

No. 618,823.

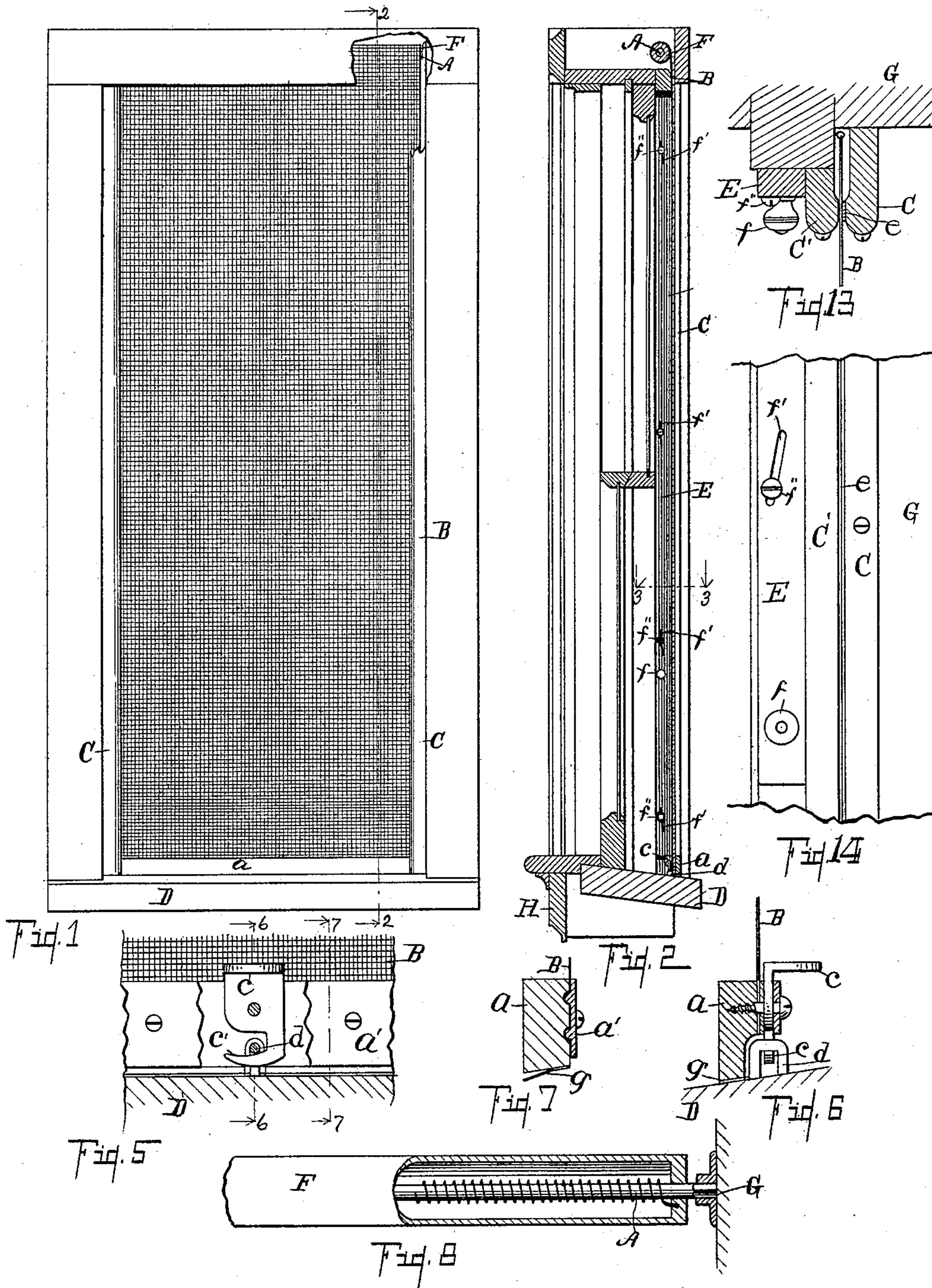
Patented Feb. 7, 1899.

