

(No Model.)

B. J. & M. KOLB.
WINDOW SCREEN.

No. 604,620.

Patented May 24, 1898.

FIG. 1.

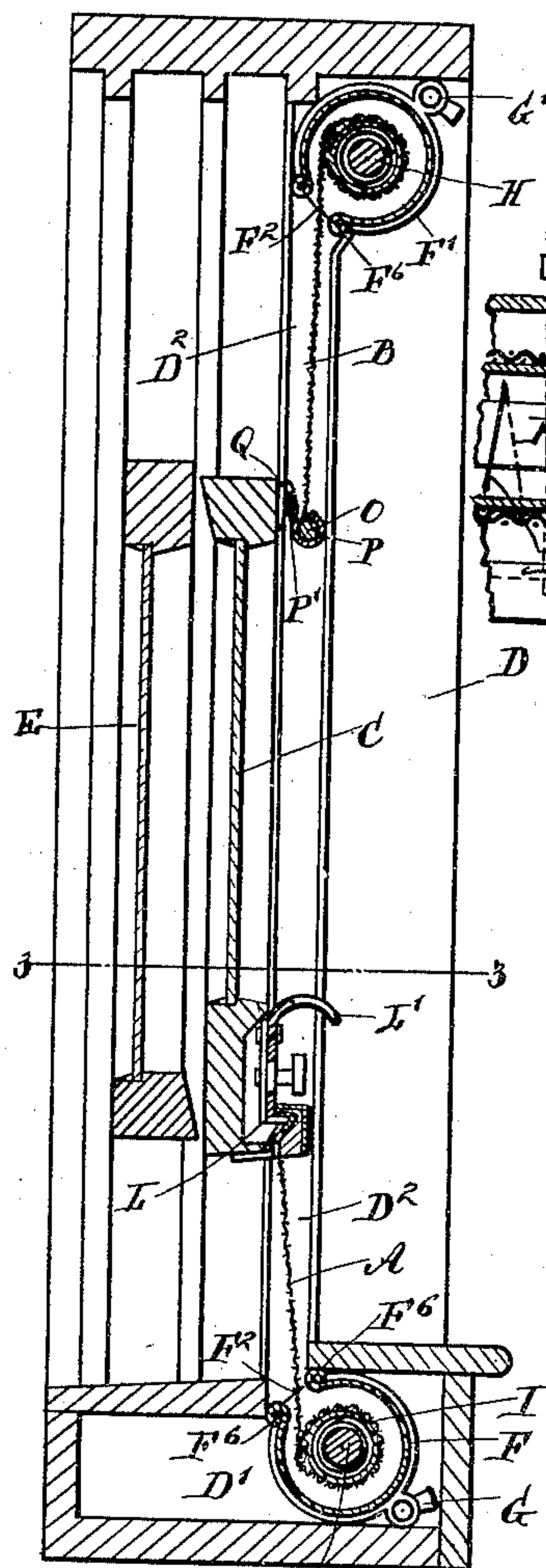


FIG. 2.

