A. E. PADDISON.

WINDOW SCREEN.

APPLICATION FILED DEC. 23, 1908.

960,388.

Patented June 7, 1910.

4 SHEETS—SHEET 1.

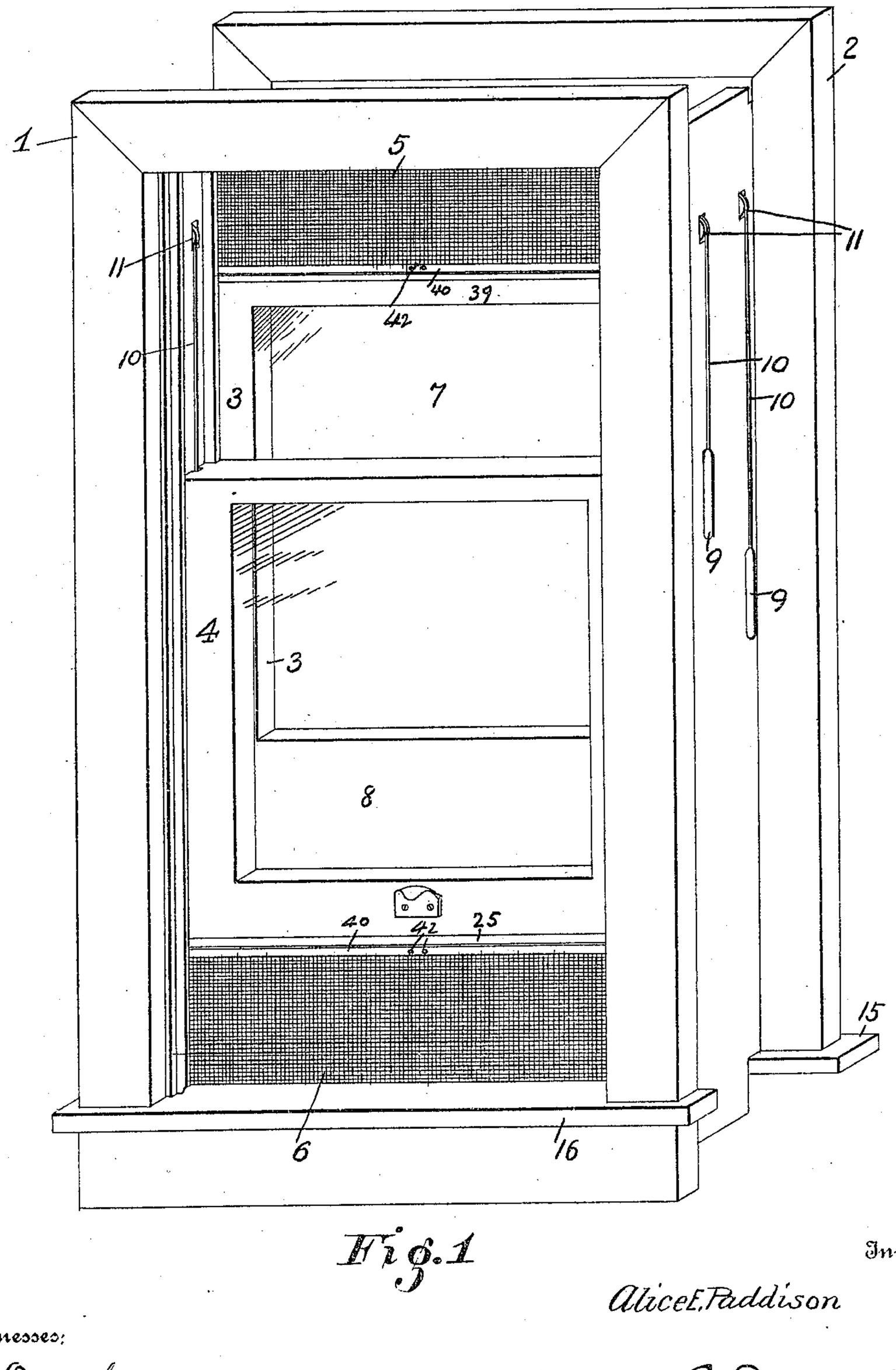

Fig. 1

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4 SHEETS—SHEET 2.

