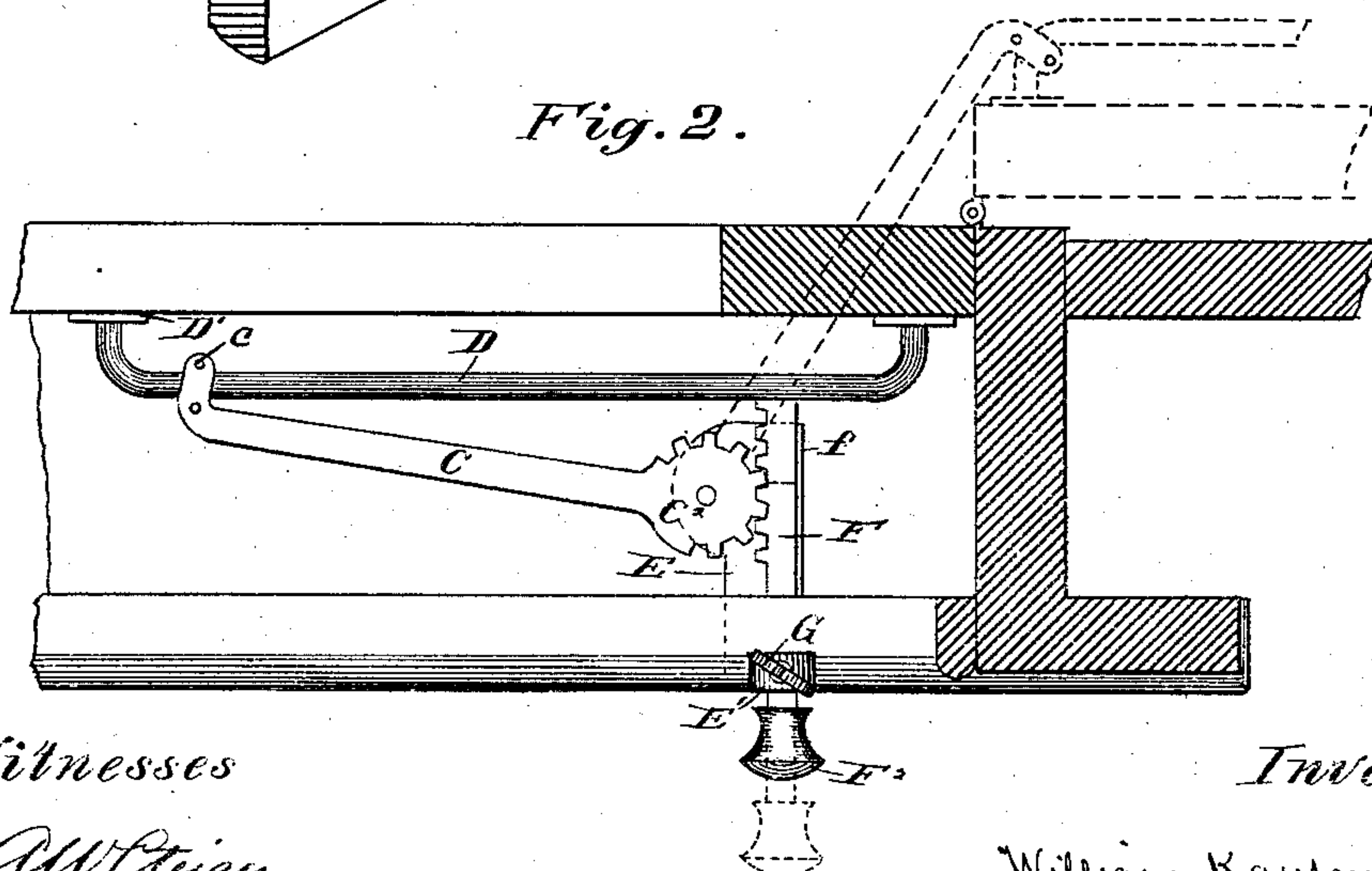
