

(No Model.)

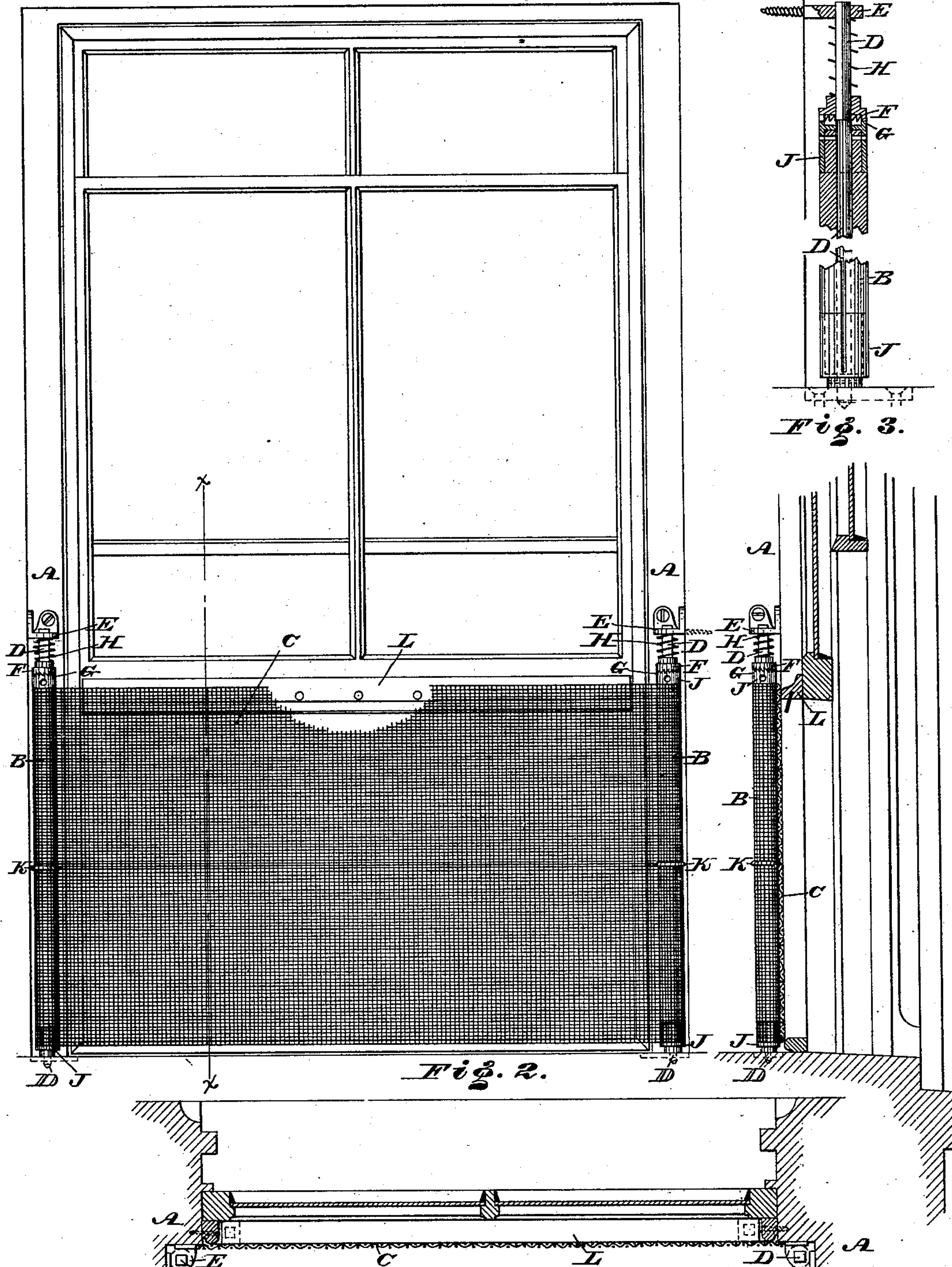
T. DOUGHERTY.  
INSECT SCREEN.

No. 351,502.

Patented Oct. 26, 1886.

Fig. 1.

Fig. 4.



WITNESSES:  
L. Douville  
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Fig. 5.  
B  
D

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# UNITED STATES PATENT OFFICE.

TIBERIAS DOUGHERTY, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR OF  
ONE-HALF TO HENRY J. BERGMANN, OF SAME PLACE.

## INSECT-SCREEN.

SPECIFICATION forming part of Letters Patent No. 351,502, dated October 26, 1886.

Application filed April 8, 1886. Serial No. 198,218. (No model.)