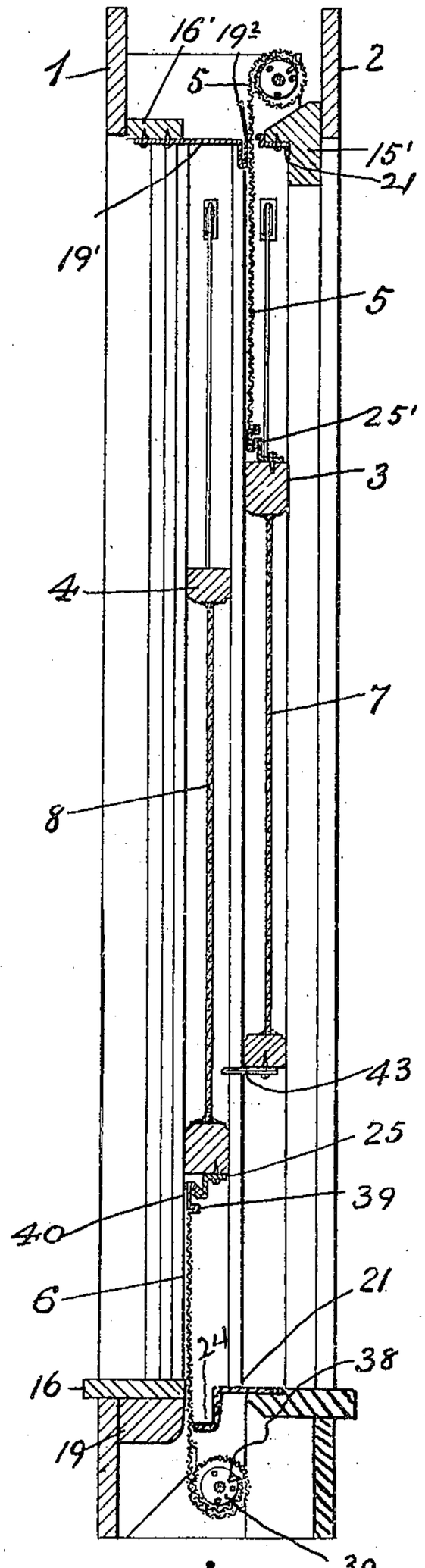

Fig. 2

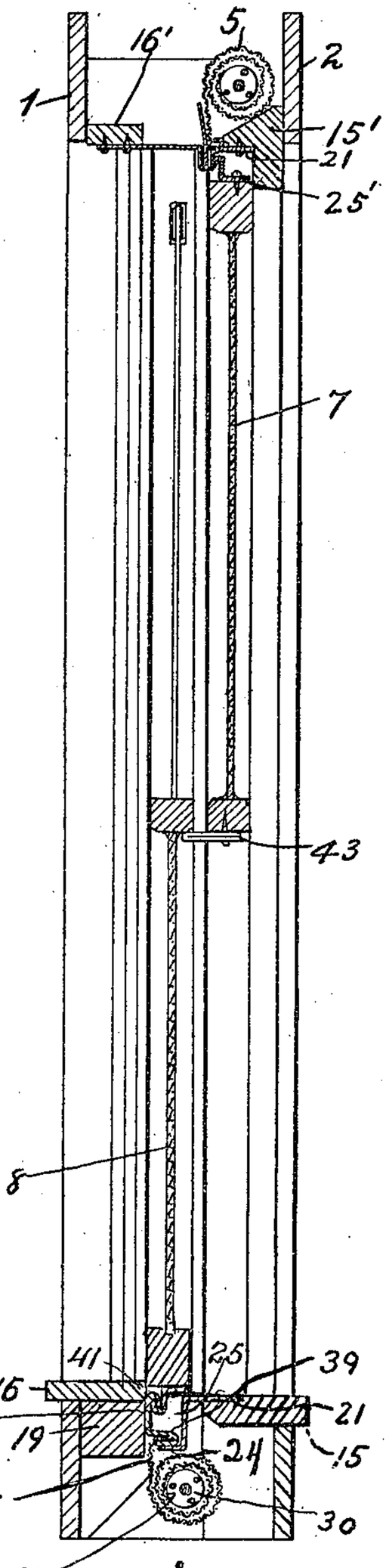

Fig. 3

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4 SHEETS—SHEET 3.

Fig. 6.