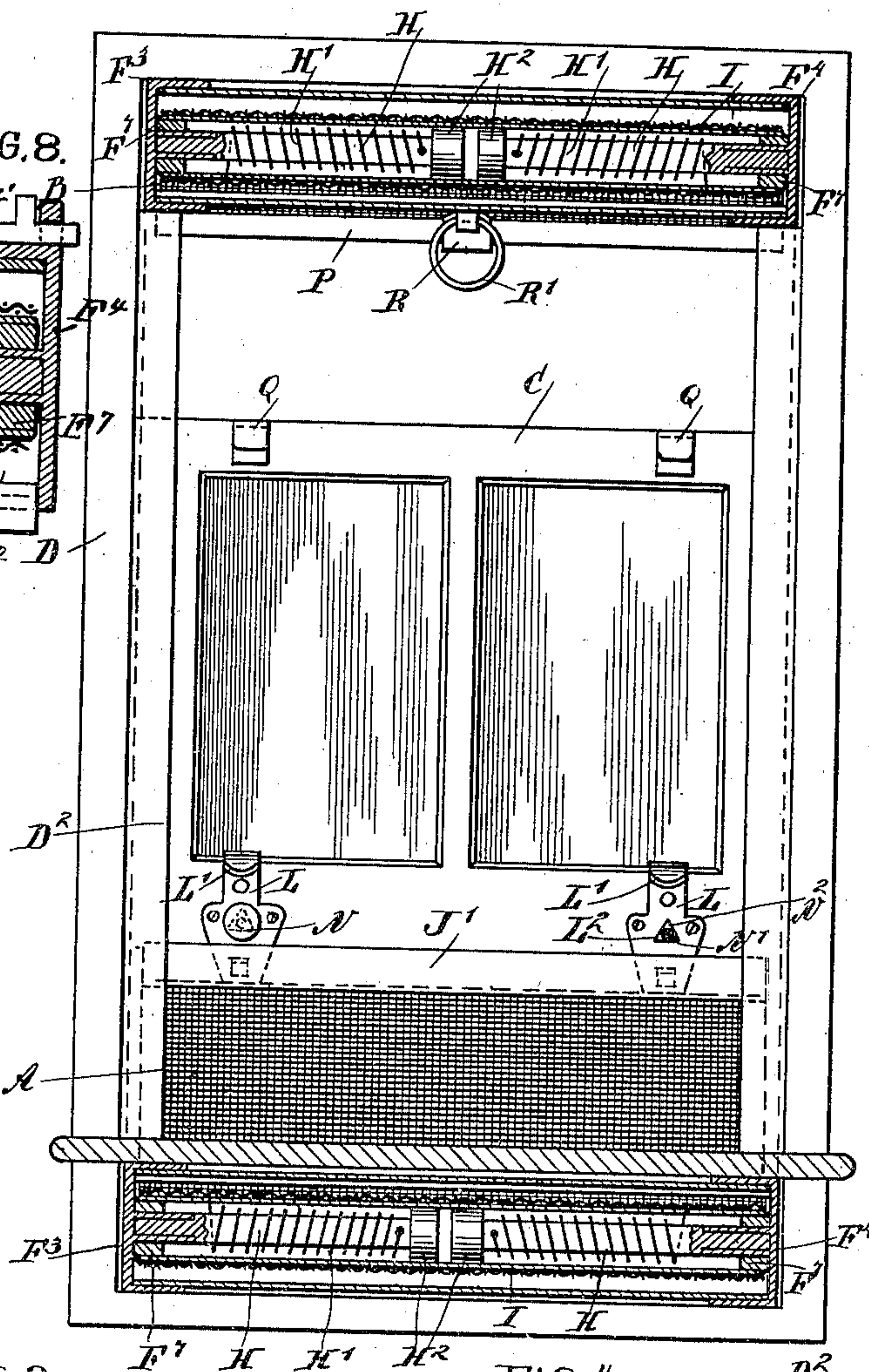


FIG. 3.

