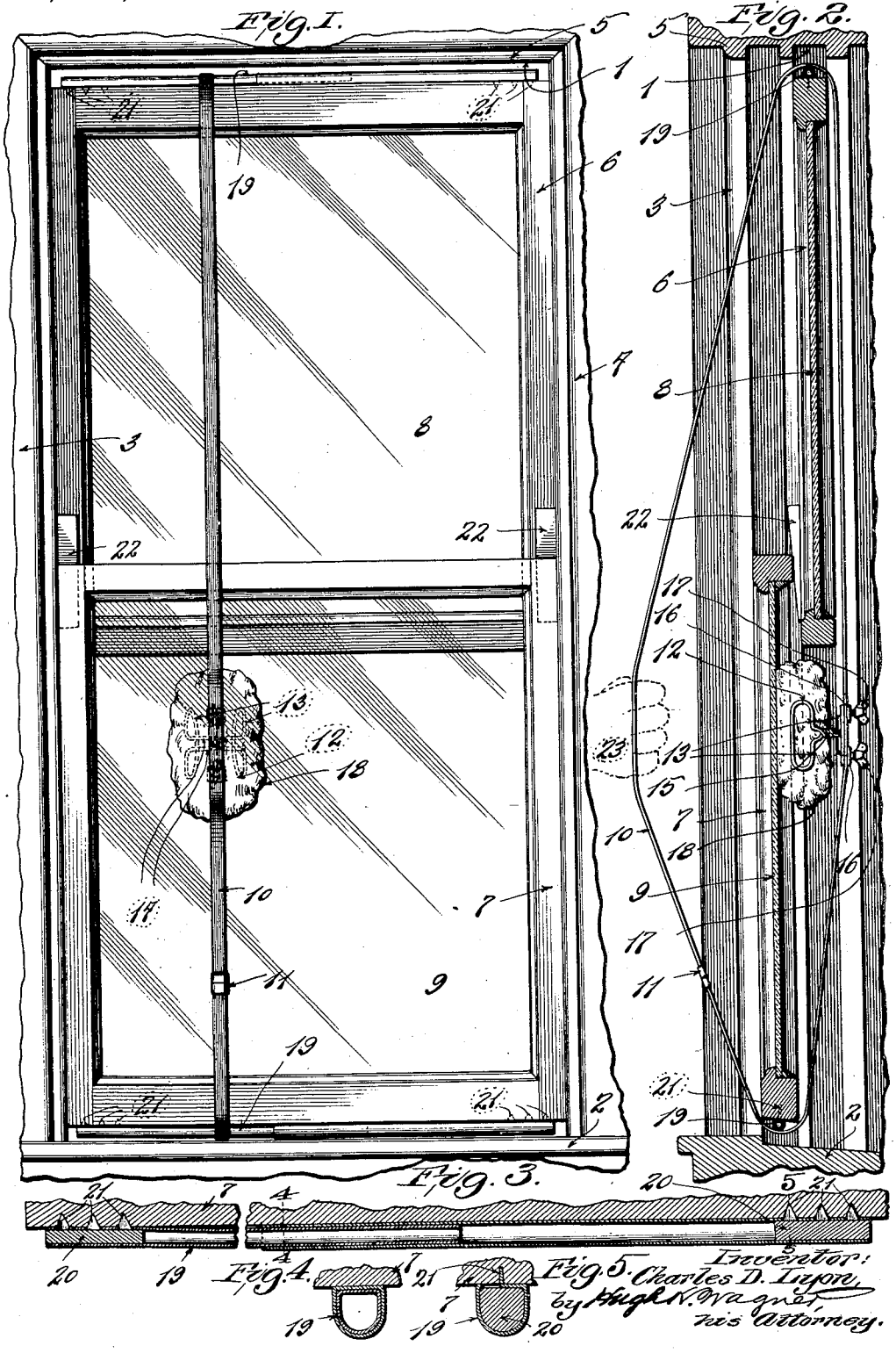
C. D. LYON.

WINDOW WASHER.