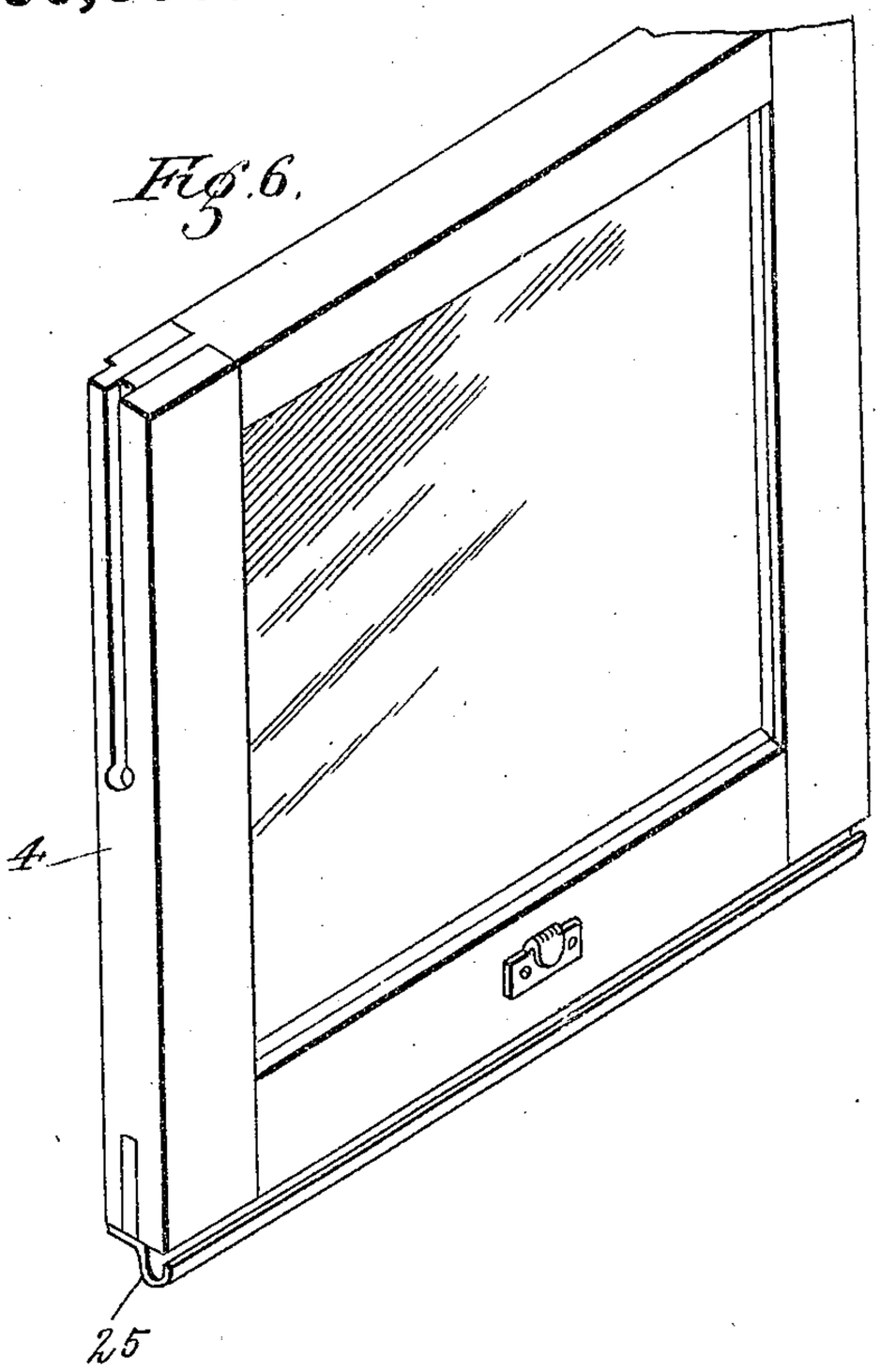


Fig. 4.

