

(No Model.)

G. W. RHYNEARSON.
SHUTTER WORKER AND FASTENER.

No. 426,960.

Patented Apr. 29, 1890.

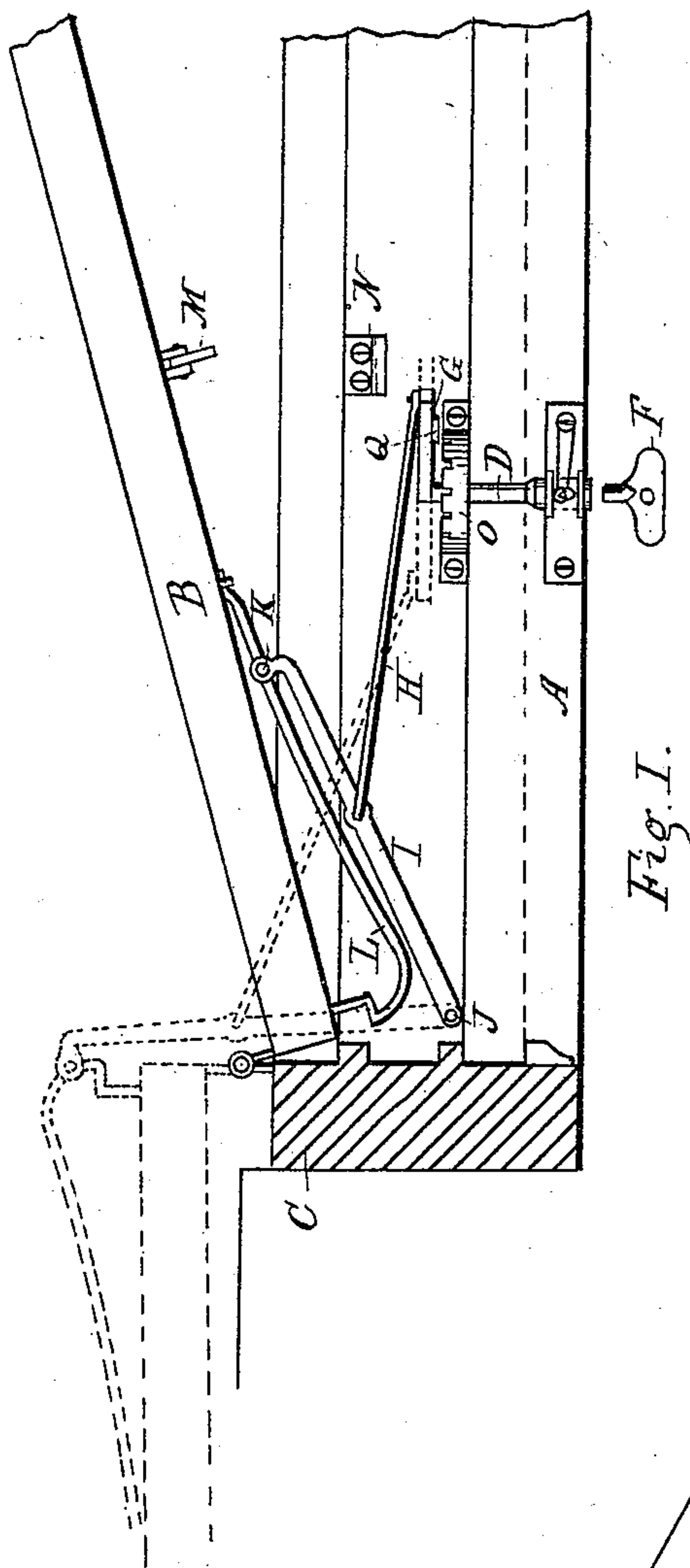


Fig. I.

