

UNITED STATES PATENT OFFICE.

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WINDOW CONSTRUCTION.

No. 869,466.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, ROSELLA E. TURNBULL, a citizen of the United States, and a resident of the city of Chicago, in the county of Cook and State of Illinois, have
5 invented certain new and useful Improvements in Window Constructions; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the drawings and to the letters of reference marked thereon, which form
10 a part of this specification.

This invention relates to improvements in window constructions and more particularly to a window construction adapting the windows to be cleaned on both sides from the inner or room side.

15 Heretofore with windows as usually constructed it has been necessary for the operator while cleaning the outer side thereof to either stand or sit on the outer side of the window sill, or other support and owing to the small supporting space provided frequent and serious
20 accidents have been caused by the party slipping or falling, oftentimes resulting in loss of life.

The object of this invention is to provide a window construction in which the windows are so hung that they may be cleaned on either side without necessitat-
25 ing the operator being supported on the outer side of the window, thus obviating all danger of accidents from falling.

It is a further object of the invention to provide a window of cheap and simple, yet durable construction,
30 adapted for use in any place where such devices are desirable and which is also adapted to afford both weather and dust proof joints.

The invention consists in the matters hereinafter described and more fully pointed out and defined in
35 the appended claims.

In the drawings: Figure 1 is a perspective view of a window embodying my invention. Fig. 2 is an enlarged fragmentary section of the same showing the inner sash partly open. Fig. 3 is an enlarged transverse
40 section through both the upper and lower sash. Fig. 4 is an enlarged fragmentary section showing the hinge connection between the outer and inner sash frames. Fig. 5 is an enlarged fragmentary view of the adjustable holder for the inner sash frames.

45 As shown in said drawings: A represents the window frame which may be of any preferred material and construction to permit the window sash to slide vertically therein but is shown as constructed of sheet or structural metal and comprises inwardly facing channel
50 bars $a-a$ the flanges of which opposite from the window opening are turned outwardly providing a central web or rib a' by means of which the bars are rigidly engaged together and affording means for securing the frame in the wall. The inner flanges a^2 of said bars
55 are turned inwardly and laterally and rigidly engaged centrally between the same and spaced a distance

therefrom is a plate a^4 which is provided on its outer edge on each side thereof, with an angle iron a^3 affording together with the edges of the flanges a^2 seats for the removable stops a^5 which as shown comprise chan- 60
nel bars, the webs of which are flush with the inner face of the frame and are each provided with a longitudinal rib a^6 on which the window sash slides. Each of said sashes comprises an inner and an outer sash frame indicated in the lower sash by B and C and in the upper 65
sash by B' and C' respectively, all of which may be of any preferred construction and material, but as shown, are constructed of sheet metal. The side members of said outer sash frames B and B', are provided in their outer faces with longitudinal grooves $b-b'$ adapted 70
to receive the ribs a^6 on the window stops a^5 and are curved on their inner faces and provided with inwardly directed flanges b^2 adjacent the outer side of the sash affording a stop for the inner sash frames C and C'. The bottom members b^3 of the outer sash frames are slightly 75
beveled on their upper faces from their centers downwardly as shown more clearly in Fig. 2.

The side members of the inner sash frames C and C' as shown are rounded on their outer faces complementally with the rounded faces of the outer sash frames and are 80
adapted to fit closely to the flanges b^2 forming a tight joint therewith. A rib or stop c is provided on the inner periphery of the inner sash frames which affords a stop for the glass D which is held thereagainst by a suitable stop c^6 secured to the sash frame in any preferred 85
manner. The lower members c^7 of said inner sash frames are slightly grooved on their under surfaces and in closing are adapted to spring over the beveled edge of the member b^3 and afford a tight joint therewith. Said inner sash frame may be hinged to the outer 90
sash frame in any preferred manner to permit them to swing inwardly as shown in Fig. 2. As shown however in each sash, a rod C⁴ is rigidly engaged at its ends in suitable sockets or seats b^4 in the upper and lower frame members of the outer sash frame and extends lon- 95
gitudinally through one of the side frame members of the inner sash frame which is provided at its top and bottom (the bottom one only being shown) with bearing sleeves c^5 for said rod thereby permitting said inner sash frame to swing inwardly. 100