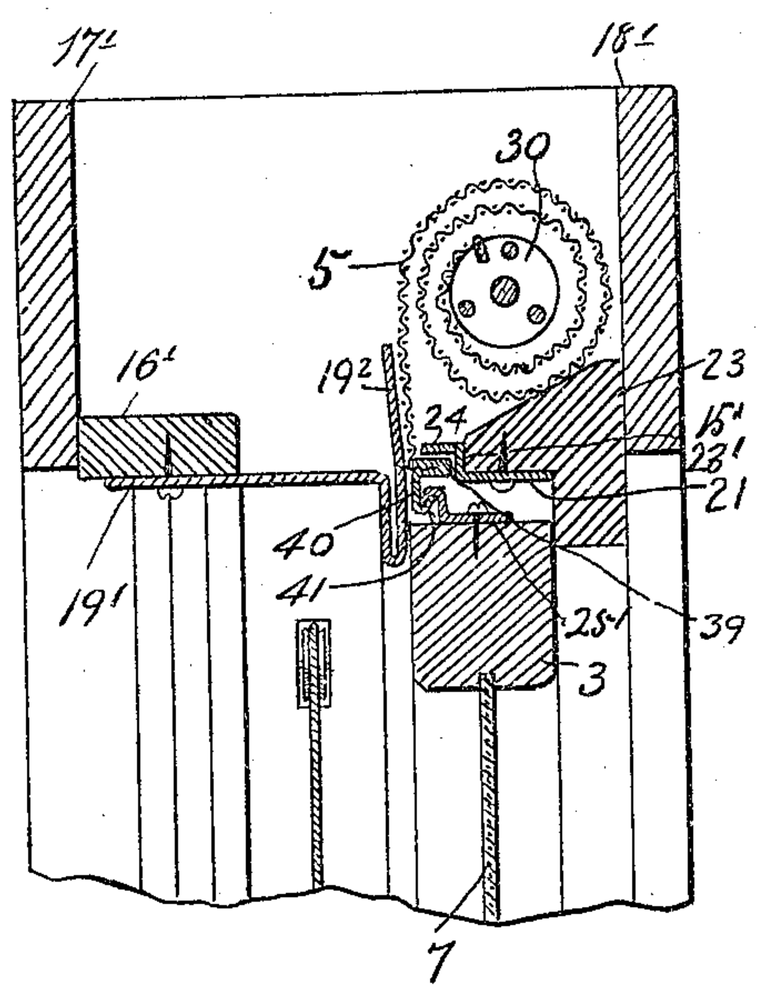


Fig. 11.

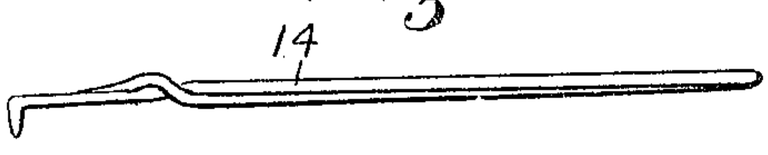


