J. G. HANSERD.

SAFETY WINDOW LADDER.

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934,667. Patented Sept. 21, 1909.

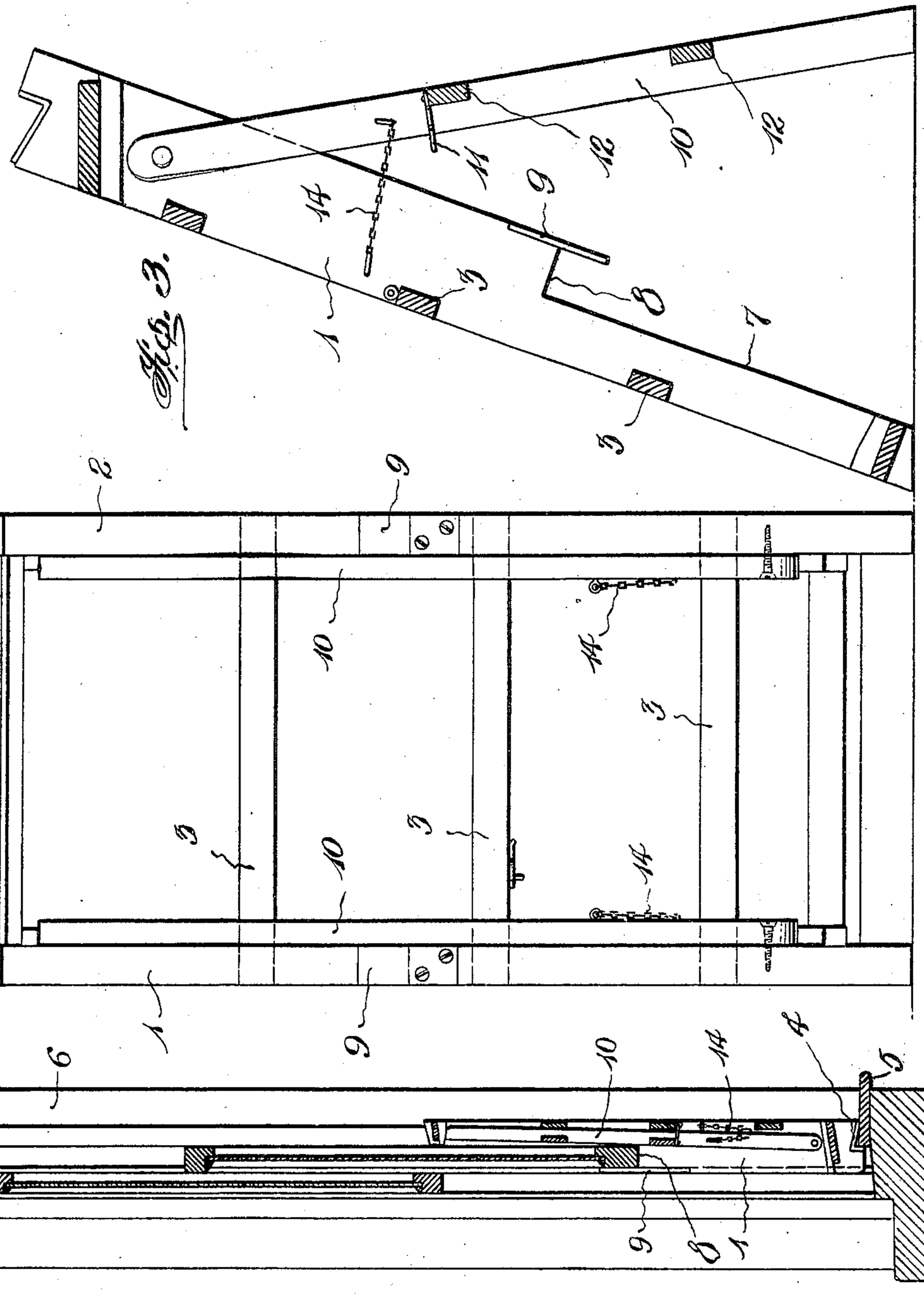

Fig. 3.

Fig. 2.

Fig. 1.

Witnesses

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SAFETY WINDOW-LADDER.

934,667. Specification of Letters Patent. Patented Sept. 21, 1909.

Application filed November 5, 1908. Serial No. 461,173.

To all whom it may concern:

Be it known that I, JAMES G. HANSERD, a citizen of the United States, residing at Johnstown, in the county of Cambria and State of Pennsylvania, have invented certain new and useful Improvements in Safety Window-Ladders, of which the following is a specification.

The object of this invention is to provide a new form of ladder particularly adapted for use in cleaning windows of high buildings, in order to avoid the necessity of cleaning windows from the outside of the building, which, as is well known, is an operation involving considerable danger.

In carrying out the present invention a ladder of simple construction is provided, the same, however, having means whereby it may be engaged and held firmly by a sash of the window, after being positioned in the window frame in a manner enabling a person to conveniently clean portions of the panes of the upper and lower sashes of such window.

