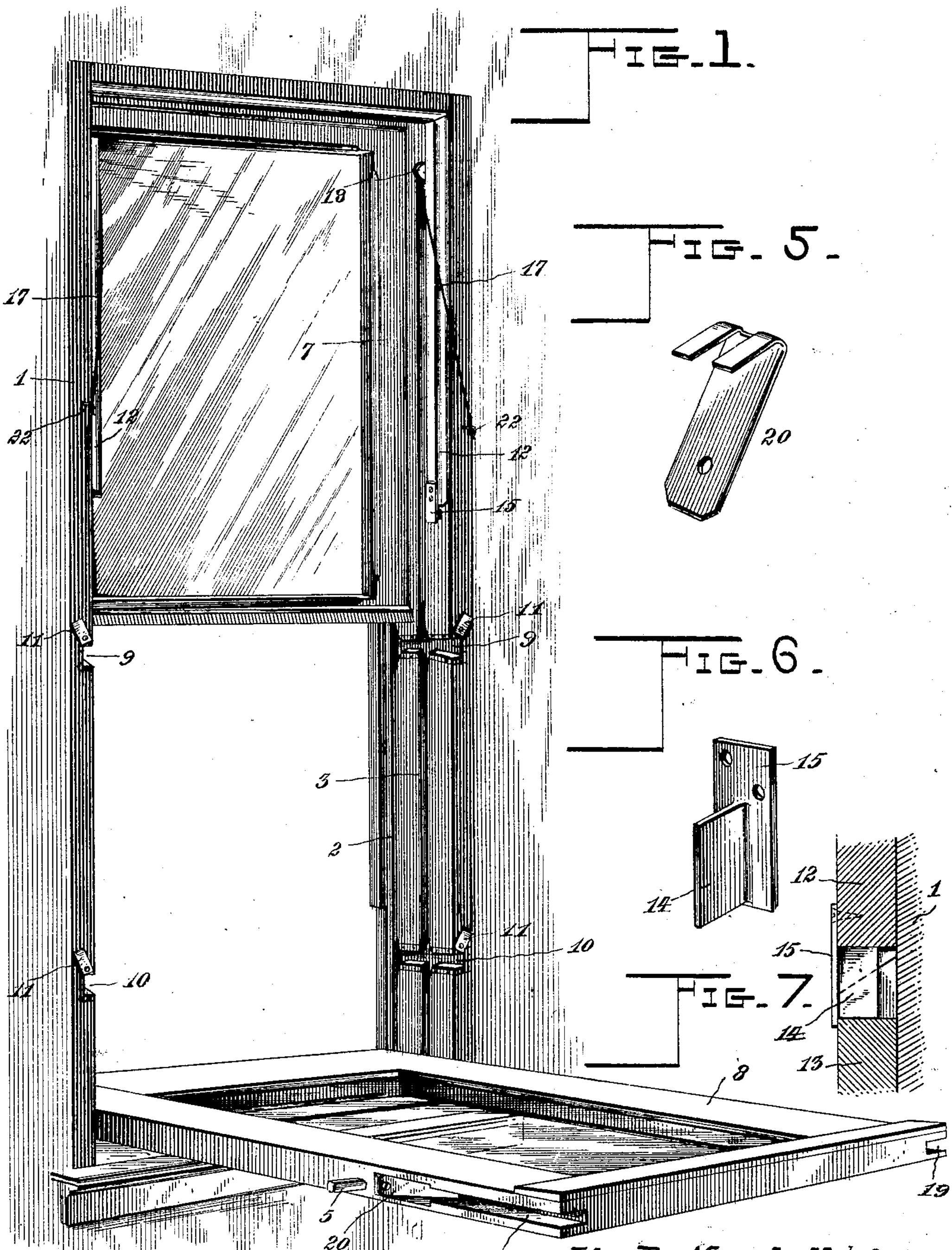
No. 628,104. **Patented July 4, 1899.**

J. B. MARSHALL.

WINDOW.

(Application filed Aug. 31, 1898.)

(No Model.) 2 Sheets—Sheet 1.



Witnesses

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H. J. Riley

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By his Attorneys.

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(No Model.) 2 Sheets—Sheet 2.

FIG. 2.

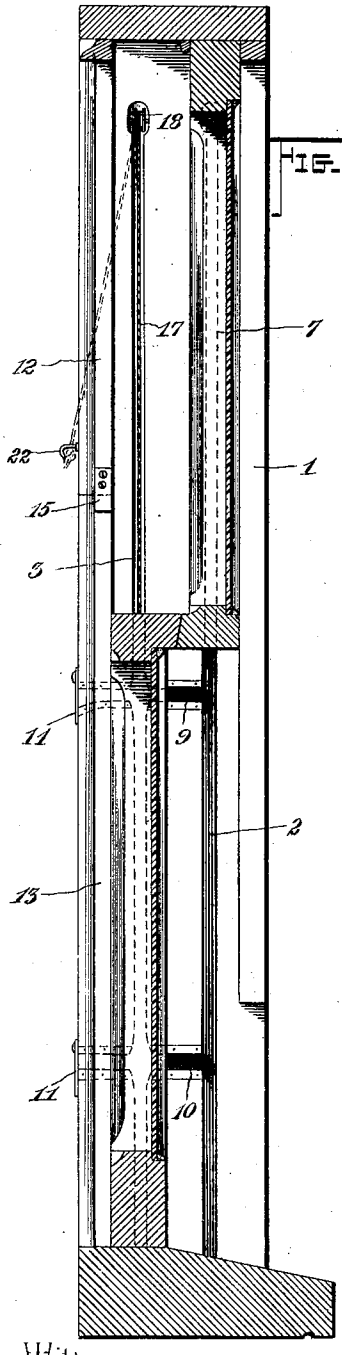


FIG. 3.