T. E. BARR.
ROLLER WINDOW SCREEN.

(Application filed June 9, 1896. Renewed June 18, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
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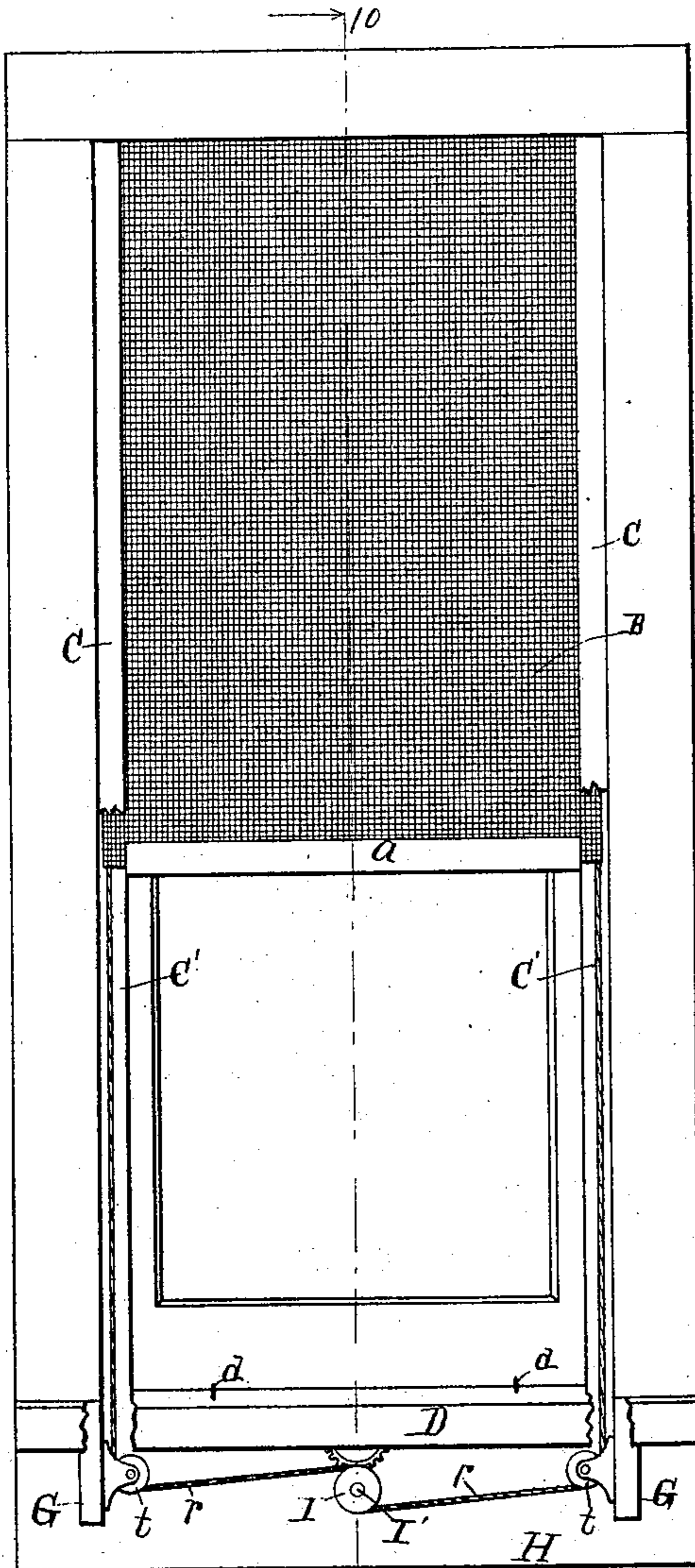