For a full understanding of the invention, reference is to be had to the following detail description and to the accompanying drawings, in which—

Figure 1 is a vertical sectional view of a window frame showing a ladder embodying the present invention supported in operative position thereon; Fig. 2 is a front elevation of the invention, and Fig. 3 is a vertical sectional view showing the parts of the invention adjusted so as to provide a step-ladder.

Throughout the following detail description and on the several figures of the drawings similar parts are referred to by like reference characters.

Specifically describing the invention and referring particularly to the drawings the numerals 1 and 2 denote the sides of the ladder and 3 indicates the rounds thereof which are provided at suitable intervals and connect the sides 1 and 2 together in the usual way. At their lower ends the sides of the ladder are formed with notches 4 adapted to receive and engage the outer portion of the sill plate 5 of the window frame 6, as shown in Fig. 1. The upper end portions of the sides 1 and 2 of the ladder are reduced in width as shown at 7 thereby providing shoulders 8 intermediate of the ends of said sides. Secured to the outer edges of the sides 1 and 2 are catch plates 9 which are rigidly attached to the ladder and end portions of which project some distance above the shoulders 8 of said sides. It may be noted that the rounds 3 of the ladder are preferably secured to the sides 1 and 2 near the edges of said sides opposite those having the catch plates 9 applied thereto. Pivoted to the sides 1 and 2 near the lower ends thereof are legs 10 which are adapted to fold between the sides 1 and 2, and be held in such position by means of a pivoted catch 11 on one of the rounds 12 applied to said legs, said catch 11 being adapted to engage an eye 13 on one of the rounds 3 of the sides 1 and 2. The purpose in providing the legs 10 is to enable the device to be used as a step-ladder, when adjusted, as shown in Fig. 3, as well as an ordinary ladder for cleaning windows in the manner hereinbefore described, and as shown in Fig. 1. To limit the outward movement of the legs 10 when the latter are adjusted to provide a step-ladder, in the manner shown in Fig. 3, connecting chains or devices 14 are employed, being attached at opposite ends and adjacent to the respective parts 1, 2, and 10.

The advantages of the invention will be very apparent when it is observed how the device is used. As shown in Fig. 1 to employ the invention for cleaning windows the notched lower ends 4 of the sides of the ladder are engaged with the sill-plate 5, and the lower sash of the window is engaged at its lower end with the shoulders 8 of the sides 1 and 2 of said ladder, and between the catch plates 9 and the reduced end portions 7 of said sides. In this manner the ladder is firmly held in a vertical position by the lower sash of the window and it will be apparent that an operator may readily mount the same, lower the upper sash, and while standing upon the ladder conveniently clean the outer upper portion of the pane of said upper sash. This done the upper sash may be sufficiently lowered to also clean the upper outer portion of the lower sash which engages and holds it in place. The above portions of the window panes of the sashes are those most inaccessible, and which usually necessitates that the window cleaner be located upon the outer side of the window frame. After such portions of the window have been cleaned it is apparent that the

ladder may be removed and the remaining portions of the panes readily cleansed while the operator within is sitting in the window or standing at the inner side of the window frame. In using the invention as a step-ladder, the window cleaning ladder body is inverted as shown in Fig. 3 and the legs 10 adjusted to support said window cleaning ladder in an inclined inverted position. The rounds 12 of the legs 10 match or coact with the rounds 3, when the parts 1, 2, and 10 are folded together, to provide a firm footing for an operator who mounts the ladder when used for cleaning windows.

Having thus described the invention, what is claimed as new, is:

1. A window cleaning ladder comprising spaced sides and connecting rounds, the upper portions of said sides being reduced in width to provide shoulders between the ends of said sides and with which an end of a sash may engage to hold the ladder in an upright position, and catch plates secured to the sides of the ladder and projecting beyond the shoulders aforesaid so that ends of said plates are spaced from the reduced portions of the sides of the ladder.

2. A window cleaning ladder comprising spaced sides provided with connecting rounds at intervals, the lower extremity of said sides being formed with sill engaging notches, the upper ends of said sides being reduced for some distance in the length thereof to provide lateral shoulders adapted to receive thereon the lower end of a window sash, and catch plates attached to the wider portions of the sides of the ladder so that ends of said plates project beyond the shoulders aforesaid and in spaced relation to the reduced portions of the sides and thereby provide seats for the lower end of a window sash engaging said shoulders.

3. A ladder of the class described comprising spaced sides provided intermediate of their ends with lateral shoulders, rounds connecting said sides at intervals, catch plates attached to the sides and projecting beyond the shoulders as specified, legs pivoted to the lower ends of said sides and foldable thereagainst, means for locking said legs close against the rounds of the sides so that they do not interfere with engagement of a sash with the shoulders aforesaid, said legs being also provided with rounds to match and coöperate with those of the ladder sides to facilitate a firm footing for an operator.

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

JAMES GRANT HANSERD.

Witnesses:
I. E. Roberts,
Ralph A. Byron.