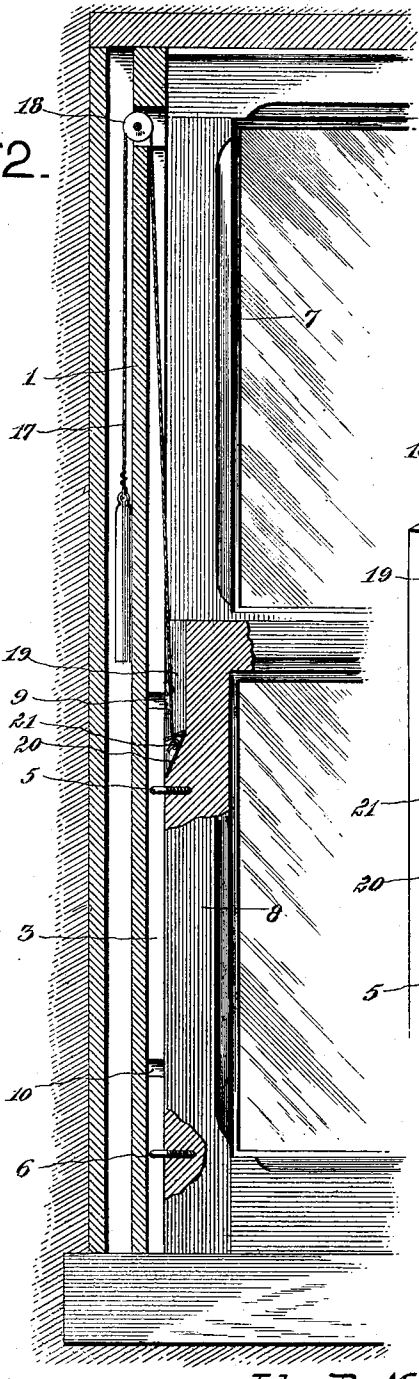
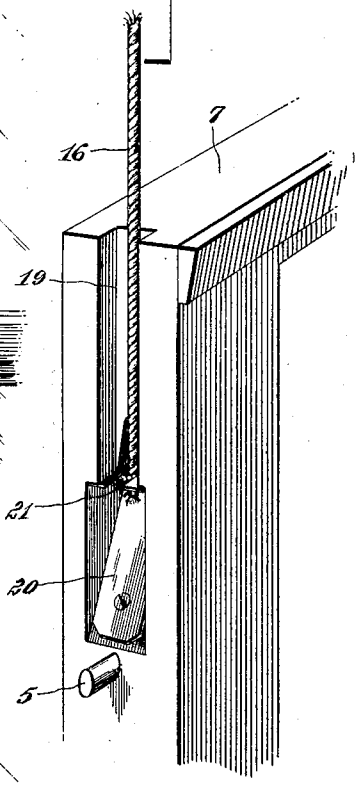


FIG. 4.



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UNITED STATES PATENT OFFICE.

JOHN BARTON MARSHALL, OF FRESNO, CALIFORNIA.

WINDOW.

SPECIFICATION forming part of Letters Patent No. 628,104, dated July 4, 1899.

Application filed August 31, 1898. Serial No. 689,942. (No model.)

To all whom it may concern:

Be it known that I, JOHN BARTON MARSHALL, a citizen of the United States, residing at Fresno, in the county of Fresno and State of California, have invented a new and useful Window, of which the following is a specification.

The invention relates to improvements in windows.

The object of the present invention is to improve the construction of windows and to provide a simple and comparatively inexpensive one adapted to permit the sashes to be entirely removed or detached at the top and swung downward and outward to afford convenient access to their outer faces, so that a window may be quickly and thoroughly washed from the inside.

A further object of the invention is to enable the sash-cords to be readily detached from the sashes when it is desired to swing the latter outward or entirely remove them and also to permit the sash-cords to be quickly connected to the sashes when desired.

The invention consists in the construction and novel combination and arrangement of parts, as hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claims hereto appended.