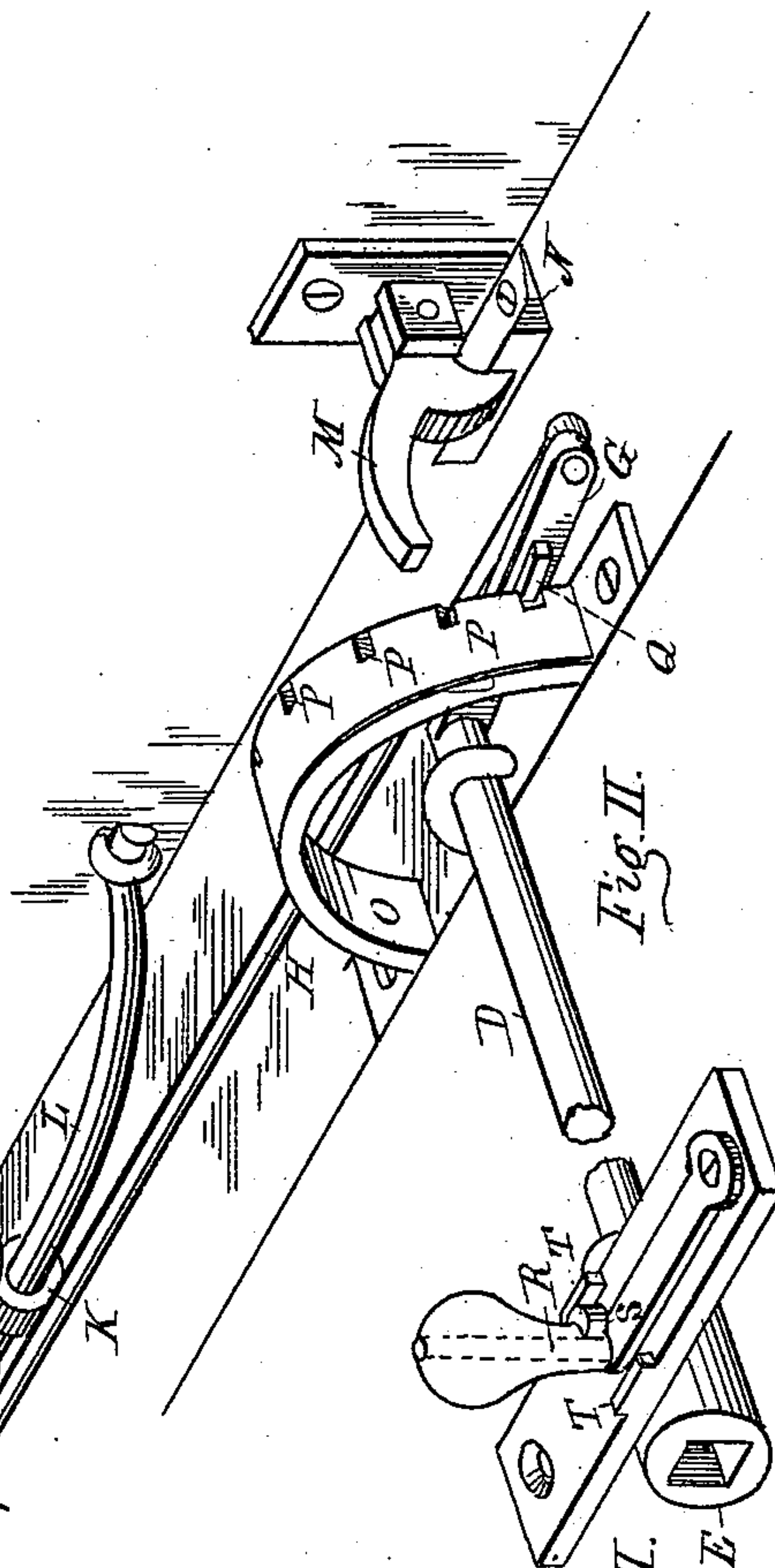


Fig. II.