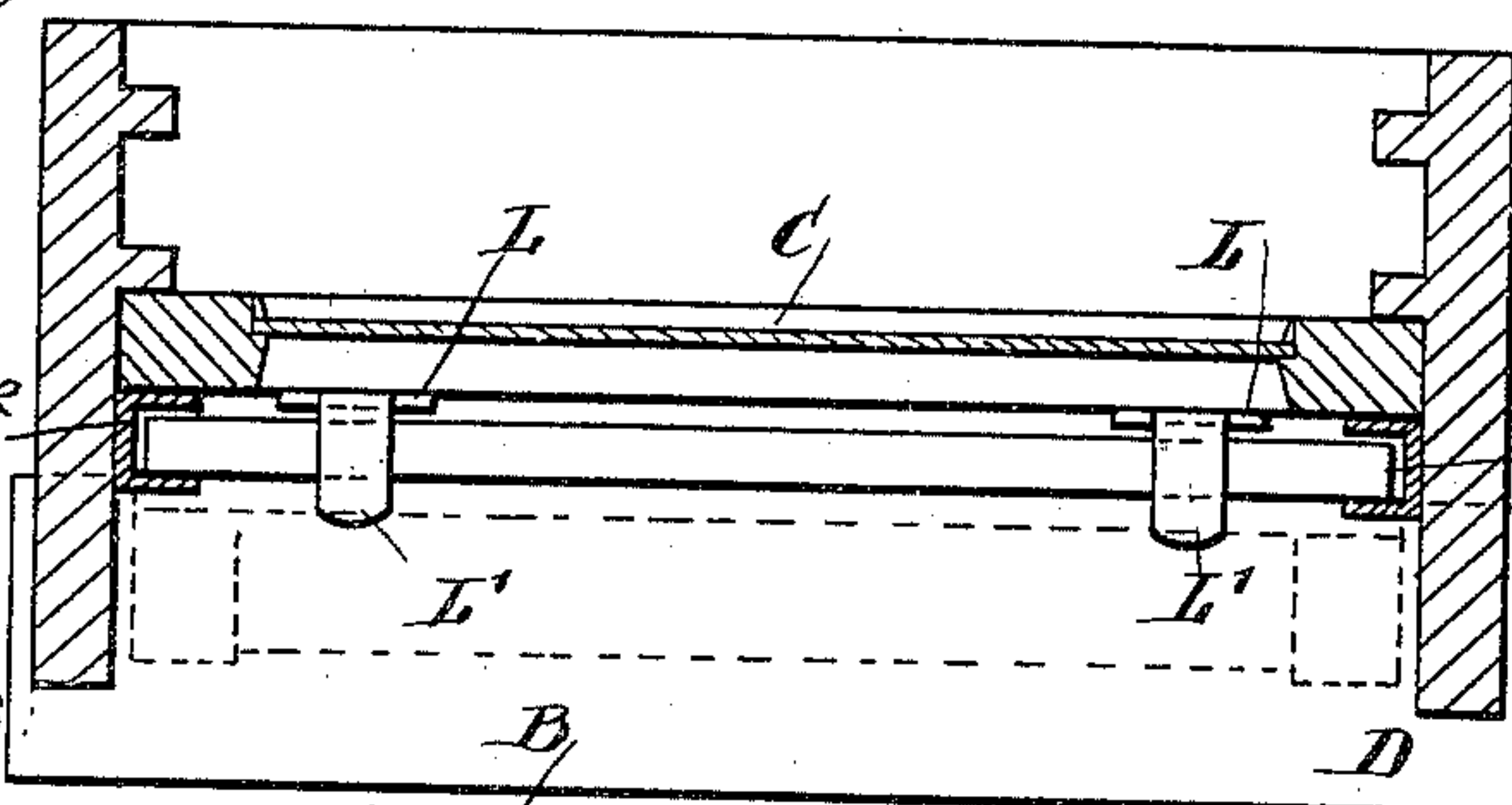
