stile and through the aperture in

the pivot pin, its other end being adapted
for engagement with a sash-weight.

In witness whereof I have hereunto sub-
scribed my name in presence of two wit-
nesses, at Galesburg, Knox county, Ill., this 15
4th day of May, 1909.

GUSTAF FREDRICK LINDGREN.

Witnesses:

H. M. RICHARDS,
CLYDE L. ROWE.