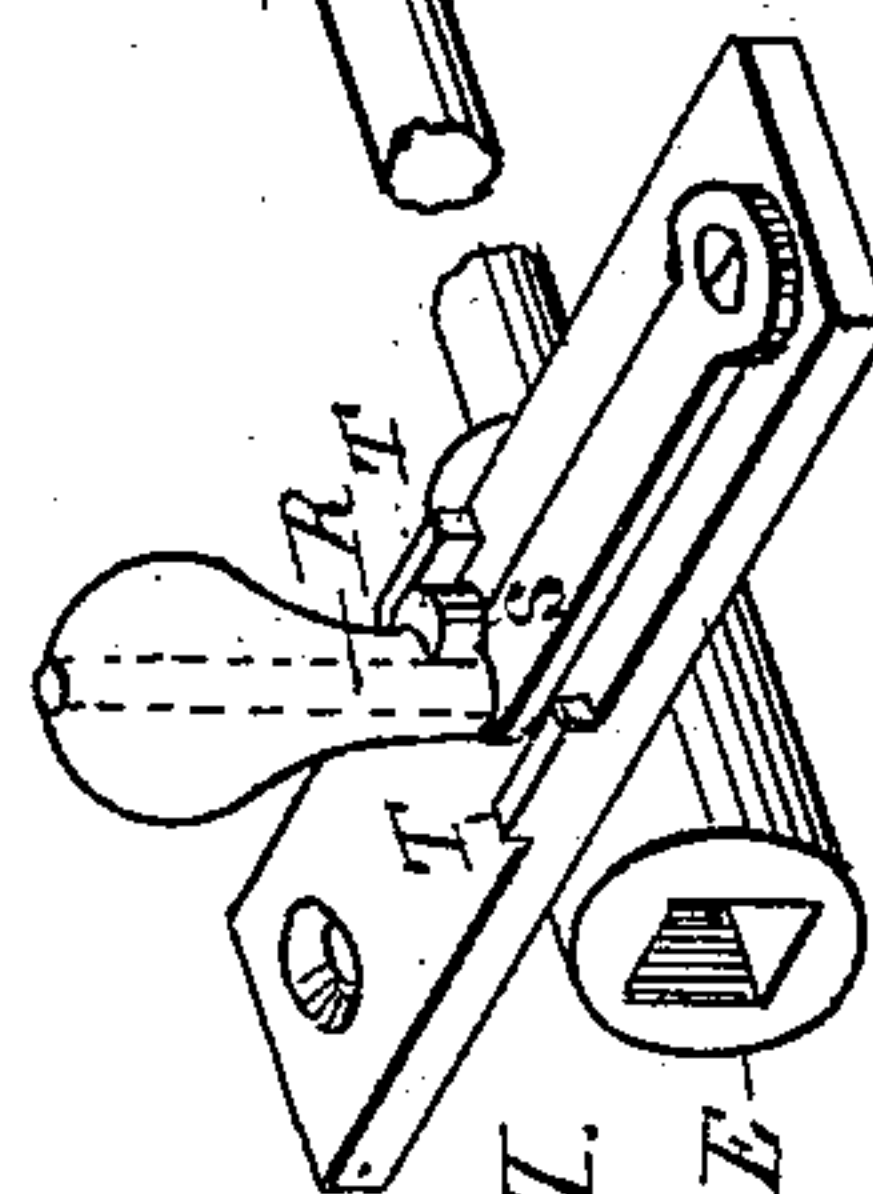


Fig. III.

WITNESSES:

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UNITED STATES PATENT OFFICE.

GEORGE W. RHYNEARSON, OF CINCINNATI, OHIO.

SHUTTER WORKER AND FASTENER.

SPECIFICATION forming part of Letters Patent No. 426,960, dated April 29, 1890.

Application filed August 23, 1889. Serial No. 321,713. (No model.)