APPLICATION FILED SEPT. 30, 1915.

1,189,978.

Patented July 4, 1916.



UNITED STATES PATENT OFFICE.

CHARLES D. LYON, OF UNIVERSITY CITY, MISSOURI.

WINDOW-WASHER.

1,189,978. Specification of Letters Patent. Patented July 4, 1916.

Application filed September 30, 1915. Serial No. 53,257.

To all whom it may concern:

Be it known that I, CHARLES D. LYON, a citizen of the United States, residing at University City, in the county of St. Louis and State of Missouri, have invented certain new and useful Improvements in Window-Washers, of which the following is a specification.

This invention relates to window washers and has for its object to provide a cheap, simple, and efficient device of the character described whereby the outside of the glass in a window may be washed and polished by an operator inside the room or the like.

In washing the outside of the panes of an ordinary window it is usual for the operator either to stand on the window sill entirely outside of the room or to sit on the sill with only a portion of his legs within the room, in either of which cases the operator is not only in an uncomfortable position for satisfactorily performing his work, but is, also, in great danger of falling and it is well known that many serious and fatal accidents have resulted to operators thus exposed. Moreover, this usual way of washing and cleaning the outside of window panes, so commonly the custom with housewives, servants, janitors and the like, not only exposes the operator to the weather, but, also, by admitting the air from without freely into the room because of the necessarily wide extent to which the window must be opened, causes great inconvenience and discomfort to the occupant of the room in cold weather and results in additional expense of fuel in restoring the chilled room to a comfortable temperature.

An advantage of the device embodying the present invention is that it can be adjusted and operated by an operator inside the room to wash and polish the outsides of the window panes with the window but very slightly open thus providing not only for the safety and comfort of the operator, but, also for the convenience of the occupant of the room and for economy in heating in that a minimum of air from without will enter the room while the work of window-cleaning is being performed.

Other advantages are hereinafter pointed out and the invention consists, further, in the combination and arrangement of parts more particularly described in this specification and set forth in the claims.

In the accompanying drawings forming part of this specification wherein like numbers of reference denote like parts wherever they occur, Figure 1 is a plan view showing a vertical elevation of a window and window frame with the device embodying the present invention associated therewith in operative position; the drawing representing a view looking at the parts from the inside of the window; Fig. 2 is a sectional view on a vertical line substantially centrally of Fig. 1 and shows a side elevation of the device, with the hand of the operator, outlined in dotted lines, in position adapted to manipulate the device; Fig. 3 is a fragmentary longitudinal sectional view, on an enlarged scale, showing details of construction of the pronged bars removably attached to the upper and lower sashes in Fig. 1; Fig. 4 is a cross sectional view on the line 4—4, Fig. 3; and Fig. 5 is a cross sectional view on the line 5—5, Fig. 3.

For the purpose of illustration, window opening 1 is provided with sill 2, jambs 3 and 4 and lintel 5 to constitute a window frame of ordinary construction in which vertically slidable upper and lower sashes 6 and 7, respectively, are operatively mounted in a well-known manner, each of said sashes containing a window pane 8 and 9, respectively, said parts comprising a window and movable closure therefor of a usual construction. Flexible member 10 is adapted to extend around both sides of sashes 6 and 7 to form a substantially continuous band thereabout looped over the upper end of upper sash 6 when said sash is lowered away from lintel 5 and looped around the lower end of lower sash 7 when said sash is raised from sill 2, said flexible member being composed of any suitable material, such, for instance, as metal, leather, woven fabric or the like and may be a metal tape of any suitable thickness and width, a leather strap, a fiber rope, or a wire rope or the like, there being a separable joint as at 11 in the substantially continuous loop of said flexible member, said joint being of any suitable construction, such, for instance, as the telescoping snap-latch shown at 11 in the drawings, said separable joint being adapted to permit flexible member 10 to be conveniently removed from and placed in operative looped association with said window sashes in the position shown in Figs. 1 and 2. A holder 12 may be provided of any suitable construction, such, for instance, as of the bent wire construction