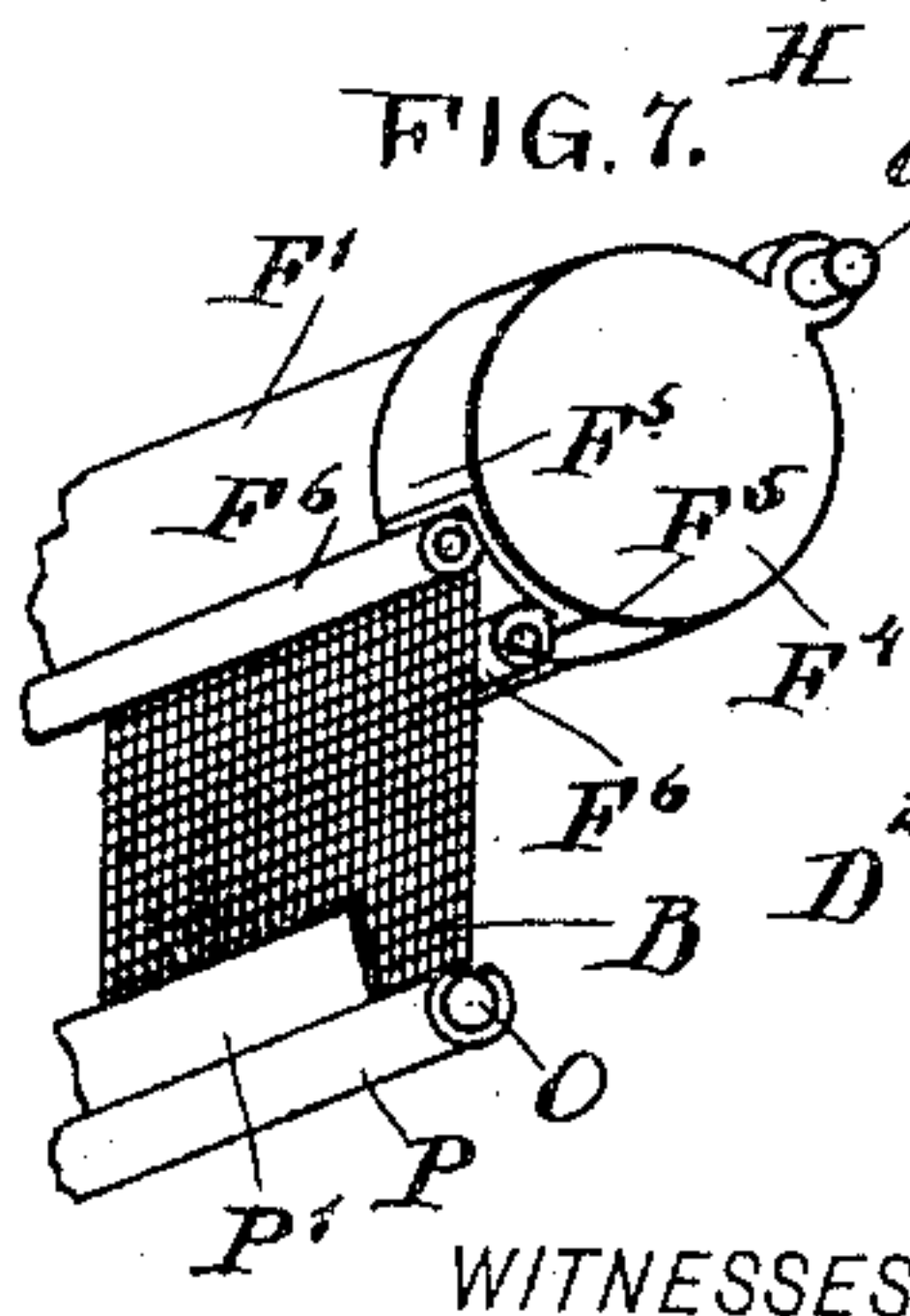