To all whom it may concern:

Be it known that I, GEORGE W. RHYNEARSON, of Cincinnati, in the county of Hamilton and State of Ohio, have invented a new and
5 useful Improvement in Shutter Workers and Fasteners, which improvement is fully set forth in the following specification and accompanying drawings, in which—

Figure I is a top or plan view of my improved shutter-worker; Fig. II, a perspective view in part, and Fig. III a view of the cam or button by which the shaft is adjusted.

My invention relates to improvements in apparatus designed to facilitate the opening
15 and closing of window shutters and blinds; and its object is to provide a simple, efficient, and durable device whereby shutters may be easily closed or opened, partially or entirely, without raising the sash, and by which
20 at the same time they are automatically locked in either an open or a closed position, or at any desired intermediate angle.

With slight modifications in form, such as may be required by varying positions, the
25 device is equally applicable to transoms and doors.

Referring to the accompanying drawings, A designates a window-seat; B, a shutter hinged to the frame C. A shaft D passes
30 transversely through the window-seat, and has a square aperture E for the turn-key F. When not in use, the key may be attached to a chain and hung at a convenient place on the window-frame. If preferred, a T-head or
35 crank may be permanently attached to the shaft in place of the removable key. The outer end of the shaft is bent at a right angle and forms a crank G, which drives a pitman or connecting rod H, which in turn engages
40 a lever I. One end of this lever is pivoted on a stud J in the window-seat. The other end has an eye K, which slides on a guide-rod L, both ends of which are secured to the shutter B. The eye is pivoted on the swing-
45 ing end of the lever and readily adjusts itself to the varying relative positions of the lever and the guide-rod.

When the shutter is closed, it is locked by a latch or dog M, which engages a catch N.
50 When the shaft is turned, the connecting-rod

H trips the latch and releases the shutter. In closing the shutter the latch is thrown up by the catch N, and the connecting-rod resumes its prone position before the latch falls. When the shutter is open to the full
55 extent, the mechanism assumes the position shown by the dotted lines in the drawings, and the bearings are then so adjusted that the shutter cannot close until released by the turning of the shaft. 60

A plate of sheet metal O, forming a segment-rack, is placed astraddle of the shaft and suitably attached to the window-seat. On its outer edge is a series of notches P, which are designed to engage a lug Q on the
65 crank G. In order to bring the lug into engagement with a notch, the shaft is provided with a stud R, upon which is pivoted a cam-shaped button S, which plays between the lugs T. When it is desired to fix the shutter
70 in a partly-open position, the lug Q is brought opposite a notch, the button is then turned, the shaft is drawn forward, and the lug engages the notch and is retained therein until the button is reversed. 75

It will be understood that the device may be advantageously employed for operating heavy shutters, such as are used on factories and other large buildings, by dispensing with the shaft and locking apparatus and attaching a handle to the lever I. By this arrangement the heaviest shutters may be easily controlled. 80

What I claim as new is—

1. In a shutter worker and fastener, an adjustable shaft and a segment-rack, as herein described, in combination with the connecting-rod, the swinging lever, and the guide-rod, substantially as herein set forth. 85

2. In a shutter worker and fastener, the combination of the adjustable shaft and the connecting-rod with the tripping-latch, substantially as herein set forth. 90

3. In a shutter opening and closing device, the combination of the shaft D, having crank G and the lug Q thereon, and also the stud R and the cam-button S, the rack O, the rod H, connecting with the lever I, pivoted at one end and sliding at the other, and the guide-rod L, adapted to be secured to the shutter, 100

all substantially as and for the purposes set forth.

4. In a shutter opening and closing device,
the combination of the rod H, operated as de-
scribed, with the lever I and guide-rod L, the
5 latch M, and catch N, substantially as and
for the purposes set forth.

In testimony that I claim the foregoing I
have hereunto set my hand, this 20th day of
August, 1889, in the presence of two witnesses. 10

GEORGE W. RHYNEARSON.

Witnesses:

HENRY WOOST,
R. S. MILLAR.