Fig. 12.

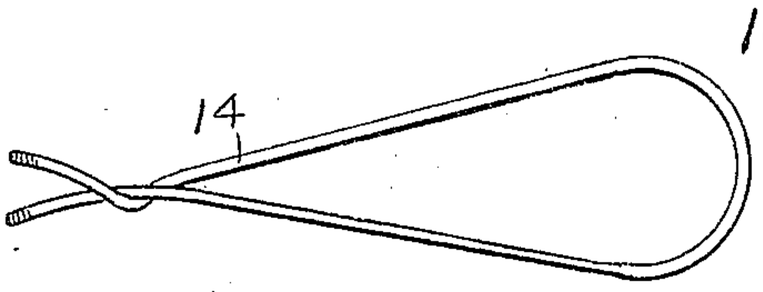
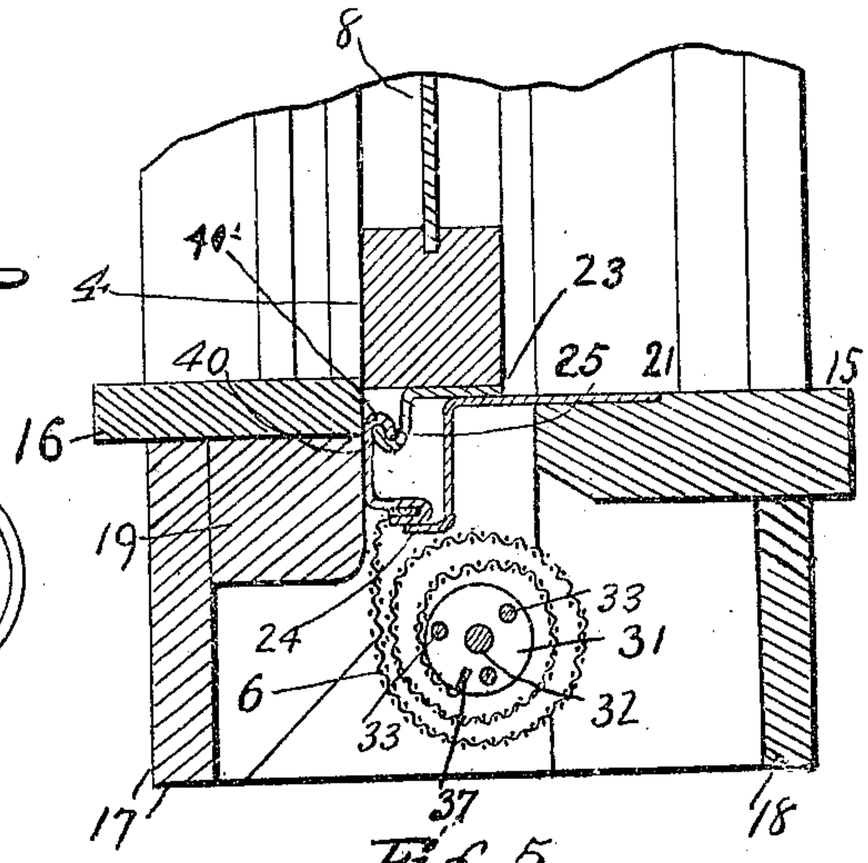