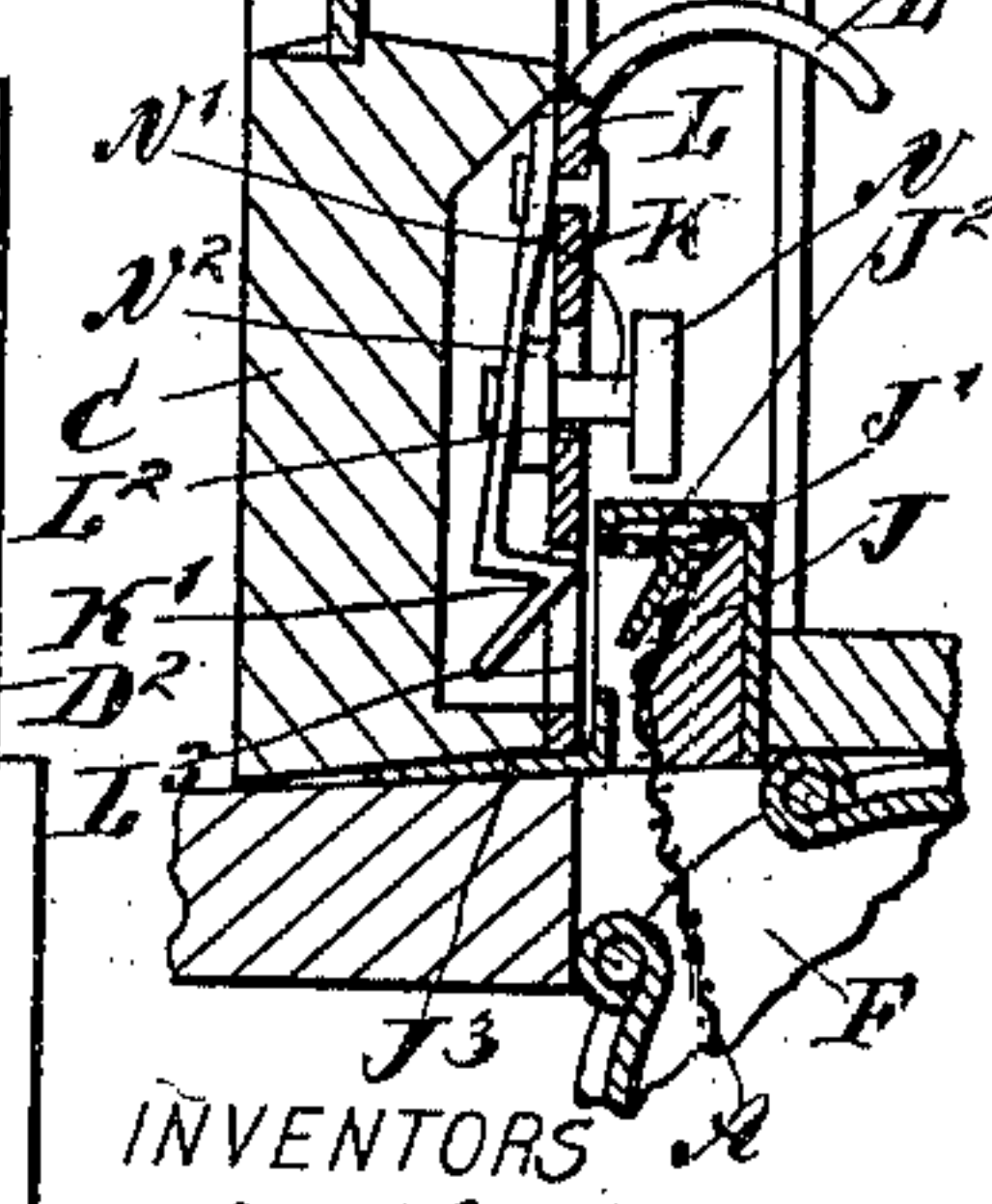


