

No. 692,560.

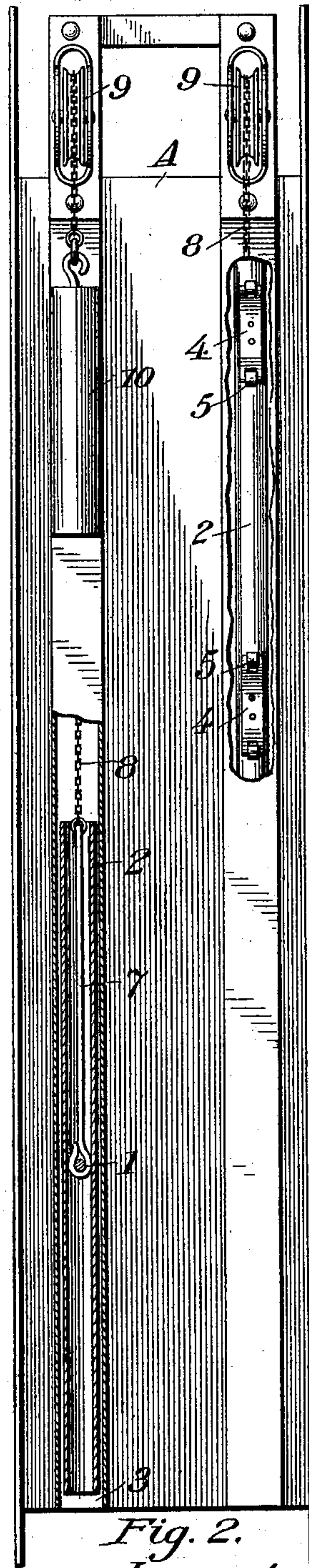
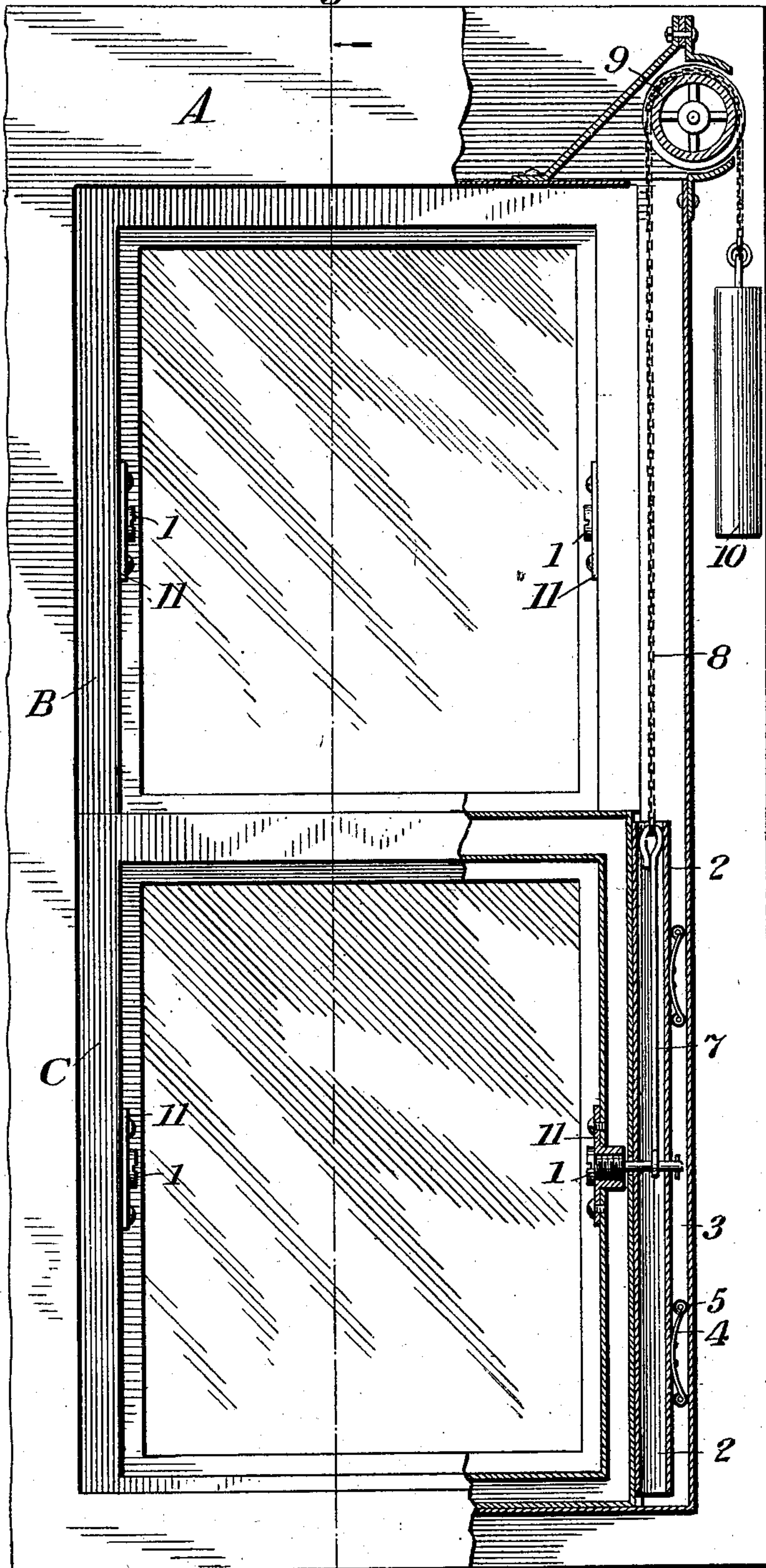
Patented Feb. 4, 1902.