shown in the drawings, wherein a pair of oppositely disposed lateral portions 13 are adapted to extend forwardly and rearwardly of transversely disposed back-portions 14, which back portions are adapted to space said lateral portions appropriately apart from each other, there being a handle 15 borne by said back portion intermediate said lateral portions, said handle being adapted to extend away from said back portions and being formed by twisting together extensions of said back-portions and being adapted to be removably attached to said flexible member by any suitable means, such, for instance, as by means of clasps 16 borne by handle 15 to provide that holder 12 may be removably borne by flexible member 10 in any adjusted position thereon, said clasps being slipped upon said flexible member between the jaws of said clasps, thumb-screws 17 or the like being adapted to lock said jaws in clasping position on said flexible member. Holder 12 is adapted removably to hold sponge 18 or any other suitable cleaning or rubbing means, such, for instance, as a brush, chamois skin or the like usually employed in cleaning windows, a portion of said sponge or other cleaning or rubbing means having a portion thereof inserted into said holder between lateral portions 13, as shown in the drawings, said sponge or other suitable rubbing means in holder 12 removably attached to flexible member 10 may be held pressed in rubbing position against the outside of the adjacent pane of the window by means of drawing the portion of said flexible member adjacent the inside of the window toward the operator in the manner indicated by the position of hand 23, thus drawing the flexible member taut and as the flexible member is then moved back and forth in a substantially vertical direction by the operator sponge 18 or the like will move correspondingly against the outside of the window pane with a frictional or rubbing motion adapted to clean or polish said outside of the pane. Flexible member 10 may, also, be moved laterally in the direction of the width of the window as well as up and down and thus by adjusting flexible member 10 initially in a position adjacent the left hand sides of sashes 6 and 7 and manipulating said flexible member to cause sponge 18 or the like to rub up and down against the outside of the window pane and, also, manipulating said flexible member to move laterally toward the right, the entire surface of the pane may be rubbed, cleaned, or polished, the length of handle 15 of holder 12 being adapted to prevent the parts of flexible member 10 adjacent the outside of the window sashes from coming in frictional contact with and abrading said outside of the sashes and the inward pull of the operator in holding said flexible member taut being adapted to prevent the portions of said flexible member adjacent the inside of the sashes from coming in frictional contact with and abrading said inside of the sashes. For the purpose of preventing said flexible member, when being manipulated as described, from coming in frictional contact with and abrading the lower edge of sash 9 and the upper edge of sash 8 where said flexible member is looped around said edges, a pair of bars 19 may be provided, said bars being adapted to be removably supported by said edges of the sashes between said looped portion of the flexible member and said edges of the sashes. Said bars may be of any suitable shape and construction, such, for instance, as the substantially U-shape metal bars of hollow construction, best seen in Figs. 3 to 5, inclusive, wherein each bar is composed of two sections adapted to telescope one within the other longitudinally so that the length of each bar may be adjusted conveniently to the width of any sash with which it is associated in operation, there being a solid portion 20 adjacent each end of each bar, the flat surface of each end portion being provided with one or more prongs or prods 21 or the like, said prongs being adapted to be forced into the wood of the edge of the sash to which a bar is attached, the solid portions 20 being adapted to receive the blows of a hammer or the like whereby prongs 21 may be driven into the wood of the sash without damaging the hollow portions of the sections of the bar or distorting the substantial U-shape of said sections.

It is, of course, understood that each bar 19 may be of one solid piece, or of one length of hollow formation, instead of being in two sections, and, moreover, that said bar may have any suitble shape in cross-section other than the substantial U-shape shown in the drawings. One or more wedges 22 may be provided, said wedges being adapted to be removably inserted between sashes 8 and 9, as shown in Figs. 1 and 2, to lock said sashes in an adjusted position with a sufficient opening between the upper sash and lintel 5 and between the lower sash and sill 2 to permit flexible member 10 to slide freely therethrough at its looped portions when said flexible member is being manipulated in the manner described for the purpose of causing sponge 12 or the like to rub against the outside of the window panes in cleaning or polishing same.

