

J. W. YATES.
 AUTOMATIC GRAVITY STOP PIVOT MECHANISM.
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980,386.

Patented Jan. 3, 1911.

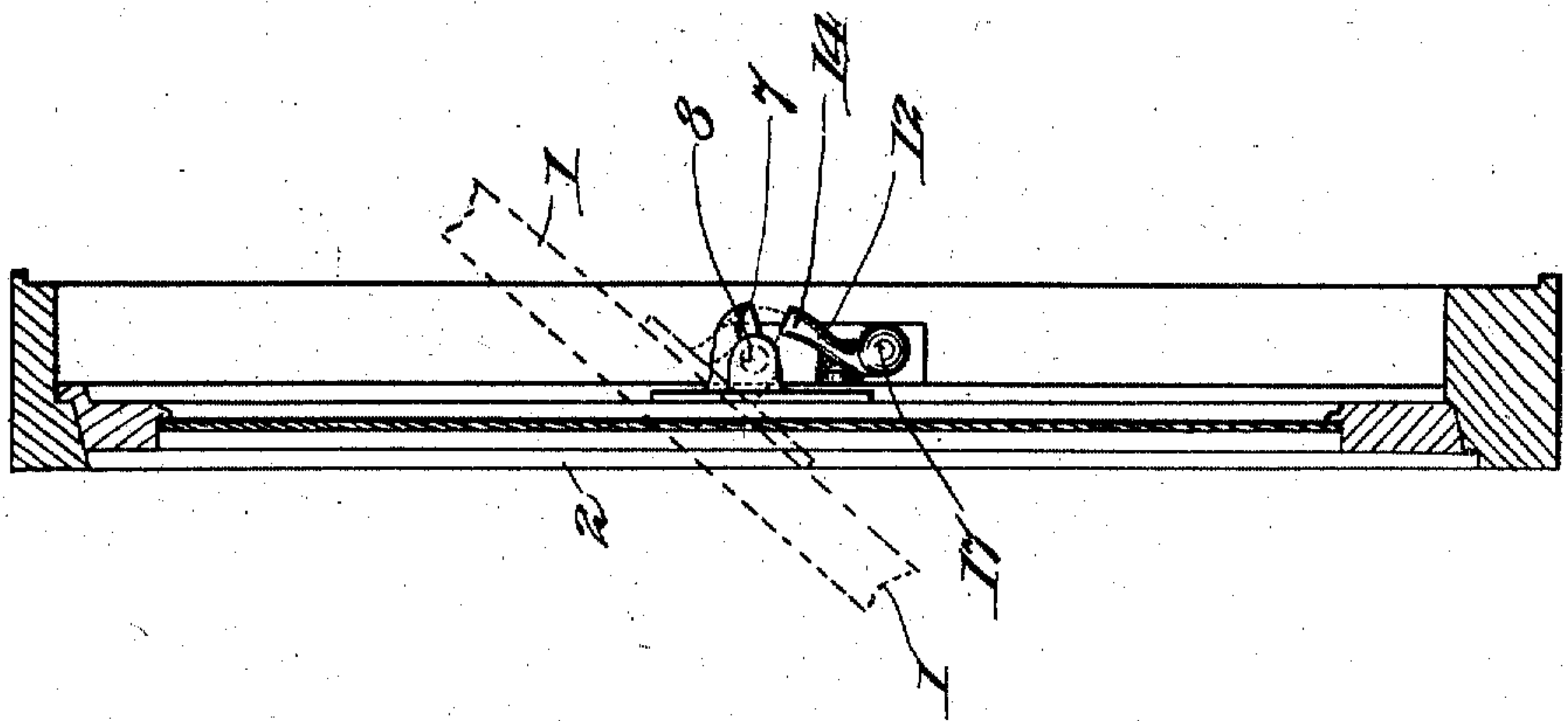


Fig. 2

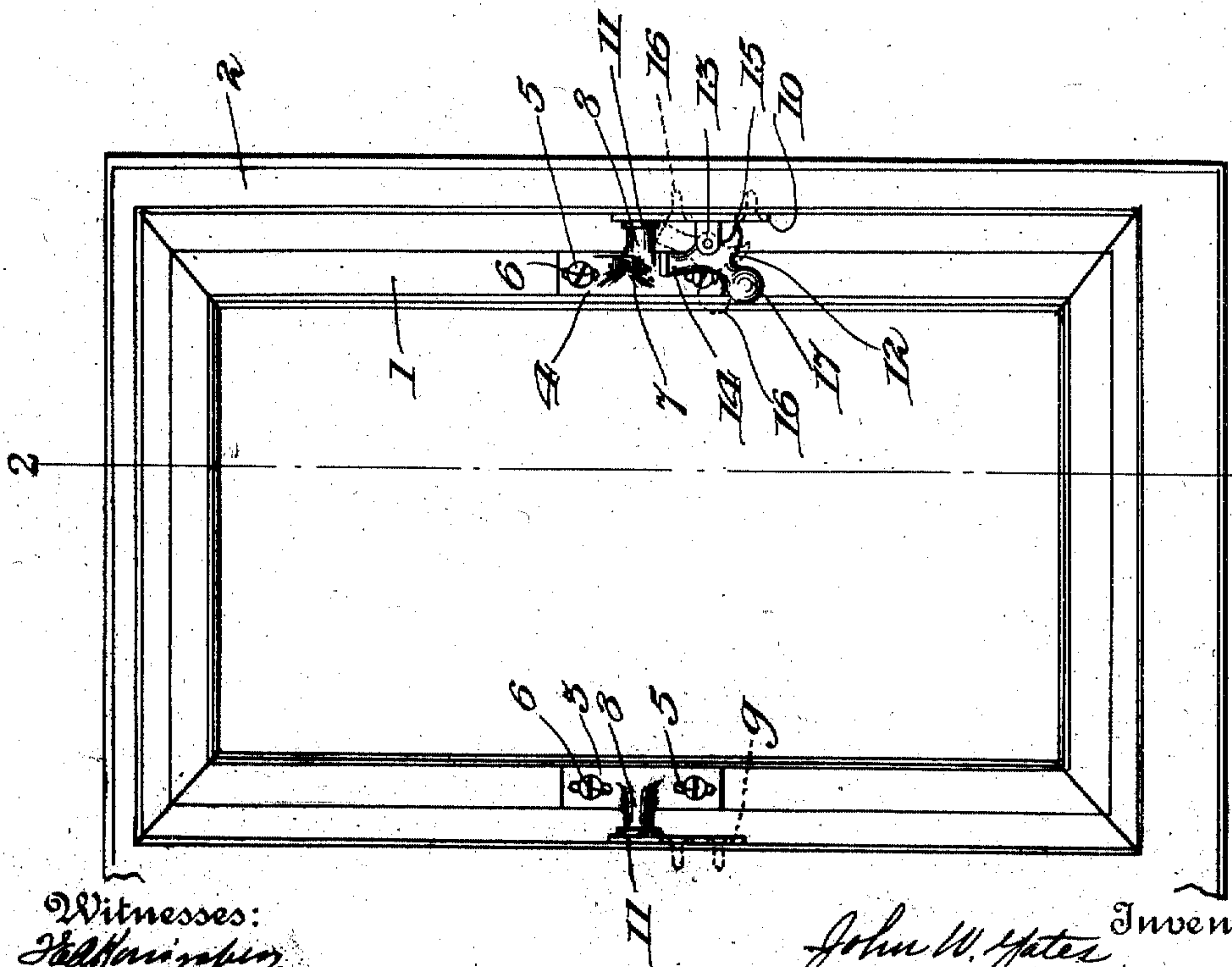


Fig. 1

Witnesses:
Edmund J. ...
Marie ...

John W. Yates Inventor
 By *George A. Hoffman* Attorney

UNITED STATES PATENT OFFICE.

JOHN W. YATES, OF NEW YORK, N. Y.

AUTOMATIC GRAVITY-STOP PIVOT MECHANISM.

986,386.

Specification of Letters Patent.

Patented Jan. 3, 1911.

Application filed January 3, 1910. Serial No. 536,116.

To all whom it may concern:

Be it known that I, JOHN W. YATES, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Automatic Gravity-Stop Pivot Mechanism, of which the following is a full, clear, and exact specification:

This invention relates to sash stop mechanism, and particularly to improved pivot and pivoting mechanism for use in connection with fire-proof windows whose sashes and frames are made of sheet metal.