Fig. 9

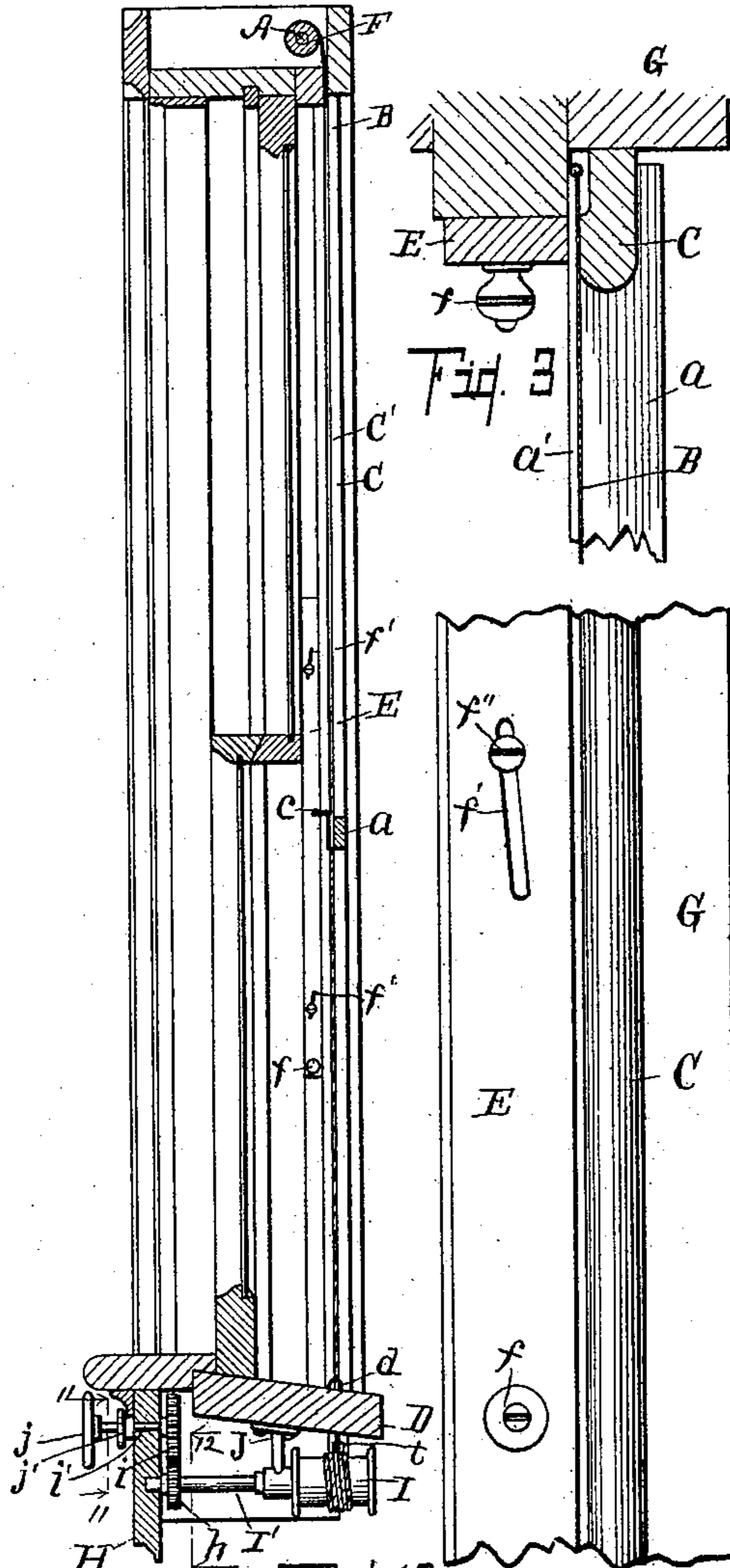


Fig. 10

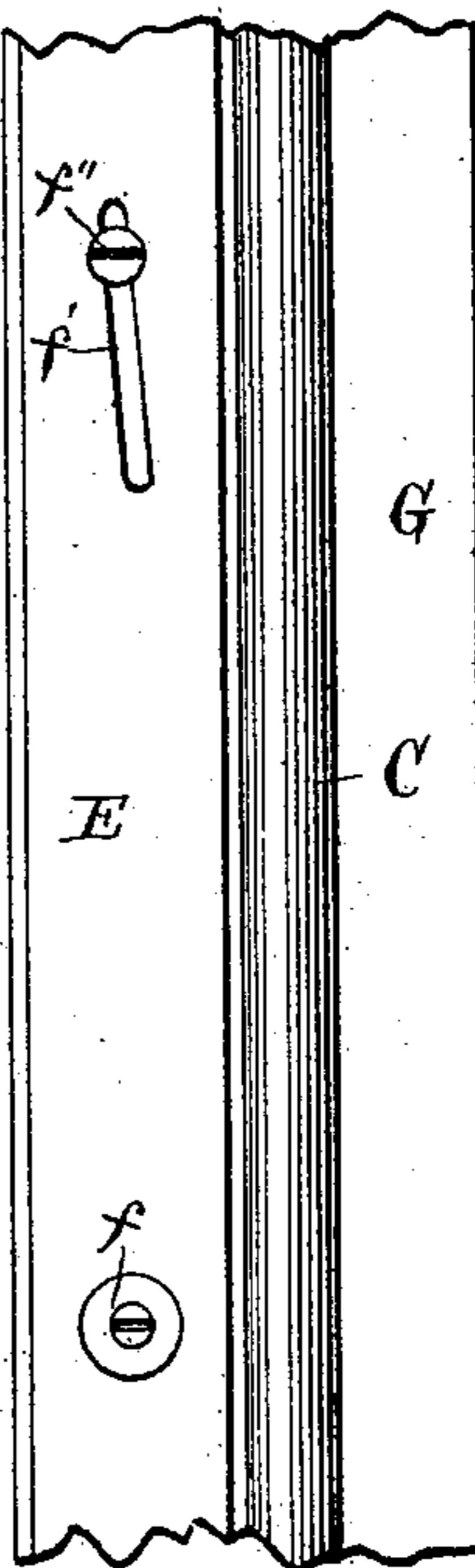


Fig. 4

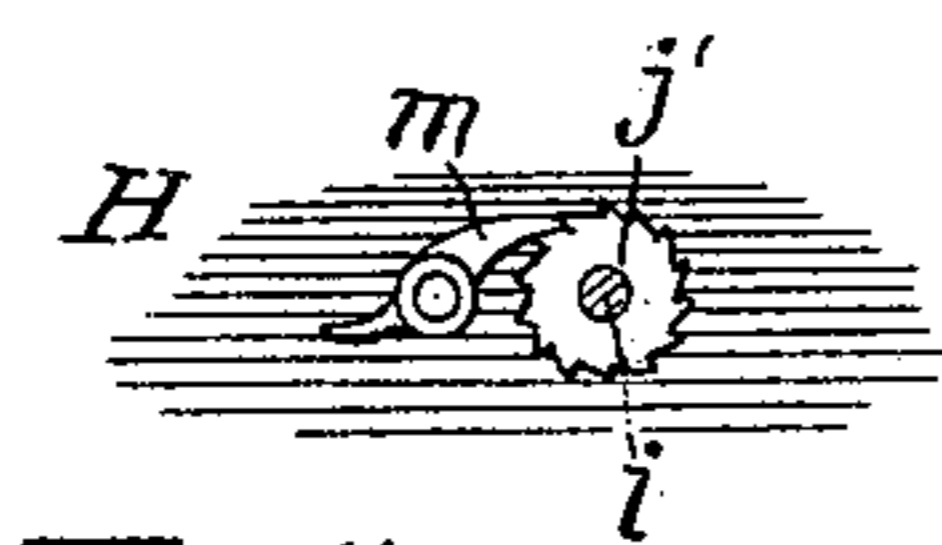


Fig. 11

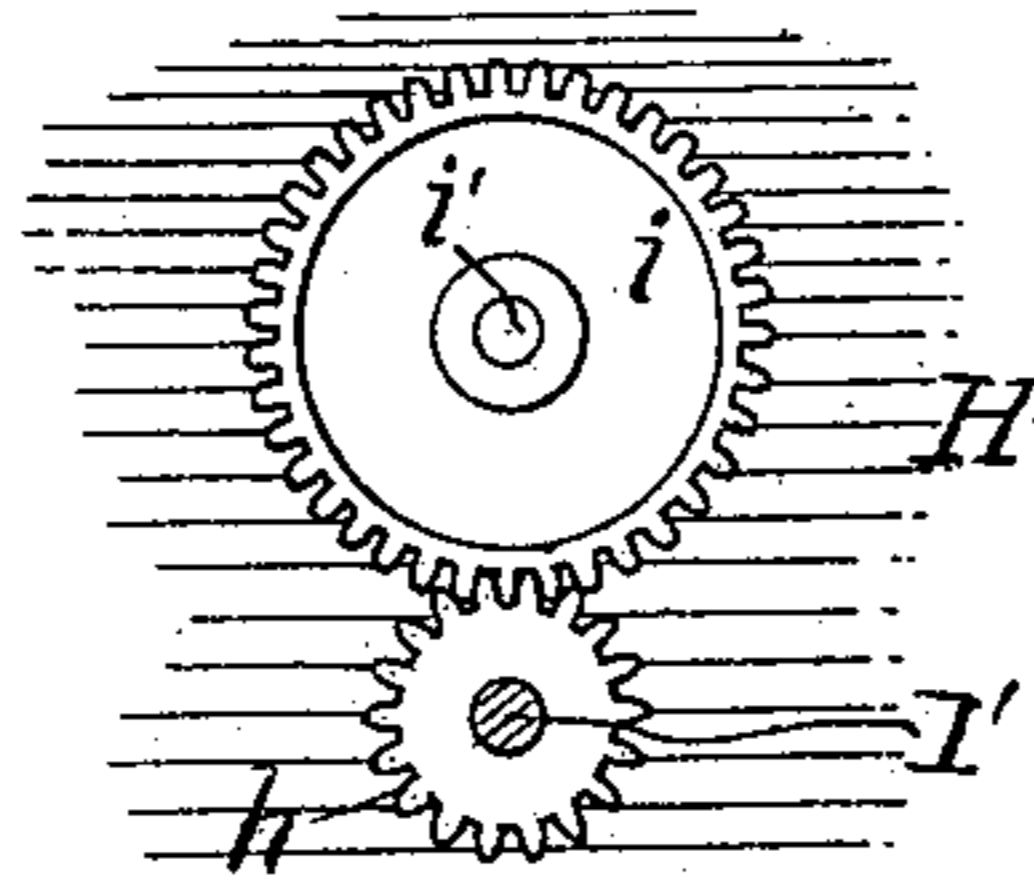


Fig. 12

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UNITED STATES PATENT OFFICE.

THOMAS E. BARR, OF KALAMAZOO, MICHIGAN.

ROLLER WINDOW-SCREEN.

SPECIFICATION forming part of Letters Patent No. 618,823, dated February 7, 1899.

Application filed June 9, 1896. Renewed June 18, 1898. Serial No. 683,868. (No model.)

To all whom it may concern:

Be it known that I, THOMAS E. BARR, a citizen of the United States, residing at the city of Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented a certain new and useful Roller Window-Screen, of which the following is a specification.

My invention relates to improvements in roller window-screens.

It relates more particularly to roller window-screens which occupy a space outside the sash and independent therefrom.