FIG. 4.



WITNESSES

Donn Twitchell
Henry H. H. H.

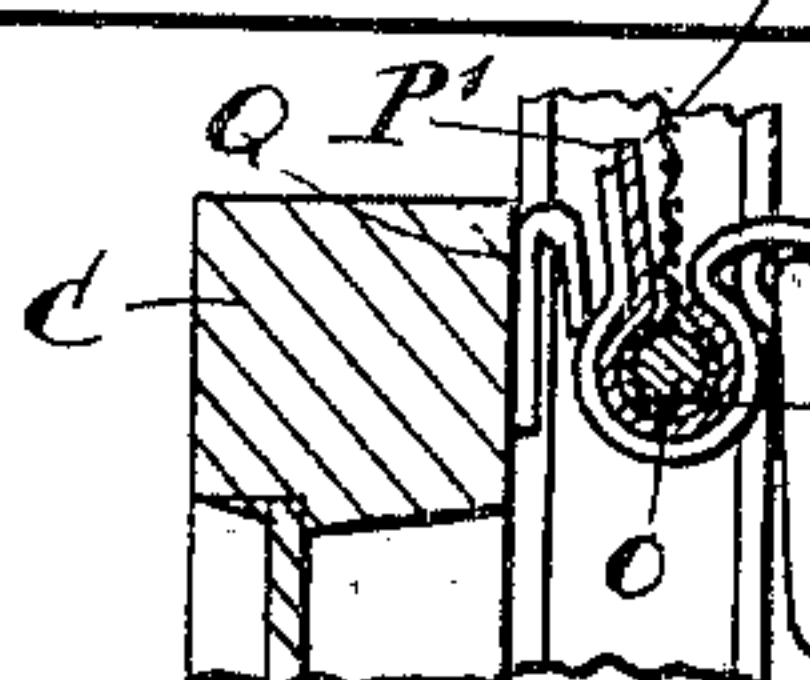
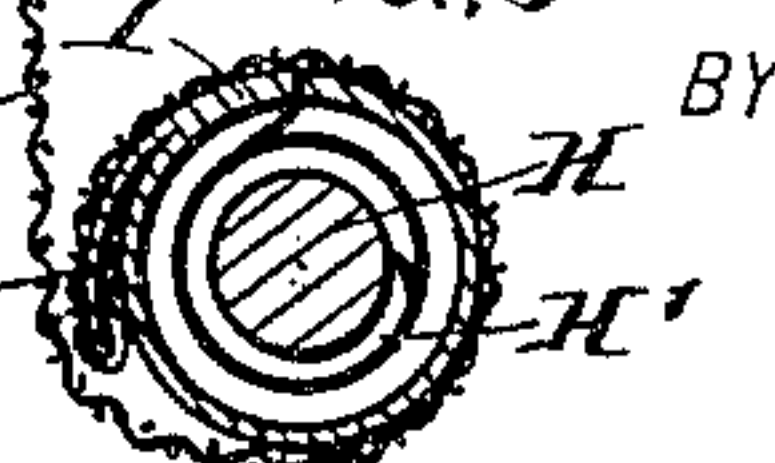


FIG. 5.

FIG. 6.



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BENNETT J. KOLB, OF FLORENCE, AND MICHAEL KOLB, OF NEWPORT,
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WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 604,620, dated May 24, 1898.

Application filed September 25, 1897. Serial No. 653,026. (No model.)

To all whom it may concern:

Be it known that we, BENNETT J. KOLB, of Florence, in the county of Boone, and MICHAEL KOLB, of Newport, in the county of Campbell, State of Kentucky, have invented certain new and useful Improvements in Window-Screens, of which the following is a full, clear, and exact description.

The invention relates to window-screens of the roller type, opening and closing with the sashes.

The object of the invention is to provide a new and improved window-screen which is simple and durable in construction and arranged to permit attachment or detachment of the screen to or from the sash whenever desired and to allow of regulating the tension of the springs for the screen-rollers to insure an easy working of the device.

The invention also consists of certain parts and details and combinations of the same, as will be fully described hereinafter and then pointed out in the claims.

Reference is to be had to the accompanying drawings, forming a part of this specification, in which similar characters of reference indicate corresponding parts in all the figures.

Figure 1 is a transverse section of the improvement as applied. Fig. 2 is a front elevation of the same with parts in section. Fig. 3 is a sectional plan view of the same on the line 3 3 of Fig. 1. Fig. 4 is an enlarged cross-section of the improvement, showing the lower screen detached from the sash and the latter in a closed position. Fig. 5 is a similar view of the improvement, showing the upper screen detached from the sash. Fig. 6 is an enlarged cross-section of the screen-roller. Fig. 7 is a perspective view of one end of the upper screen, and Fig. 8 is enlarged sectional elevation of one end of the upper screen.