W. D. WATSON.
WINDOW.

(Application filed Dec. 11, 1901.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses:
H. A. Castello
H. M. Molter

3—Fig. 1.

Fig. 2.
Inventor:
W. D. Watson
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att'y

UNITED STATES PATENT OFFICE.

WILLIAM D. WATSON, OF CHICAGO, ILLINOIS.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 692,560, dated February 4, 1902.

Application filed December 11, 1901. Serial No. 85,435. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM D. WATSON, a citizen of the United States, residing in Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Windows, of which the following is a specification.

This invention relates to improvements in sliding and swinging windows, and is more particularly intended for application to windows of sheet-metal construction made in accordance with fire-protection regulations, although capable of being advantageously embodied in wood also where occasion demands that construction.

The object of the invention is to provide a simple and efficient window in which the sash are pivotally supported and capable of being turned over for cleaning and other purposes, while at the same time arranged to be raised and lowered within the window-casing in the same manner as the ordinary unpivoted sliding sash.

The invention furthermore contemplates a construction of sliding and swinging windows such as will be adapted for use in connection with a fusible link, so as to be automatically self-closing in case of an adjacent fire either within or without the structure in which the window is situated.

To this end the invention consists in the matters hereinafter set forth, and particularly pointed out in the appended claims.

In the accompanying drawings, Figure 1 is a front elevation of a double-sash window constructed of sheet metal in accordance with my invention. Fig. 2 is a side elevation thereof. Fig. 3 is a sectional elevation taken on line 3 3 of Fig. 1, but showing the upper sash partially lowered. Fig. 4 is an enlarged sectional detail taken on a vertical plane through the center of one of the weather-tubes and better showing the manner of applying the springs thereto. Fig. 5 is an enlarged horizontal section taken through one side of window-casing and partially broken away. Fig. 6 is a perspective detail showing the manner of mounting and affixing rollers in the springs of the weather-tubes. Fig. 7 is a detail of one of the pivot-bolts.

In said drawings, A designates the window-

casing, designed to be built into the aperture provided in the wall of the building to receive it.