Fig. 5



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4 SHEETS—SHEET 4.

Fig. 7.

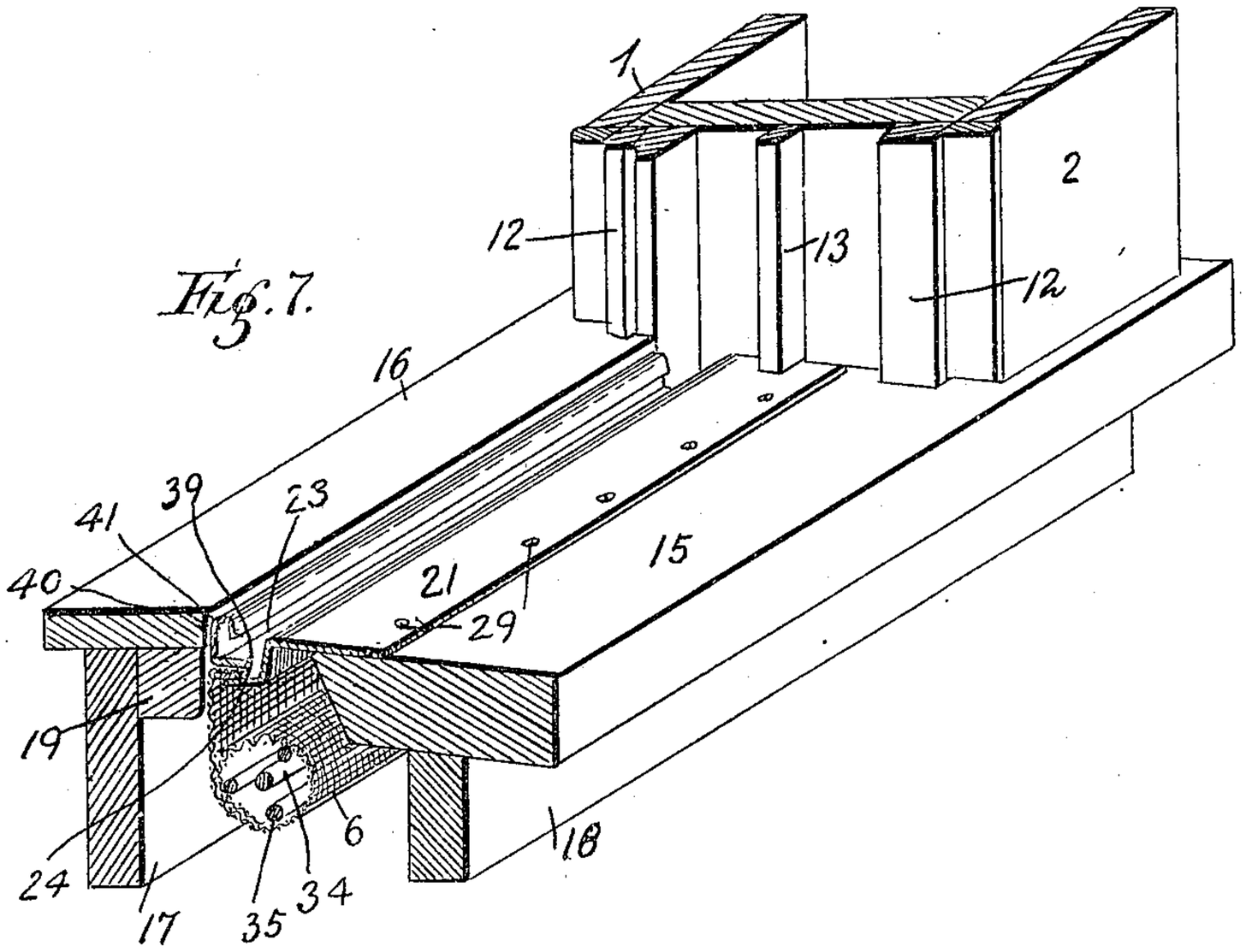
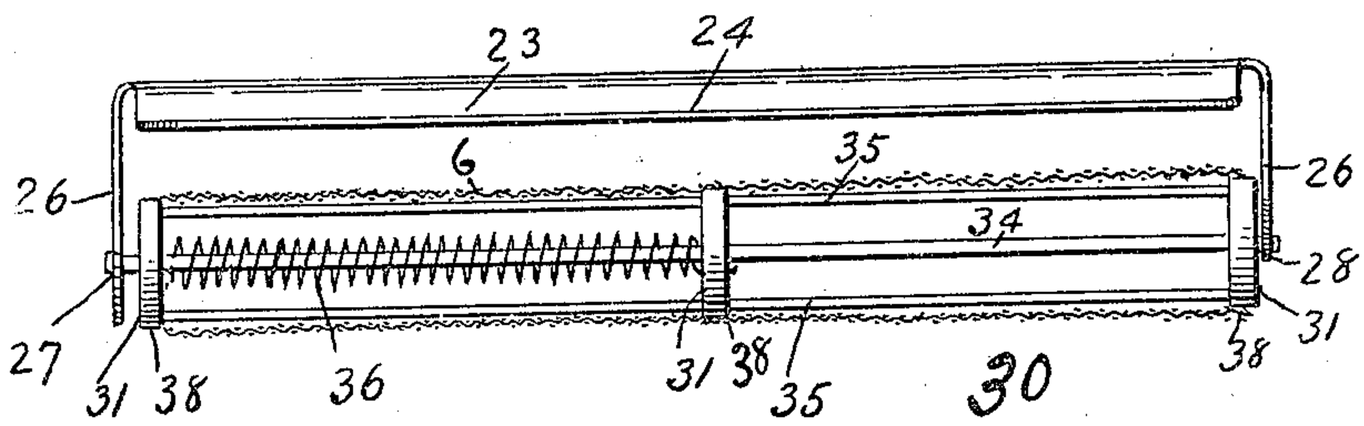