Rigidly engaged in suitable brackets c^4-c^4 carried on the window stool A', is a rod or bar C² which extends transversely of the window and is provided thereon with an adjustable bracket or arm C³ on the outer end of which is pivoted an upwardly opening seat c^3 adapted 105
to receive and support the inner sash frame when open, as shown in Fig. 2 thereby not only taking the stress off from the hinge but affording means for holding the window open to any preferred extent. Said bracket arm C³ is provided with a downturned end c^2 affording 110
a handle therefor and as shown is engaged on the rod C² by means of a set screw c^8 .

- The operation is as follows: The sash frames B and B' are adapted to slide vertically of the window opening as is usual in such devices and may be provided with weights and cords, not shown, to counterbalance the same if preferred. Owing to the hinged connection of the inner sash frames with the outer sash frames it is obvious that the windows may be swung inwardly and cleaned wholly from the inner side of the building. When it is desired to clean the glass in the upper sash, the lower sash is raised and said upper sash lowered permitting its inner sash frame to swing inwardly as before described. The bracket arm C³ affords a rigid support for the inner sash frame when open thereby preventing its sagging or being closed by air currents.
- While I have shown the window frame and sash as constructed of metal it is obvious that they may be constructed of any preferred material and many details of construction and form may be varied without departing from the principles of my invention.
- I claim as my invention:
1. In a device of the class described the combination with an outer sash having its stiles curved rearwardly to afford a stop, a hollow inner sash engaged in each outer sash, a bearing sleeve engaged in and extending longitudinally of each inner sash, a rod engaged at its ends in said bearing sleeves and extending through the inner sash thereby permitting the inner sash to open laterally.
 2. In a device of the class described the combination with an outer vertically adjustable hollow sash of an inner laterally adjustable hollow sash, bearing sleeves at each corner of said sashes, a rod pivoted at its ends in corresponding sleeves, a rod extending transversely of said sash, an arm slidable thereon and a seat pivoted on the outer end of said arm to support the inner sash.
 3. In a device of the class described the combination with a window frame of upper and lower window sash

slidably engaged thereon and each provided with a stop on its inner periphery, a laterally swinging inner frame in each sash, means affording a pivotal connection between the same and said sash and permanent attached adjustable means adapted to support the inner frame in open position.

4. In a device of the class described the combination with a window frame of a plurality of window sash slidably engaged therein and each comprising an outer and an inner sash frame, means affording a hinged connection between the inner and outer sash frames, a rod extending transversely of the sashes and an adjustable arm slidable thereon adapted to support the inner frames in any open position when lowered.

5. In a device of the class described the combination with a frame of an outer sash slidable vertically therein and having its inner sides curved rearwardly affording stops, an inner sash having its side members rounded on both sides and adapted to abut against said stops and means pivotally connecting said inner and outer sash adapting said inner sash to open laterally from the outer sash.

6. In a device of the class described the combination with an outer vertically opening sash of an inner laterally opening sash in each outer sash, a rod extending through one side of each of the inner sashes and pivoted at its ends in the outer sash and a bearing sleeve at each end of said rod.

7. In a device of the class described the combination with an outer vertically movable sash having a curved stop engaged to each stile, an inner inwardly opening sash in said outer sash, a rod extending through a stile of the inner sash and pivoted at each end in the frame of the outer sash and a bearing provided for each end of said rod.

In testimony whereof I have hereunto subscribed my name in the presence of two subscribing witnesses.

ROSELLA E. TURNBULL.

Witnesses:

W. W. WITHEBURY,

WM. C. SMITH.