

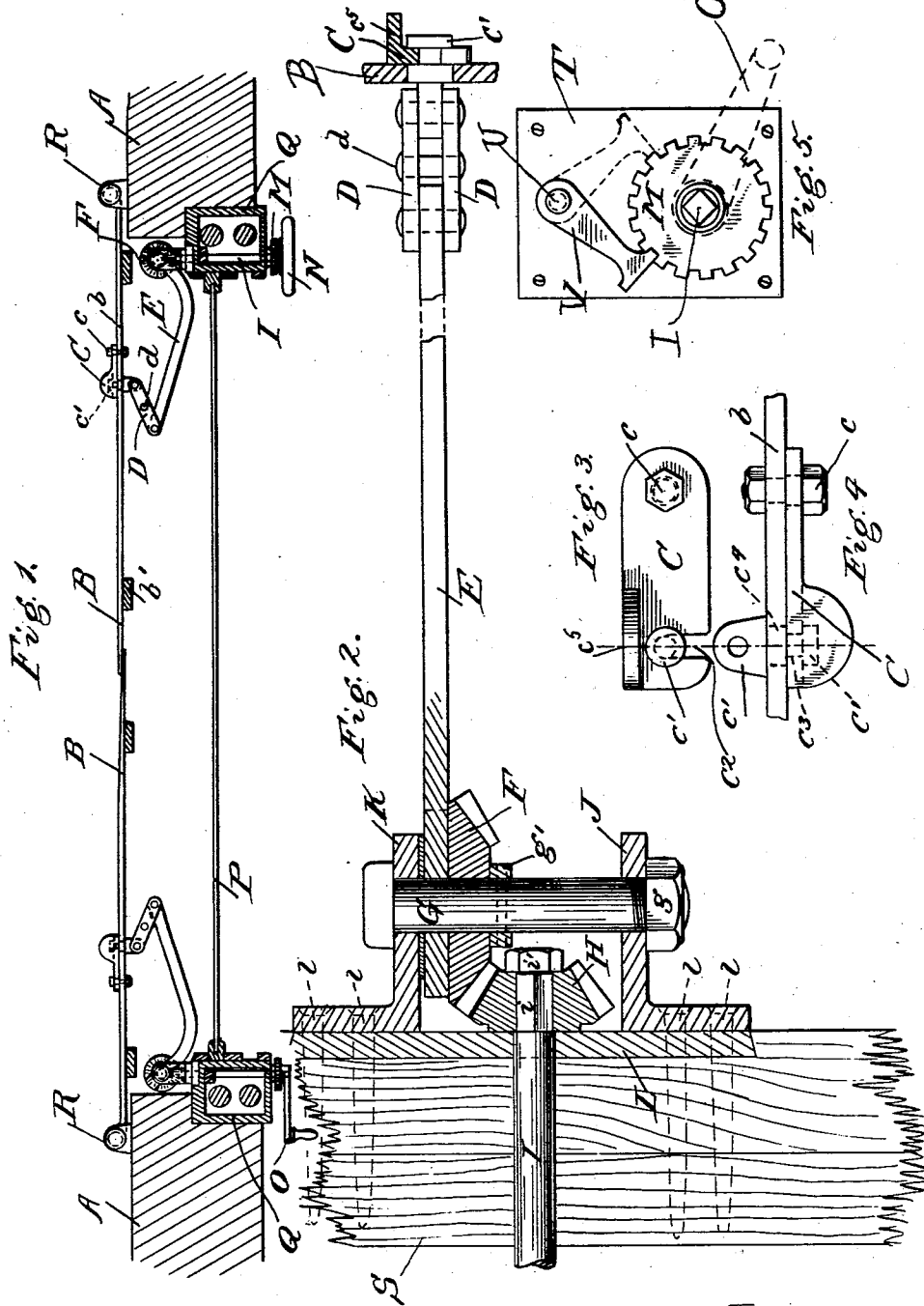
(No Model.)

A. VEIT.

SHUTTER OPERATING AND LOCKING DEVICE.

No. 564,807.

Patented July 28, 1896.



Witnesses:

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SHUTTER OPERATING AND LOCKING DEVICE.

SPECIFICATION forming part of Letters Patent No. 564,807, dated July 28, 1896.

Application filed March 19, 1896. Serial No. 583,991. (No model.)

To all whom it may concern:

Be it known that I, ANTON VEIT, a citizen of the United States, residing at No. 255 Vine street, Chicago, county of Cook, State of Illinois, have invented a new and useful device for opening and closing shutters on buildings from the inside or outside without the necessity of raising the window-sash, of which the following is a specification.

My invention relates to an improvement in shutter-operating devices of the class designed to be operated from within a room without the necessity of raising the window.

My object is to provide a construction of apparatus which may be readily applied to a window at any part of the jamb desired, and this I accomplish by a novel arrangement of the levers connecting the shutter with the actuating mechanism, so that the same may be contained within the small space available between the closed shutter and the window.

A further object of my invention is to provide such an attachment for connecting the operating-levers to the shutter as to allow a ready detachment of the same from without the building should there be a necessity thereof, as in case of a fire or other emergency.

To the above ends my invention consists in the novel construction and arrangement of parts illustrated in the drawings, and hereinafter described and claimed.