The improved device illustrated in the drawings is provided with a lower screen A and an upper screen B, both adapted to be connected with the lower sash C, mounted to slide in the usual manner in the window-frame D; but it is evident that the upper screen B may be connected with the upper sash E, if desired. The screens A and B are adapted to roll up within casings F and F', respectively, of which the casing F is adapted to be secured

by sliding bolts G to the window-frame D below the sill in a chamber D', formed in the said window-frame, while the upper casing F' is adapted to be locked to the sides of the window-frame D by sliding bolts G', as plainly shown in Fig. 1. The screen-casings F and F', as well as the screen-rollers of the two screens A and B, are alike in construction, so that it suffices to describe but one in detail.

The screen-casing F is formed with a longitudinal slot F² for the passage of the screen into a guideway D², formed on the sides of the frame D, to properly guide the screens in their up-and-down movement upon moving the sash C. The ends of the casing F are closed by caps F³ and F⁴, formed in their flanges with cut-out portions to produce shoulders F⁵ for engagement with the doubled-up ends F⁶ of the casing F on opposite sides of the slot F², so as to hold the said ends a suitable distance apart to form the slot F² of a desired width. (See Fig. 7.)

On the inside of each of the caps F³ and F⁴ is secured a centrally-extending rod H, on which is coiled a spring H', fastened at one end to the said rod and at its other end to a screen-roller I, made cylindrical and mounted to turn at its ends on bosses F⁷, attached to the inside of the caps F³ and F⁴. The inner ends of the rods H are provided with collars H², fitting into the roller I to hold the rods H centrally within the said roller to insure a proper winding up and unwinding of the spring H'.

On the peripheral surface of the screen-roller I is formed an angular flange I', (see Fig. 6,) extending throughout the length of the roller and adapted to receive the doubled-up end of the screen A or B to rigidly connect the screen to the roller and at the same time permit the screen to easily wind up or unwind from the roller when the latter is turned.

Now by the arrangement described the tension of the springs H' can be readily adjusted at any time upon removing the casing F or F' and then pulling off the corresponding cap F⁴ and turning the same to rotate the rods H and wind up the spring H' until the desired tension is reached, after which the cap is again placed over the end of the casing F or F', with the shoulders F⁵ resting against the doubled-

up ends F^6 , as shown in Fig. 7. It is understood that the cap F^4 is only pulled sufficiently from the casing to allow of turning the cap for the purpose mentioned, the coils of the spring H' permitting such movement without hindering the winding up of the spring upon turning the cap.

The outer end of the screen A is attached to a strip of wood J, contained within a metallic casing J' , fitted to slide snugly at its ends in the guideways D^2 , formed on the window-frame D, as previously mentioned. On the inside of the metallic casing J' are formed shoulders J^2 , adapted to be engaged by lugs K' , formed on the lower ends of catches K, attached at their upper ends to plates L, secured to the lower end of the sash C, as plainly shown in the drawings, the said plates L being provided at their upper ends with forwardly-turned finger-pieces L' , adapted to be taken hold of by the operator to conveniently move the sash into an open or closed position.

Each of the catches K is engaged by the shank N' of a button N, extending in the front of a plate L, the shank N' being formed with a triangular offset N^2 , adapted to pass through a correspondingly-shaped opening L^2 formed in the plate L. It will be seen that when the button N is turned to bring the triangular offset N^2 in register with the correspondingly-shaped opening L^2 then the resiliency of the spring-catch K causes the latter to move forward against the inside of the plate L to bring the lug K' through an aperture L^3 in the outer face of the plate L for engagement with the shoulder J^2 on the metallic casing J' .