Fig. 8.



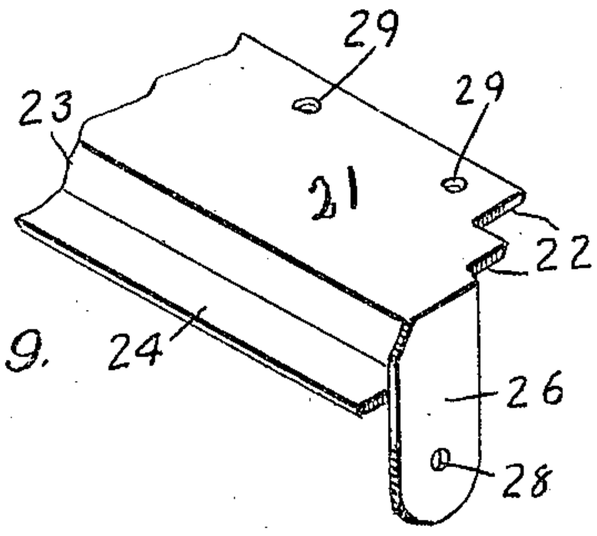


Fig. 9.

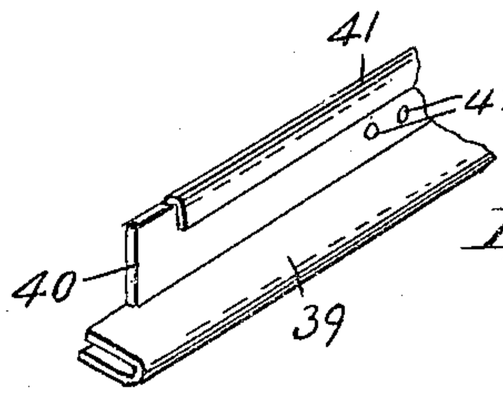


Fig. 10.

Witnesses

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UNITED STATES PATENT OFFICE.

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WINDOW-SCREEN.

960,388. Specification of Letters Patent. Patented June 7, 1910.

Application filed December 23, 1908. Serial No. 468,926.

To all whom it may concern:

Be it known that I, ALICE E. PADDISON, a citizen of the United States, residing at Salt Lake City, in the county of Salt Lake and State of Utah, have invented certain new and useful Improvements in Window-Screens, of which the following is a specification.

My invention has relation to window screens, and consists of a device whereby screens may be attached to rollers and to each window sash, and automatically wind and unwind as the sashes are raised or lowered. This screen and the devices operating it are so constructed and arranged as to keep dust, flies, insects and small flying particles of any kind from getting into the room, and said devices are so arranged that when the sashes are in normal position, and the screens unhooked, said screens are wound up and out of sight, and the openings of the screen housings closed. The devices are so constructed that the screens, rollers and roller frames may be removed at any time, to be repaired or replaced.

In the accompanying drawings, Figure 1 is a front perspective view of my invention, the sashes partly raised and lowered respectively showing part of the screens. Fig. 2 is a vertical sectional view, the sashes partly raised and lowered respectively. Fig. 3 is a vertical sectional view, the sashes in normal position. Fig. 4 is a detail view in cross section of the upper part of my invention, the screen wound up. Fig. 5 is a detail view of the lower part of my invention in cross section, the screen wound down. Fig. 6 is a perspective view of the lower sash, with the hook-plate secured to the lower edge of the lower part thereof. Fig. 7 is a rear detail cross sectional perspective view of the right-hand corner of my invention. Fig. 8 is a perspective view of the screen-roller, the screen-roller frame and table, the screen applied to the roller, but partly cut away to show the mechanism of the roller. Fig. 9 is a detail view in perspective, showing one end of the screen-roller frame and table. Fig. 10 is a detail perspective view, showing one end of the binding-plate in which the upper end of the screen is secured, and the hook-plate by means of which the screen is secured in the sash-hook attached to the lower part of the lower sash. Fig. 11 is an edge view of a tool provided with two right-angle prongs, which enter the perforations in the hook-plates attached to the binding-plates of the screens, and release them. Fig. 12 is a top face view of said tool.

Referring more particularly to the drawings, my invention is described as follows:—

The numeral 1, represents the front frame of the window casing, 2 the rear frame, 3 the upper sash, 4 the lower sash, 5 the upper screen, 6 the lower screen, 7 the upper glass, 8 the lower glass, 9 the weights, 10 the cords and 11 the pulleys.

The sashes are constructed as ordinary sashes and are secured in the frame by the usual guide-strips 12, and separated by a dividing strip 13. (See Fig. 7.)

The lower part of the window frame is provided its entire width with a rear or drain-sill 15, and its entire width with a front sill 16. These two sills are mounted on vertical walls 17 and 18, made preferably of wood, but may be made of any material.

Secured to the inner face of the wall 17, and to the lower face of the drain-sill 16, is a guide-beam 19, having its lower inner corner rounded for the purpose of guiding the screen. These sills 15 and 16, walls 17 and 18 and guide-beam 19, constitute the housing of the lower roller and screen; said housing is provided in its upper part with an opening its entire length.

Secured to the inner edge of the drain-sill 15, by means of screws, is a perforated plate 21, just as long as the window is wide. This plate is provided at each end with recesses 22, to make room for the guide-strips 12, and dividing strips 13, and from its inner edge extends downwardly a flange 23, which flange, near its lower edge, turns outwardly, forming a table 24. (See Figs. 7 and 9.)

Secured to the lower face of the lower sash is a sash-hook 25.