The objects of my invention are, first, to provide a construction specially adapted for the position which it is intended to occupy; second, to provide a convenient and simple means for absolutely clamping the edges of the screen to retain them in place; third, to provide improved means of locking the screen in the closed position; fourth, to provide improved means of operating the screen to carry it evenly and truly to place, and other objects appearing in the detailed description. I accomplish these objects of my invention by the means and mechanism described in the following specification and illustrated in the accompanying drawings, in which—

Figure 1 is an outside elevation of a window with one of my screens in position, portions of the same being broken away to show details of construction. Fig. 2 is a vertical sectional view through the same on lines 2 2 of Fig. 1. Fig. 3 is an enlarged detail sectional view on line 3 3 of Fig. 2, looking down. Fig. 4 is an enlarged detail view of a part of the clamping means, showing the method of operating the same. Fig. 5 is an enlarged detail perspective view of the means of securing the screen in the closed position. Fig. 6 is a sectional view on line 6 6 of Fig. 5. Fig. 7 is a sectional view on line 7 7 of Fig. 5. Fig. 8 is an enlarged detail view of a portion of the roller, the end being cut in section. Fig. 9 is an outside elevation of a window with portions broken away to show the details of construction of the means of actuating the window-screen. Fig. 10 is a sectional view on line 10 10 of Fig. 9 through the same. Fig. 11 is an enlarged detail sectional view on line 11 11 of Fig. 10. Fig. 12 is an enlarged detail sectional view on line 12 12 of Fig. 10. Fig. 13 is an enlarged

detail view of a modification on a line corresponding to line 3 3 of Fig. 2. Fig. 14 is an enlarged detail view of the modification corresponding to view in Fig. 4.