When it is desired to disconnect the screen A from the lower end of the sash C, then the operator presses the buttons N inwardly to push the catches K rearwardly, so as to move the lugs K' out of engagement with the shoulders J^2 , and at the same time the operator turns the buttons N so as to bring the triangular offset N^2 out of register with the opening L^2 , to cause the said offset N^2 to rest with its points against the back of the plate L, to hold the catch K in a rearmost locked position, as indicated in Fig. 4. The sash C can now be moved up and down without making connection with the screen A, the latter remaining rolled up in the casing F with its roller I, the outer end of the screen A being attached to the strip of wood J within the metallic casing J' , resting on the sill of the window-frame.

The casing J' is preferably provided at its bottom with an outward-extending flange J^3 , adapted to extend under the bottom edge of the sash C, so that when the latter is in a closed position the casing J' is locked in place and a tight joint is made between the casing and the sash.

When it is desired to again connect the sash C with the screen A, then the operator turns the buttons N until the offsets N^2 are in register with the openings L^2 , to allow the catches to move with their lugs K' into a for-

ward or active position, so that when the sash C is pushed upward the lugs K' snap under the shoulders J^2 , and when the operator now lifts the sash by engaging the finger-pieces L' then the casing J' is carried along with the sash C to draw out the screen A, so as to cover the opening left by the raised sash.

The upper screen B has its outer end attached to a rod O, inclosed within a metallic casing P, preferably made cylindrical and fitted at its ends in the guideways D^2 . On the casing P is formed an angular flange P' , adapted to be engaged by hooks Q, secured to the upper end of the sash C, as plainly indicated in Figs. 1 and 2. On the casing P is held a detachable sleeve R, supporting at its front end a ring R' , adapted to be taken hold of by the operator to allow the operator to pull the upper screen B downward while the sash C is stationary, to disengage the flange P' from the hooks Q, and to then allow the springs H' for the upper screen B to turn the screen-roller and wind up the said screen B within the casing F' , the casing P resting over the slot F^2 formed in the said casing F' .

When it is again desired to connect the upper screen B with the sash C, the operator simply takes hold of the ring R' and pulls the screen downward, to finally engage the flange P' with the hooks Q, so as to again connect the parts with each other. Now when the sash C is raised or lowered the screen B moves with it to cover the opening in the upper part of the window-frame left by raising or lowering the said sash.

The device is very simple and durable in construction, is not liable to get out of order, and the several parts can be readily got at for repairs and other purposes, and the screens can be conveniently detached from the window-frame whenever desired without changing or altering the sashes.

Having thus described our invention, we claim as new and desire to secure by Letters Patent—

1. A window-screen, comprising a netting or screen proper, a screen-roller on which winds the screen, a casing containing the said roller and formed with a slot for the passage of the said screen, a removable cap on the end of the casing, a rod secured to the said cap and extending into the said roller, a spring coiled on the said rod and secured at one end to the rod and at its other end to the said roller, and a bearing on the said cap for the end of the said roller to turn on, substantially as shown and described.

2. A window-screen, provided with a screen-roller, on which winds a screen-netting, a casing containing said roller and formed with a slot for the passage of the netting, a cap on the end of the casing and formed with a bearing for the roller to turn on, a rod secured to the cap and extending into the said roller, the inner end of the rod being formed with a collar for the roller to turn on as a bearing, and a spring coiled on the said rod and secured at

one end to said rod and at the other end to the said roller, substantially as shown and described.

3. A window-screen, provided with a fixed casing, a spring-roller mounted to turn therein, a netting winding on the said roller, a sliding casing to which the outer end of the netting is secured and which is formed with a shoulder, a spring-catch on the window-sash and adapted to engage the said shoulder to lock the slidable casing to the sash, a plate having a finger-piece and secured to the sash, the plate carrying the said catch, and a button turnable on the said catch, and provided with an angular flange adapted to pass

through a correspondingly-shaped opening in the said plate and adapted to rest against the back of the said plate to hold the catch locked in an inactive position, substantially as shown and described.

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FRANK C. RUEF.

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