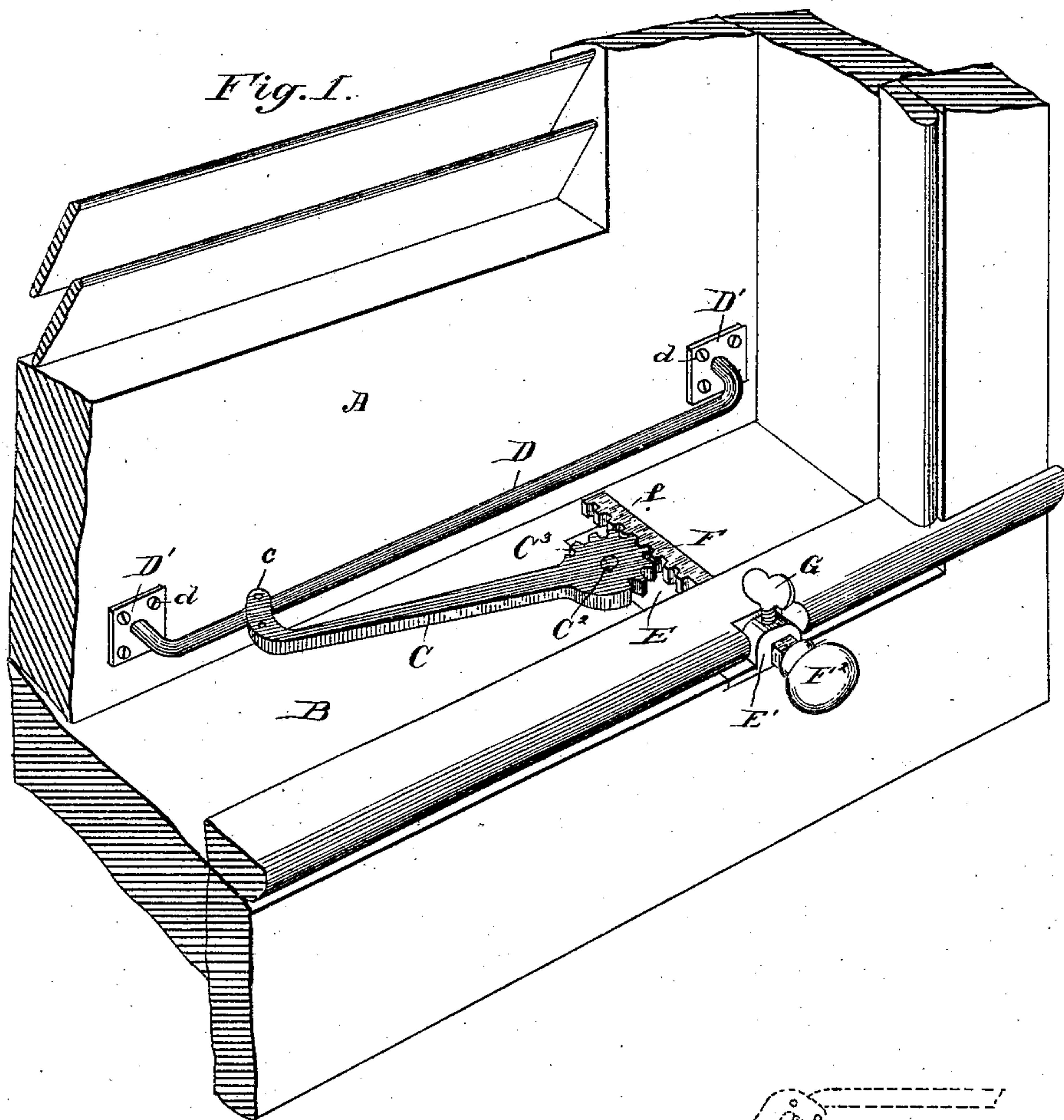