Extending downwardly from each end of the perforated plate 21, are roller-holders 26, one end of each, near its lower end, being provided with a longitudinal perforation 27, and the other with a circular perforation 28; said plate is also provided with perforations 29; said plate 21, flange 23, table 24 constitute the screen roller frame. Situated in said screen-roller frame is a screen-roller 30, consisting of slotted and perforated disks 31. Passing through the central openings of said disks is an axle 34, the ends of which extend into the openings 27 and 28 above mentioned, and passing through the periph-

eral openings are rods 35. One end of said axle is flattened and is secured in said elongated perforation 27 and said axle is thereby kept from revolving. Said disks are rotatably secured on said axle, and working around said axle, with one end secured in the center disk, its other end secured to said axle, near one end thereof, is a spiral spring for the purpose of rotating said screen roller.

A gauze screen, just as wide as the window is wide, has one end of it bound by a piece of tin 37, (see Fig. 5,) as long as the said screen is wide. This binding, carrying one end of said screen, is secured into slots 38, in said disks, and thereby held to said roller. Said screen is then wound around said roller and its upper end secured in a binding-plate 39. Said binding-plate has, extending upwardly, a hook-plate 40 and hook 41, and the hook 41 hooks in the sash hook 25, secured to the lower edge of the lower sash 4. The perforations 42, in said hook-plate 40, are to allow the use of the tool 14, whereby said hook may be easily released and, when released, the action of the coil spring 36, rotates said roller and winds said screen around it, whereby said binding 39, is brought down on the table 34, while the hook-plate 40, rests snugly against the inner edge of the front sill 16, and the opening of the said housing is thereby completely closed.

The screen-roller 30, the screen 5, the manner of fastening said screen in said roller, the binding 39, hook-plate 40, and hook 41, plate 21, flange 23, table 24, and hook 25^1, secured in the upper part of the upper sash in the upper part of the window frame, are exactly similar to the mechanism described as situated in the lower housing; this housing is also provided with an opening in its lower part its entire length, but in the upper housing instead of using the drain-sill 15, I use a recessed lintel 15^1, and instead of using a front sill 16, I use a front lintel 16^1, and instead of using a guide-beam 19, I use a guide-plate 19^1, one edge of which is secured to the lower edge of said front lintel, the other edge turned down and then up, forming a flexible flange 19^2, for the screen 5, to work against as it is wound up and down.

In order to prevent insects, dust or particles of any kind from passing into the room between the sashes when they are not in normal position, that is, closed up and down, I secure to the lower part of the upper sash a strip of rubber 43, or other yielding material, which reaches across the opening between the two sashes, and abuts against the glass of the front sash, and I use housing walls similar to walls 17 and 18, which, however, are numbered 17^1, and 18^1.

The sashes are operated by cords and weights, and locked when in position by the ordinary methods.

Although I have specifically described the combination, construction and arrangement of the several parts of my invention I do not confine myself particularly to such specific combination, construction and arrangement, as I may exercise the right to make such changes and modifications therein as may clearly fall within the scope of my invention, and which may be resorted to without departing from the spirit, or sacrificing any of my patentable rights therein.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:—

1. A window comprising a frame having housings, one at the upper and the other at the lower end of said frame, said housings provided with lower and upper openings respectively, a plate provided with a flange and table secured to the lintel of said frame, a plate, having a flange and table secured to the sill of said frame, upper and lower sashes adapted to run up and down in said frame, a hook secured to the upper rail of the upper sash, a hook secured to the lower rail of the lower sash, roller holders secured to the ends of the said plates and running into said housings, spring actuated rollers revolubly mounted in said roller holders, flexible screens secured to said rollers, binding plates each having a flange and a hook, one secured to the lower end of the upper screen and the other to the upper end of the lower screen, said binding plates and hooks adapted to be attached to the hooks of the sash, said hooks and binding plates of said screens adapted to close the openings in said housings when detached from the hooks of said sash, substantially as shown and described.

2. A window comprising a frame and sash said frame having a housing at its lower end, said housing provided with an upper opening, a plate provided with a flange and table secured to the sill of said frame, a hook secured to the lower rail of said sash, roller holders secured to the ends of said plate and extending down into said housing, a spring actuated roller revolubly mounted in said roller holders, a flexible screen having its lower end secured to said roller, a binding plate provided with a flange and a hook, secured to the upper end of said screen, said last-named hook adapted to hook in the hook on said sash and said binding plate adapted to close the opening of said housing, when said hooks are detached.

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

ALICE E. PADDISON.

Witnesses:
ARTHUR H. PARSONS,
THOMAS B. PATTERSON.