*To all whom it may concern:*

Be it known that I, TIBERIAS DOUGHERTY, a citizen of the United States, residing in the city and county of Philadelphia, State of Pennsylvania, have invented a new and useful Improvement in Insect-Screens, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure 1 represents a front view of an insect-screen embodying my invention. Fig. 2 represents a top or plan view thereof. Fig. 3 represents a vertical section thereof in line *x x*, Fig. 1. Fig. 4 represents a partial vertical section and partial side elevation of a detached portion on an enlarged scale. Fig. 5 represents a horizontal section of a detached portion on an enlarged scale.

Similar letters of reference indicate corresponding parts in the several figures.

My invention relates to improvements in an insect-screen; and it consists of means, substantially as hereinafter set forth, whereby the said screen may be properly and readily adjusted when desired.

Referring to the drawings, A represents a window-frame, and B B represent rollers, to which the netting C is secured, said rollers being mounted in upright position on opposite sides of said frame by means of shafts D, which are passed through the rollers and have their lower ends stepped in the window-sill or perforated plates secured thereto, the upper ends of said shafts being squared or angular and passed through brackets E, whereby the shafts are prevented from rotation.

On the squared ends of the shafts are fitted ratchets F, which are permitted to rise and fall thereon, but prevented from rotation, said ratchets engaging with ratchets G, which are secured to the upper ends of the rollers, the latter ratchets rotating with the rollers. Pressing downwardly against the ratchets F are springs H, whereby the ratchets F and G are held in contact.

It will be seen that when the rollers are located in position they may be rotated, whereby the netting is wound thereon and stretched or held taut, it being evident that the screen is adapted to windows of different widths. During the rotation of the rollers the ratchets G ride freely on the ratchets F, and the latter

rise and fall on the squared ends of the shafts, and when rotation of the rollers ceases the upper ratchets, F, drop, and thus lock the ratchets G, preventing rotation of the rollers and unwinding of the netting.

In applying the rollers in position the upper ends of the shafts may be inserted in the brackets E, and the rollers then raised until the lower ends of the shafts are above the openings in the sill to receive the same, after which the rollers are dropped, and thus located. The removal of the rollers may be readily accomplished by raising them until the lower ends of the shafts clear the openings in the sills, after which the upper ends of the shafts may be readily disconnected from the brackets.

The rollers are split or divided, to receive between them the ends of the netting, the section or divisions being embraced by collars J J at the top and bottom thereof, whereby they are held together and the ends of the netting firmly clamped between them. The central portions of the divided rollers are embraced by a ring or sleeve, K, whereby said portions are prevented from separation, and irregularity of connection of the netting with the same prevented. When the brackets are secured to the front of the window-frame, as in cases where outside shutters are employed, the netting sets out from the sash-frame, thus leaving a space between the same. This is occupied by a stile or strip, L, which is secured to the sash-frame, moving therewith and serving as a guard to prevent entrance of insects and dust at said space. For windows having inside shutters, the brackets are secured to the inner sides of the window-frame, as shown by dotted lines, Fig. 2, in which case the brackets are provided with screw-shanks for attaching purposes.

The ratchets G or upper collars of the rollers are formed with openings for the insertion of a pin, nail, or other implement, whereby the rollers may be rotated, so as to tighten the net. When the ratchets F are raised, the netting may be unwound.

I am aware that it is not new to construct an insect-screen of netting secured to a roller at one end, the said roller being provided with devices whereby it may be rotated and the netting adjusted to suit different-sized windows, and such I do not claim.



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

1. The non-rotating shafts D, having ratchets F, secured so as to be non-rotary thereon, in combination with rollers B, adapted to rotate on said shafts, and provided with the ratchets G, adapted for engagement with the ratchets F, and netting C, secured to said rollers, all substantially as and for the purpose set forth.

2. A roller having a non-rotating shaft passed freely through the same, a ratchet secured to said roller and rotating therewith, and a non-rotating ratchet fitted on said shaft so as to slide thereon and engage with the rotating ratchet, said parts being combined with netting attached to the roller, substantially as and for the purpose set forth.

3. The fixed bracket E, having an angular opening, in combination with the shaft D, having an angular upper end, the ratchet F, sliding on said shaft D, the ratchet G, detachably secured to the roller B, and the roller B, having netting C attached thereto, substantially as and for the purpose set forth.

4. Netting, in combination with a roller provided with a ratchet, a shaft passed freely through the roller and ratchet, a non-rotating ratchet fitted on said shaft and sliding thereon, a spring bearing against the latter ratchet, the two ratchets being in contact, substantially as and for the purpose set forth.

TIBERIAS DOUGHERTY.

Witnesses:

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