(No Model.)

W. & A. KAUFMAN.
SHUTTER WORKER.

No. 301,899.

Patented July 15, 1884.



Witnesses

Alf. Steiger.
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Inventor

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UNITED STATES PATENT OFFICE.

WILLIAM KAUFMAN AND ABRAHAM KAUFMAN, OF NEW YORK, N. Y.; SAID
ABRAHAM KAUFMAN ASSIGNOR TO SAID WILLIAM KAUFMAN.

SHUTTER-WORKER.

SPECIFICATION forming part of Letters Patent No. 301,899, dated July 15, 1884.

Application filed November 14, 1883. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM KAUFMAN, and ABRAHAM KAUFMAN, of the city, county, and State of New York, have invented a new and useful Improvement in Shutter-Adjusters; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

Our invention relates to an improved shutter-adjuster, and has for its object the provision of a simple and easily-applied mechanism for operating the outside hinged shutter of a window to open or close the same without raising the sash.

It consists of a horizontal swinging arm, pivoted at one end to the sill of the window-frame, and connected at the other by a sliding attachment to a horizontal guide or traveler bar fixed upon the shutter, this swinging arm being operated to open and close the shutter by means of a toothed segment or cogged wheel formed upon its pivoted end concentric with its pivot-bearing, to engage a toothed rack upon a sliding bar, which, projecting through the casing of the window beneath the closed sash, terminates at its inner end in a knob or handle, to facilitate its being moved in or out to operate the swinging arm.

In the accompanying drawings, Figure 1 is a perspective view of a portion of a window-frame and its hinged shutter fitted with our improved shutter-adjuster; and Fig. 2 is a transverse section through the window-frame above the sill, illustrating the several parts of the device and their operation.

A is a shutter hinged in the usual manner to the frame B. Upon the sill of the frame, and within the clear space between the shutter when closed and the lower sash, is pivoted the swinging arm C, adapted to swing in a horizontal plane and in the same angle relatively to the face of the building as the shutter which it is intended to operate.

D is a traveler or guide-rod secured upon the inside face of the shutter in the same plane as that in which the swinging arm C is free to move. The ends of the rod are bent at right

angles to the length thereof, and terminate in plates D D, by means whereof the rod is securely attached to the shutter with wood-screws *d d*. A portion, C', of the length of the swinging arm at its outer end is bent at right angles to the body thereof and toward the shutter, and is slotted horizontally to embrace the guide-rod D, to which it is confined by means of a transverse pin, *c*, at the outer end of the slot. The inner end of the arm C is pivoted to the sill of the window by means of a pivot-pin, C², and is formed or fitted with a toothed segment or segmental rack, C³, having the pivotal bearing of the arm as its axis. The pivot-pin C² projects upward from a plate, E, adapted to be attached to the sill of the window-frame by means of screws, and which is preferably made long enough to extend inwardly from the pivot-pin C² to the inner face of the window-casing. Upon its inner end is formed or fitted a perforated block, E', adapted to serve as a guide for a bar, F, fitted to slide with a free longitudinal movement upon the plate E, and to extend through the guide-block E'. The inner end of the bar F is toothed to engage the toothed segment C³, and is kept in contact therewith by means of a lateral flange, *f'*, formed along the edge of the plate E. The end of the bar F projecting through the guide-block terminates in a handle, F², to facilitate its movement. The block E is fitted with a clamp-screw, G, adapted, when screwed down, to bear upon and lock the bar F and firmly clamp it, and thus prevent a movement of the swinging arm C.

In the operation of our improved shutter-adjuster, the movement in or out of the bar F will, by means of the rack and toothed segment C³, operate the arm C, and cause it to swing outward or inward upon its pivot-pin C². The outer end of the arm C, traveling in its vibration along the rod D upon the shutter, will carry with it the shutter A, (see dotted lines in Fig. 2,) and the bar F and arm C, and with it the shutter A may be fixed and locked by means of the clamp-screw G at any desired point in its movement.

We claim as our invention—

1. A shutter-adjuster consisting of a pivotal

arm formed or fitted at its inner pivoted end with a toothed segment geared to a sliding rack-bar, substantially in the manner and for the purpose herein set forth.

- 5 2. In a shutter-adjuster, the combination, with a longitudinal guide-rod fixed to the inner face of the shutter, of a swinging arm whose outer end is connected to the guide-rod by a sliding attachment, and whose inner piv-
10 otal end is fitted with a toothed segment to engage and be operated by a sliding rack-bar,

substantially in the manner and for the purpose herein set forth.

In testimony whereof we have signed our names to this specification in the presence of 15 two subscribing witnesses.

WILLIAM KAUFMAN.
ABRAHAM KAUFMAN.

Witnesses:

A. W. STEIGER,
G. H. SPENCER.