In the drawings all of the sectional views are taken looking in the direction of the little arrows at the ends of the section-lines, and similar letters of reference refer to similar parts throughout the several views.

Referring to the lettered parts of the drawings, A is the shaft supporting the roller F in the upper part of the window-casing.

B is the window-screen or wire net, which is carried by the roller and extends down from the top of the blind-stop or along the blind-stop.

At each side of the window-frame is a strip of molding C, placed upon the inner edge of the outer casing parallel with the blind-stop. At the inside of the strip C is a clamping-strip E, which is supported by suitable screws *f''* through the oblique longitudinal slots *f''* therein. A knob *f'* is provided on this piece for moving the same, and by crowding it down, owing to the action of the screws *f''*, the strip is clamped securely against the screen B and strip C, which of course clamps the edge and holds it very securely. On the free end of the screen, as here constructed, I secure a suitable binding made up of a strip of wood or other suitable material *a* on one side and the strip *a'* on the other, which are held together by suitable fastenings which clamp them to the edge of the screen securely. The strip *a* is notched on its end and engages the strip C, which guides it and the screen. On the under side of the strip *a* is secured a thin strip of spring metal *g*, which projects slightly below the strip *a* and serves as a yielding means to close up all irregular openings that might be formed below the lower edge of the screen over the window-sill. Little staples or loops *d* are inserted in or secured to the window-sill and project up into little recesses in the binding of the free end of the screen. Opposite these loops and pivoted to the screen by suitable screws are hooks *c*, the upper edges of which are broadened and flattened and turned out to form suitable lifts or handles for manipulating the screen and for operating the hooks themselves. The engaging part of these hooks is made comparatively

long and eccentric to the point of pivoting, so that when they are engaged in the loops *d* by crowding upon them they clamp the binding very tightly in position. Under ordinary
 5 circumstances and for windows of ordinary height this is all that will be required to make the screen completely and satisfactorily operative.

When the windows are very high or very
 10 broad, or, for that matter, when for any reason it becomes desirable or it becomes necessary to operate the screen with great accuracy, I provide the special means for operating it definitely shown in Figs. 9 and 12, inclusive.
 15 Beneath the window-sill I insert a drum I on a spindle or shaft I', which receives its main support from the hanger J. On this shaft is a gear-wheel *h*. On the inside of the lower casing is a spindle *i'*, carrying a larger gear-
 20 wheel *i*, which meshes with the gear *h*. A hand-wheel *j* is on the outer end of the spindle *i'* and serves, through its gear connections, as a means for actuating the drum I. On each side of the window-frame and with-
 25 in the window-casing are supported suitable guide pulleys or sheaves *t t*. A cord *r r* is connected to each side of the screen at the binding and extends along the strips C, around the guide-pulleys *t*, and passes to the drum I
 30 at the center. Here they wind onto the drum in opposite directions, which consequently draws the screen to position perfectly straight. When the drum is operated from the hand-
 35 wheel, a ratchet on the hand-wheel *j* enables the same to be locked at any point without making use of any other means, although it is much more secure if the hooks *c* are used in addition.

In Figs. 10, 13, and 14 is shown a slight
 40 modification of the clamping means for the edge of the screen. An additional yielding-strip C' is placed on the blind-stop and is clamped against the strip C by clamping-strip E. A piece of rubber *e* is in-
 45 serted in the edge of the strip C. The clamping-strip E does not need to extend the entire length when this style is adopted to secure a full clamping.