In the drawings, Figure 1 is a plan section of a building-wall, window-casing, and shutter provided with my improved shutter-operating device; Fig. 2, an enlarged broken vertical section, parallel to the jamb-lining, showing the engagement of the bevel-gears employed and the preferred means for journaling the same in the casing; Figs. 3 and 4, details of a hasp or latch employed, and Fig. 5 a detail of a locking means which may be employed for securing the bevel-gears in any desired position.

A is a building-wall, recessed into which is a window-casing Q, which may be provided with a chamber for weights, as shown. Through the casing or jamb-post passes a horizontally-disposed shaft I, which is provided at the outer side of the jamb with a bearing-plate L, and at the inner side with a similar one. (Not shown.) The shaft I is

provided at its outer end with a bevel-gear H, and at its inner end with a rigidly-attached locking-wheel M, and with suitable actuating means, which may be a handle O, or a hand-wheel N', as shown. A bevel-gear F, provided with a rigidly-attached arm E, meshes with the gear H, and is free to swing about a vertical journal G. To provide bearings for the journal G, I prefer to employ the angle-irons J and K, which may be secured to the jamb-post in any suitable manner, as by means of screws *l l'*, or, if preferred, may be made integral with the bearing-plate L.

The arm E, carried by the gear F and rigidly attached thereto, is pivotally connected at its free end to a link D, preferably of two bars, provided toward their middle with a connecting-pin *d* and adapted to receive between them at one end the end of the arm E. At its opposite end the link D is similarly pivoted to an eyebolt *c'*, the shank of which passes through an opening in the shutter B. The shank of the eyebolt *c'* (see Fig. 4) is provided with a head which, as here shown, may be formed by cutting recesses *c³* in said shank.

To secure the eyebolt *c'* to the shutter B, I provide a latch or hasp C, having a raised portion or handle *c²*, and a slot *c²*, and which is secured to the shutter by a bolt or rivet *c*. The slot *c²* of the latch C has its sides flaring and fits over the shank of the eyebolt at the reduced portion. This provision serves to guide the latch to place, and, if desired, the more readily to accomplish this purpose, the latch may be provided with an elongated opening for the reception of the pivot *c*, thus allowing a short longitudinal movement of the latch as it is directed to its proper place. The angle *c³* serves as a handle for the latch, by means of which the latter may be forced from its locked position, as by means of a pole or hatchet.

Fig. 5 shows a detail of a locking mechanism employed. It consists of the locking-wheel M, firmly fixed to the shaft I, and a dog or pawl N, pivoted to the bearing-plate at the inner side of the jamb-post. Its operation is sufficiently obvious.

Connected with the shaft I is a crank O or hand-wheel N'.

By reference to Fig. 1 it will be seen that

the gear-wheels above mentioned are close within the angle formed by the building-wall A and the jamb-post Q of the window. To allow, therefore, the arm E to swing outward 5 far enough to force the shutter around against the building-wall, the arm is made curved toward the end attached to the bevel-gear, so that it will fit around the angle of the wall when the shutter is in its wide open position. 10 It will be seen that the effect of this arrangement is to enable the connecting-links to be contained within the comparatively small space between the shutter in its closed position and the window-pane P, since the long 15 straight portion of the arm E is thereby brought into a position substantially parallel to the window when the shutter is closed. By this arrangement also the links are allowed to close together to a degree depending upon the position of the pin d, thus aiding 20 materially in reducing the necessary containing-space.

To operate the shutter, motion is communicated to the bevel-gears by means of the crank. 25 The gear F carries the arm E, and in the operation of opening the shutter forces it outward to bear against the pin d and so force open the shutter. The pawl N may be dropped upon the locking-wheel M to secure it in any 30 desired position.

The particularly valuable features of my invention are those which render the device compact and so allow its ready application to any portion of the window-jamb without any 35 particular provision for such application, and the provision for its ready detachment from the shutter from without the building in case of emergency.

What I claim as new, and desire to secure 40 by Letters Patent, is—

1. In a shutter-operating device, the combination of a curved swinging arm, a link pivotally connected therewith and with the shutter, a stop upon said link adapted to be engaged 45 by the swinging arm, and means for actuating said swinging arm, substantially as set forth.

2. In a shutter-operating device, the combination of a bevel-gear, an arm carried by the gear and curved adjacent to its point of 50 attachment, a link pivotally connected with the free end of said arm and with the shutter, a stop upon said link adapted to be engaged by said arm at the beginning of its movement, 55 and a shaft adapted to be held in the jamb-post of the window and provided at one end with a bevel-gear to mesh with said first-mentioned bevel-gear and at the other end with operating means, all arranged substantially as and for the purpose set forth. 60

3. In a shutter-operating device, the combination with a swinging arm, and a link pivotally connected therewith, of connecting means between said link and the shutter, said connecting means being detachable from 65 the closed shutter from without, substantially as described.

4. In a shutter-operating device, the combination with a swinging arm and a link pivotally connected therewith, of connecting 70 means between said link and the shutter, comprising an eyebolt, having a shank adapted to pass through a portion of the shutter and provided with a head, and a latch adapted to engage said head, substantially 75 as set forth.

5. In a shutter-operating device, the combination of a swinging arm, curved as shown, and means for operating the same, a link pivotally connected with said arm at its free 80 end, a stop upon said link adapted to be engaged by said arm at the beginning of its movement, and connecting means between said link and the shutter, comprising an eyebolt having a shank adapted to pass through 85 a portion of the shutter and provided with a head, and a pivoted latch provided with a slot having flaring sides adapted to engage said head, substantially as and for the purpose set forth.

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Witnesses:

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