The object of the invention is to provide a device of this character by means of which the opening movement of the sash is limited to a predetermined distance, and which when released permits the sash to close automatically and by gravity so as to cut off draft through the building. Preferably these windows are held open by chains provided with fusible links so that upon an excessive rise in temperature, due to a fire or other similar cause, they are released and swung into closed position automatically and by gravity owing to the fact that the pivots and pivot-plates are slightly above the horizontal center of the sash and frame. While I have not shown any means for holding the sash in open position, I wish it understood that I may use any automatic means for releasing the sash when the same is in an open position, upon a predetermined rise in temperature, the universal means as hereinbefore stated being a chain provided with one or more fusible links.

Another object of the invention is to provide means whereby the limiting means above mentioned may be rendered inoperative so as to permit the window or sash to be swung open to a greater degree for washing or any other purpose.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be described and claimed.

In the accompanying drawings, Figure 1 is a front elevation, partly broken away, and Fig. 2 is a sectional view taken on line 2-2 of Fig. 1, illustrating the sash in open position in dotted lines.

Referring to the drawings, the sash or window is indicated at 1, and the frame of the window at 2. The sash 1 is pivoted or hung in the frame 2 by means of adjustable

pivots 3 and 4, which are fastened to the sash by means of bolts, screws or rivets 5. The pivots 3 and 4 are provided with slots or elongated holes 6 by means of which the pivots may be adjusted on the sash so as to properly hang the latter in the frame 2. The pivot 4 is provided with a projection 7 integral with the base of the pivot and a hinge stud 8 at right-angles to the base. Pivot-blades 9 and 10 are fastened to the frame 2 by means of rivets, bolts or screws, the pivot-blade 10 being provided with a socket 11 for the reception of the hinge stud 8. The pivot-plate 10 is also provided with a weighted stop 12 journaled at 13 to the lower end of the pivot-plate 10 and having an upwardly-extending projection 14 adapted to cooperate with the projection 7 on the pivot 4 for limiting the predetermined opening movement of the window or sash 1. The weighted stop 12 is also provided with a forked lower portion, one member 15 of which abuts the base of the pivot-plate 10 for the purpose of keeping the upwardly-extending projection 14 normally in the path of the projection 7 on the pivot 4.

When it is desired to reverse the window or sash 1 for washing or cleaning the same, this may be done by moving the weighted stop 12 out of its normal position by hand to the dotted line position 16. After the reversed side of the window has been cleaned, the window manually and by gravity will swing to its normal or closed position in the frame 2, and the stop 12, due to the predetermined weight of the member 17 of the lower portion of said stop, will also automatically and by gravity return to its normal position, ready to perform its function of cooperating with the projection 7 for limiting the opening movement of the sash to a predetermined distance.

The efficiency of operation of my improved pivot and pivot mechanism is increased, and the friction and corrosion reduced to a minimum, by providing bushings and journal and bearing surfaces of brass or other non-rusting material, in conformity with the regulations of the National Board of Fire Underwriters, which requires that hinge parts of fire-proof windows be of non-corrosive metals.

To strengthen the sash and frame and to provide a substantial foundation for the pivots and pivot-plates, reinforcing plates (not shown) are placed on the inside of the sash

and frame at the proper location and held firmly in position by the rivets, bolts or screws which fasten the pivot and pivot-plates to the sash and frame, respectively.

5 The construction and mode of operation of the invention will be readily understood from the foregoing description, taken in connection with the accompanying drawings, without further explanation.

10 It will also be understood that various changes in the form, proportion and the minor details of construction may be resorted to without departing from the principle of my invention or without sacrificing
15 any of the advantages of the invention above described and claimed in the claim appended hereto.

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

20 As a new article of manufacture, a window hinge device composed of an adjustable pivot fastened to the sash, said pivot consisting of a base, a projection integral with

said base and a hinge stud extending at right 25 angles to said projection, and a cooperating pivot-plate fastened to the frame, said pivot-plate consisting of a base provided with a socket for receiving the hinge stud of the pivot, a stop journaled to said base and hav- 30 ing an upwardly-extending portion, and a forked lower portion, one of the members of said forked portion being of a predetermined weight in order to normally hold the second member of said forked portion in 35 contact with the base of said pivot-plate, thereby keeping the upwardly-extending portion of said stop normally in the path of the projection on the pivot to cooperate with said projection for limiting the opening 40 movement of the window to a predetermined distance.

In testimony whereof, I affix my signature, in presence of two witnesses.

JOHN W. YATES.

Witnesses:

IVAN KONIGSBERG,
MARIE DEELY.