Having thus described my improved roller
 50 window-screen, it will be clear from the description that it is capable of considerable variation in the details without departing from my invention. The screen will be quite effective without the strip *d* at the bottom of
 55 the binding-strip. Other means could be provided that would clamp the binding to the window-casing, though the means that I have illustrated is very simple and very effective and possesses merits over any other. The
 60 same could be said of the clamps for forcing the strips at the edge together.

As I have intimated in the description, special means for pulling the screen into position
 65 could be dispensed with under many circumstances. Other variations will suggest themselves to those skilled in the art to which my invention pertains.

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

1. In a window-screen apparatus, the combination of a roller above; a screen attached thereto; strips C, rigidly secured to the outer casing bearing on their inner edges the strips
 70 *e*, strips C', yieldingly supported upon the blind-stop; clamping-strips E, with oblique slits *f'* therein; and screws *f''*, passing through the oblique slits into the blind-stop to afford a means for clamping the edge of
 75 the window-screen securely in place as specified.

2. In a window-screen apparatus, the combination with the screens suitably supported; rigid strips on the window-frame on each side; a yielding strip parallel therewith; a clamp-
 80 strip with longitudinal oblique slots therein and guiding pins or screws passing through the slots into the window-frame coacting as specified.

3. In a window-screen, the combination of
 90 a suitable roller; screening attached thereto; guideways at the edge of the same; binding on the free end of the window-screen; staples or loops in the window-frame and hooks *c*, pivoted to the binding with one end flattened
 95 and extended out to form a handle or lift for the window-screen and to serve as a means for actuating the hook; the hook portion being formed eccentric to the point of pivoting to serve as means of drawing the end tight
 100 to the window-frame as specified.

4. The combination of a window-screen, binding on the end thereof; a projecting thin metallic spring portion secured by one edge
 105 to the binding and with the other projecting obliquely therefrom to afford a yielding contact between the window and the frame to form a tight joint for the purpose specified.

5. In a roller-screen apparatus, the combination of the roller above; a screen secured
 110 thereto; a suitable binding on the bottom of the screen; guideways at each side of the window to receive the edge of the screen; a winding-drum beneath the window-sill; cords extending from said drum to each end of the
 115 binding at the free end of the screen over suitable guideways; a hand-wheel *j*, on the inside of the window-casing connected to actuate the drum; and a ratchet to retain said hand-wheel and drum in any desired position
 120 coacting as specified.

6. In a window-screen apparatus, the combination of a roller; a screen secured thereto; guideways for the edge of the screen; a binding for the edge thereof; a drum; a cord
 125 extending from said drum through the guideways to each end of the binding and adapted to wind in opposite directions on the drum to carry both sides of the screen or netting evenly as specified.

7. In a window-screen apparatus, the combination of a window-casing, suitable means
 130 of storing a window-screen, longitudinal projecting guideways along the sides of the win-

dow-casing, a window-screen, a transverse bar secured to one end of the screen and having grooves in its ends which embrace and travel upon the projecting guideways, and longitudinal strips along the window-casing laterally movable toward the guideways to clamp the edges of the screen thereagainst.

8. In a window-screen apparatus, the combination of a window-casing, a spring-roller supported at one end thereof, a window-screen having one end secured to the roller and one end free, longitudinal projecting guideways along the sides of the window-casing, a transverse bar secured to the free end of the screen having grooves in its ends which embrace and travel upon the projecting guideways, and longitudinal strips along the window-casing laterally movable toward the guideways to clamp the edges of the screen thereagainst.

9. In a window-screen apparatus, the com-

bination of a window-casing, a spring-roller supported at one end thereof; a window-screen having one end secured to the roller and one end free, longitudinal projecting guideways along the sides of the window-casing, a transverse bar secured to the free end of the screen having grooves in its ends which embrace and travel upon the projecting guideways, longitudinal strips along the window-casing laterally movable toward the guideways to clamp the edges of the screen thereagainst, and lifting devices arranged on the laterally-movable strips outside of the plane of the travel of the transverse bar.

In witness whereof I have hereunto set my hand and seal in the presence of two witnesses.

THOMAS E. BARR. [L. S.]

Witnesses:

WALTER S. WOOD,
JOHN W. ADAMS.