B is the upper, and C the lower, sash. These are mounted within the casing to slide vertically past each other after the manner of the ordinary sliding window. In accordance with the present invention, however, the sash are also pivotally mounted so as to be capable of being swung open or reversed for cleaning or other purposes like any ordinary swinging window. To this end each sash is pivotally connected by bolts 1 with a pair of tubular weather-bars 2, that are mounted to slide vertically within grooves 3, provided in the inner sides of the window-casing. These weather-bars are held yieldingly against the sash by springs 4, the extremities of which engage with the inner surface of the grooves or channels 3, antifriction-rollers 5 being also herein shown as mounted in the ends of the springs, as better illustrated in Figs. 4 and 6, to reduce the frictional resistance when the sash is raised or lowered. Shallow longitudinal grooves 6 are provided in the outer edges of the sash in line with the weather-bars to form seats for the latter, and the pressure of the springs 4 normally serves to hold the weather-bars so closely in these seats as to effectually exclude both wind and moisture. These relative positions of the weather-bars and sash are maintained as long as the sash is kept in its vertical position and used merely as a sliding sash, its raising and lowering merely causing the weather-bars to slide up and down within the channels 3 in the window-casing and act as guides by which the sash is held in place; but by applying force enough to press the weather-bars into the channels 3 against the pressure of the springs 4 the sash may at any time be swung pivotally upon its bolts 1 in the same manner as an ordinary swinging window. The counterbalancing of the sash thus constructed is accomplished by connecting the usual counterbalancing weights or springs with the pivot-bolts 1 of the sash. As herein shown, links 7, of wire, are looped around the bolts 1 and carried up through the tubular weather-bars, as shown in Fig. 1, and to the upper ends of these links are detachably connected the lower ends of flexible

chains 8, that extend up over pulleys 9 and on the other ends of which weights 10 are suspended. This makes an arrangement easy to set up and to disconnect. The bolts 1 are
 5 rigidly seated in the sash, in this instance by threaded engagement with reinforcing-plates 11 on the latter, and the shanks of the bolts then project loosely through apertures in the
 10 weather-bars to pivotally connect the latter with the sash. The weather-bars are, however, free from any binding friction on the bolts owing to the fact that the weight of the sash is carried by the bolts themselves through
 15 their direct connection with the suspending-chains, and there is consequently nothing to hinder the bars from instantly seating themselves against the sash under the pressure of the springs 4 when the window is restored to its vertical position.

20 Windows of the construction described possess all of the advantages of both sliding and swinging sash and may readily be made of fireproof construction throughout, the glazing being preferably done with the wired
 25 glass so generally used of late in windows of this class. Any suitable sash-lock may be applied to the window in the usual manner, as indicated in dotted lines at 12 in Fig. 3, and it is contemplated that the well-known
 30 fusible link will be employed for holding the window open when swung on its pivots in any situations which demand this safeguard. A detent-chain 13, provided with such fusible
 35 link 14, is shown in dotted lines in Fig. 1 as applied to the lower sash of the window and obviously may be as well applied to the upper sash also, if so desired, the construction of both sash being such with relation to its point of pivotal support that the sash will always

tend to swing itself closed whenever released 40 by the fusing of the link.

I claim as my invention—

1. The combination with a window-casing and inclosed sash, of interposed weather-bars mounted to slide longitudinally in the casing 45 and normally spring-pressed into grooves in the sash, pivots extending between the sash and weather-bars, and means connected with the pivots for counterbalancing the sash, substantially as described. 50

2. The combination with a window-casing and inclosed sash, of interposed weather-bars mounted to slide longitudinally in the casing and normally spring-pressed into grooves 55 in the sash, pivots extending between the sash and weather-bars, chains or cords secured to the pivots and suspending the sash thereby, and counterbalancing devices connected with said chains or cords, substantially as described. 60

3. The combination with a window-casing and inclosed sash, of interposed tubular weather-bars mounted to slide longitudinally in the casing and normally spring-pressed into 65 grooves in the sash, pivots extending between the sash and weather-bars, suspending devices secured to said pivots and extending upwardly through the tubular bars, and counterbalancing devices connected with said suspending devices, substantially as described. 70

In testimony that I claim the foregoing as my invention I affix my signature, in presence of two subscribing witnesses, this 31st day of October, A. D. 1901.

W. D. WATSON.

Witnesses:

HENRY W. CARTER,
 K. A. COSTELLO.