In the drawings, Figure 1 is a perspective view of a window constructed in accordance with this invention, one of the sashes being swung outward and downward. Fig. 2 is a vertical sectional view, the sashes being in operative position. Fig. 3 is a vertical sectional view of one side of the window, the section being taken at right angles to Fig. 2. Fig. 4 is an enlarged detail perspective view of one of the upper corners of one of the sashes, illustrating the construction for detachably connecting the sash-cord with the same. Fig. 5 is a detail perspective view of one of the catches for engaging the sash-cord. Fig. 6 is a detail perspective view of the T-shaped plate which connects the sections of the bead or strip. Fig. 7 is a detail sectional view of the T-shaped plate and the adjacent portions of the sections of the bead.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a window frame or casing provided at opposite sides with vertical grooves 2 and 3, forming ways for and receiving projections or studs 5 and 6 of upper and lower sashes 7 and 8, and the vertical grooves or ways are intersected by horizontal grooves or ways 9 and 10, located between the ends of the vertical grooves and forming entrances to the same to permit the studs or projections of the sashes to be introduced into and removed from the vertical grooves or ways to remove and replace the sashes. The upper horizontal groove 9 is located near the middle of the window-frame, and the lower groove 10 is located a considerable distance above the bottom of the window, the distance between the grooves 9 and 10 being equal to the space between the projections or studs, so that when the latter are brought opposite the horizontal grooves the sashes may be readily removed from and replaced in the window-frame.

When it is desired to wash the outer face of the lower sash, its upper studs or projections are swung out of the horizontal grooves 9, the lower ones remaining in the vertical grooves, and the sash is then lowered and is adapted to rest upon the bottom of the window and upon a stand or other suitable support. The upper sash may then be lowered to the same position and lie upon the lower sash, the lower horizontal grooves 10 being a sufficient distance above the bottom of the window to permit this arrangement.

The studs or projections are provided with threaded shanks which are embedded in the side edges of the sashes, and in order to enable them to slide freely through the horizontal grooves the latter may be lined with metallic plates. The outer ends of the horizontal slots or grooves 9 and 10 are covered by pivoted plates 11, which are adapted to be swung upward to open the grooves, and the sashes are also confined in the window-frame by vertical beads composed of stationary upper sections 12 and removable lower sections 13, nailed or otherwise secured to the window-frame. The adjacent ends of the upper and lower sections 12 and 13 of the beads or strips are provided with registering kerfs extending longitudinally of the window and receiving webs or flanges 14 of T-shaped plates 15. Each T-shaped plate, which is constructed of

angle-iron or flanged metal, has its web or flange extending across the joint and fitting in both kerfs, and the outer portion of each plate is secured by suitable fastening devices to the upper section 12. The upper end of the lower section is detachably interlocked with the T-shaped plate, and when the fastening devices are withdrawn it may be readily disengaged from the same.

The sash-cords 16 and 17 of the upper and lower sashes pass over pulleys 18 of the ordinary construction and are connected in the usual manner to sash-weights. In order to enable the sash-cords to be readily detached from or connected to the sashes, the latter are provided at each side near the top with a longitudinal groove 19, having its lower end enlarged to receive a catch 20. The catch 20 consists of a plate bent at an angle to form an inclined lower arm and a substantially horizontal upper arm. The recess at the lower end of the groove 19 has an inclined wall to fit the lower arm of the catch and forms an upper shoulder or stop to support the horizontal arm, which is bifurcated to receive the sash-cord. The sash-cord, which is adapted to lie in the groove 19, extends through the bifurcation of the horizontal arm of the catch and is provided with a knot 21 or other suitable stop, which is received within the recess. The sash-cord is adapted to be readily disconnected from the sash by withdrawing the knot from the recess, and the window is provided with suitable hooks 22, arranged to receive the free ends of the sash-cords to prevent the sash-weights from drawing them into the boxes or wells of the window frame or casing.

The invention has the following advantages: The window, which is simple and easily constructed, is adapted to permit the sashes to be either entirely removed or swung outward and downward to arrange them in a horizontal position and expose their outer faces, so that they may be conveniently cleaned from the interior of a room. The sash-cords may be readily detached from the sashes and quickly connected to the same, and when they are not connected to the sashes they are held to prevent them from being drawn into the window frame or casing by the sash-weights.

Changes in the form, proportion, and minor details of construction may be resorted to without departing from the spirit or sacrificing any of the advantages of this invention.

What is claimed is—

1. In a window, the combination of a window-frame provided with vertical grooves arranged in pairs at opposite sides thereof, said window-frame having upper and lower horizontal grooves located near the middle of the sash and at a point above the lower ends of the grooves, the upper and lower sashes provided with rigid horizontal studs adapted to slide in the vertical grooves and to pass through the horizontal grooves, the lower studs of both the sashes forming pivots and adapted to permit the sashes to swing downward to a horizontal position upon the bottom of the window-frame when the upper portions of the sashes are detached from the sash-cords and when the upper studs are disengaged from the grooves, and the beads arranged at opposite sides of the window-frame and having removable sections adapted to permit the sashes to swing downward to a horizontal position, substantially as described.

2. In a window, the combination with upper and lower sashes provided with horizontal studs, of a window-frame provided at opposite sides with vertical grooves to receive the studs and having horizontal grooves intersecting the vertical grooves, beads arranged at opposite sides of a window-frame and composed of upper and lower sections having registering kerfs, and the T-shaped plates secured to the beads and having their webs or flanges fitting in the kerfs, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

JOHN BARTON MARSHALL.

Witnesses:
V. ERICKSON,
HENRY HAMMER.