

(No Model.)

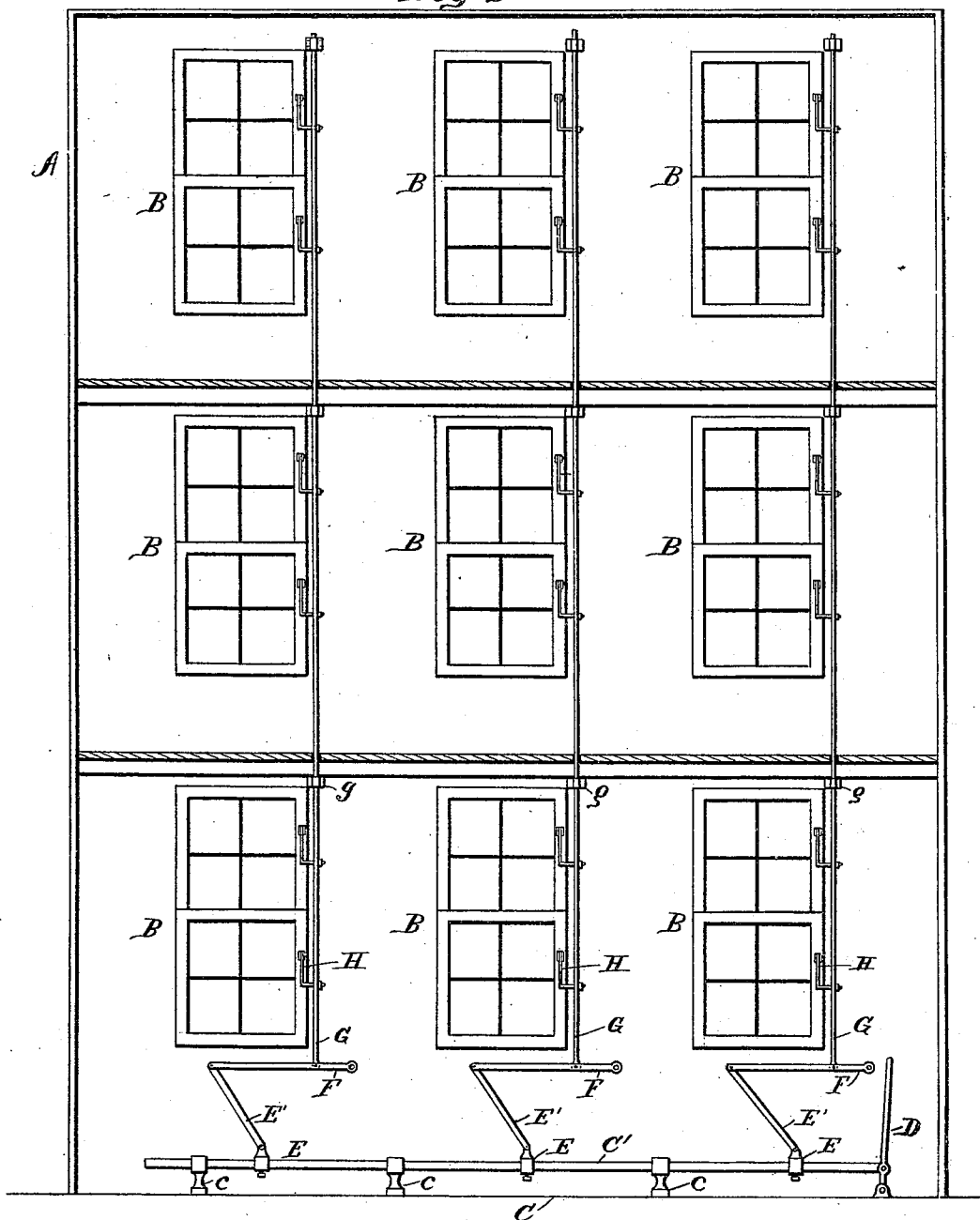
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R. K. SMITH & J. R. PILE.
WINDOW OPERATOR.

No. 515,061.

Patented Feb. 20, 1894.

Fig 1



WITNESSES:

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INVENTORS

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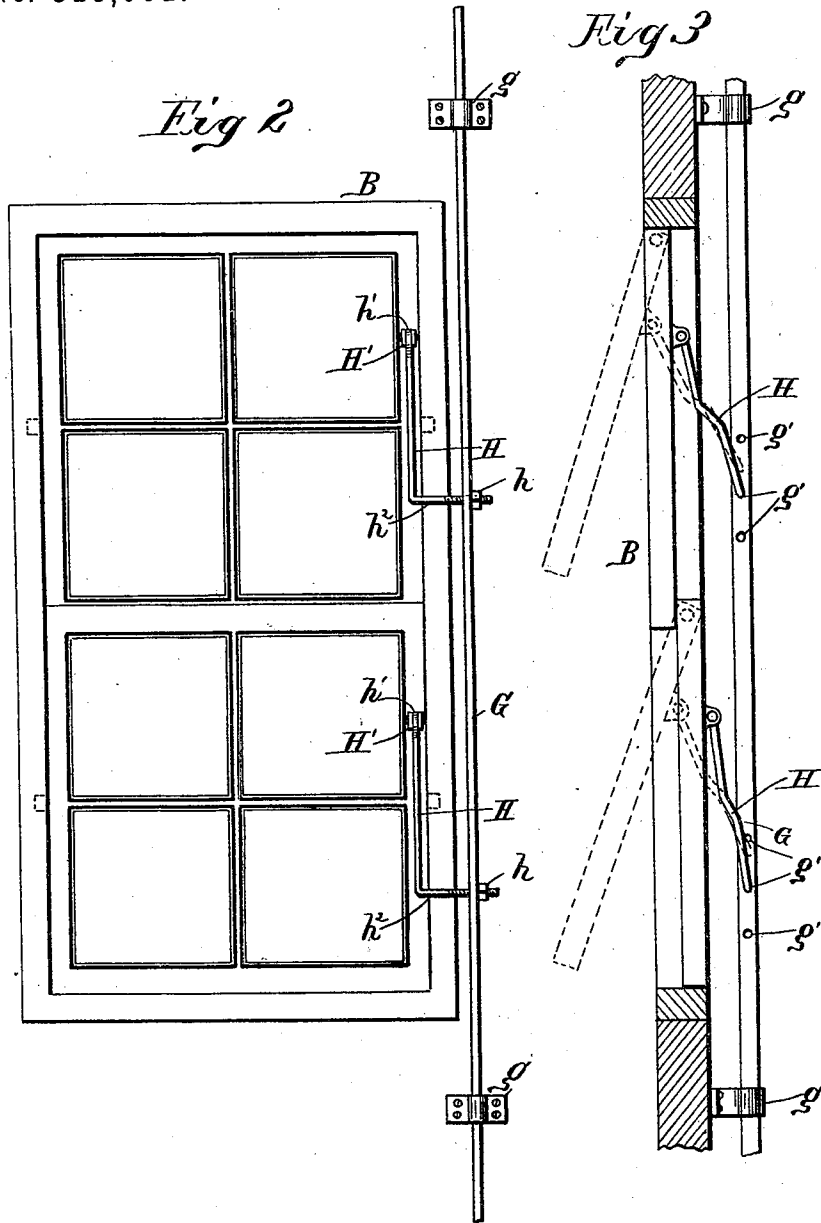
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WITNESSES:

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UNITED STATES PATENT OFFICE.

ROBERT K. SMITH AND JOHN R. PILE, OF OWENSBOROUGH, KENTUCKY.

WINDOW-OPERATOR.

SPECIFICATION forming part of Letters Patent No. 515,061, dated February 20, 1894.

Application filed May 2, 1893. Serial No. 472,670. (No model.)

To all whom it may concern:

Be it known that we, ROBERT K. SMITH and JOHN R. PILE, citizens of the United States, residing at Owensborough, in the county of Daviess and State of Kentucky, have invented certain new and useful Improvements in Window or Shutter Openers and Fasteners; and we do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to an improvement in window or shutter openers and fasteners and it consists in the construction and arrangement of parts hereinafter described and definitely pointed out in the claim.

The aim and purpose of the invention is the provision of improved means for actuating a series of shutters or windows, adapted more especially for use in tobacco factories, warehouses, and similar structures.

In the accompanying drawings wherein like letters of reference indicate corresponding parts in the several views Figure 1 is an elevation of an interior of a building showing the windows with the actuating means applied. Fig. 2 is a detail view of a window and its connections and Fig. 3 is a detail view of a section of the actuating rod, its supports and a connecting rod and modified form of window.

In the drawings A represents a side of the house and B and B' the windows the upper and lower sashes of which are pivoted at their sides to swing up and down.

C represents the floor on which is secured a series of supports *c* in which a longitudinal rod C' is loosely mounted so that the same may be reciprocated back and forth. To one end of the rod C' is secured a hand lever D, the lower end of which is pivoted to the floor.

Adjustably secured on the rod C' and at intervals directly below the windows is a series of adjustable collars E to which are pivoted connecting links E'.

Pivottally secured to the wall of the building directly above the rod C' and between the

windows but below the same is a series of horizontal levers F to the outer ends of which are pivottally secured the upper ends of the links E'.

G represents vertically arranged sliding bars extending up along the sides of the windows having their lower ends pivottally secured to the levers F at points near the pivotal ends thereof. These rods G are secured to the sides of the building by suitable brackets *g* through which the rods work. At intervals adjacent to the windows the rods G have a series of perforations *g'* therein, in one of which the lower ends of connecting rods H are secured by having their ends bent at an angle and being capped on their outer ends by suitable nuts *h* so that the rods may be adjusted in any of the perforations adjacent thereto. The upper ends of the rods H have offsets *h'* which are pivottally secured in brackets H' secured to the edge of the windows above the centers thereof. To enable the rods to escape the casing we bend them as at *h*².

We have described our invention as applied to windows but it is to be understood that the same may be applied equally as well to ventilators or shutters.

In operation when the windows are to be closed or opened the actuating lever on the rod C' is moved backward or forward as the case may be. This movement of the rod C' moves the links connected therewith and actuates the lever F which in turn moves the rods H and swings the windows in or out according to the direction in which the rods H are moved.

By securing the collars on the bar C' so that the same may be adjusted thereon the links E' may be made to assume different angles so that the movement of the windows may be increased or decreased.

We are aware that many minor changes in the construction and arrangement of parts of the device can be made and substituted for those herein described and shown without in the least departing from the nature and principle of our invention.

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

In a window worker, the combination with

a series of tiers of windows, of a series of horizontally swinging sashes, vertically reciprocating rods secured at the sides of the windows, actuating rods pivotally connected to the sashes above the center thereof and having an adjustable connection with the vertical rods, horizontal levers below the windows to which the vertical rods are pivotally connected, links connected with the outer ends of the levers, a horizontal bar slidingly secured below the windows and to which the

links are pivotally secured and an actuating lever connected to the end of the horizontal bar, substantially as described.

In testimony whereof we affix our signatures in presence of two witnesses.

ROBERT K. SMITH.
JOHN R. PILE.

Witnesses:

J. T. HATHAWAY,
W. T. AULL.