In operation, the pair of bars 19 having been adjusted by means of their telescoping sections to the width of the sashes with which they are to be associated, and sashes 6 and 7 having been lowered and raised, respectively, sufficiently for the purpose, one of said bars is attached to the upper edge of the upper sash 6 and the other bar is at-

tached to the lower edge of sash 7 by forcing prongs 21 into the wood of said edges. Flexible member 10 having been parted at joint 11, a loose end thereof is passed outwardly over the top of sash 6 through the opening adjacent lintel 5 and is drawn inwardly through the opening between sash 7 and sill 2 and the joint at 11 is closed to form said flexible member in a substantially continuous loop extending around from the inside of the window outwardly through the opening adjacent lintel 5 and inwardly through the opening adjacent sill 2. The operator may then attach holder 12 with sponge 18 or the like borne thereby to a portion of said looped flexible member on the inside of the window by means of clasps 16 and thumb-screws 17, and by means of appropriately manipulating said flexible member, said holder with said sponge or the like may be moved through the opening adjacent lintel 5 or sill 2 outwardly as the portion of the flexible member to which said holder is attached is moved outwardly, whereupon the openings adjacent lintel 5 and sill 2 may be adjusted to close the window so that said openings will be very slight and just sufficient to permit the looped portions of said flexible member to slide freely therethrough as said flexible member is manipulated to rub the outside of the window panes with the sponge 18 or the like in said holder 12. Thereupon, one or more wedges 22 may be forced into position between the portions of sashes 6 and 7 in overlapped relation with each other to hold said sashes locked in adjusted position with relation to the desired extent of opening adjacent said lintel and said sill, and, said flexible member having been drawn taut, as hereinabove described, the operator may manipulate said flexible member to cause said sponge or the like to rub against the outside of the window panes to clean same substantially in the manner hereinabove stated.

It will be observed that sponge 18 or the like may be operatively attached to flexible member 10 without a holder, such as holder 12, and that in such cases any suitable attaching means, such, for instance, as clasps 16 may be provided apart from holder 12, moreover, it will be observed, also, that in case, for instance, where a sponge 18, with or without a holder 12, is used for cleaning the outside of the window panes and it is desired to follow the cleaning process performed by means of said sponge by a drying or polishing process, a suitable member (not shown) such, for instance, as a cloth, a piece of chamois skin or the like, with or without a holder 12, may be attached to a portion of flexible member 10 adjacent the inside of the window after the operation performed by sponge 18 has been completed, and said cloth or the like may be passed outwardly through one of the appropriately adjusted openings adjacent lintel 5 or sill 2 while, simultaneously, sponge 18 is drawn or moved inwardly through the other one of said adjusted openings, whereupon, said sponge, if desired, having been removed from association with flexible member 10 or holder 12, the outside of the window pane may be dried or polished by means of rubbing the piece of cloth or the like against the outside of the washed window panes in the manner similar to that of rubbing sponge 18 or the like against said outside of the panes by means of manipulating flexible member in the manner described.

To remove the window washer of this invention from associated relation with a window, wedge or wedges 22 may be removed from between sashes 6 and 7 to unlock said sashes, and the openings adjacent lintel 5 and sill 2 having been made sufficiently wide and flexible member 10 having been parted at joint 11, said member may be removed from the window and bars 19 may be removed from the edges of sashes 6 and 7, whereupon the window may be closed and the operator may proceed to adjust the window washer of this invention operatively in association with another window to be cleaned.

It will be observed that the window washing device embodying the present invention may be adjusted and manipulated at all stages of the process of preparing for and cleaning the outside of the window panes by an operator located inside the room or the like and that during the operation of cleaning the outside of said panes it is necessary to have the window open but very slightly at the top and bottom sufficiently only to permit flexible member 10 to slide freely therethrough as same is manipulated, thus, not only providing for the safety and convenience of the operator, but, also, providing for the convenience of the occupant of the room or the like. Moreover the operator being inside the room or the like is not required to handle wet sponges and the like while exposed to the weather, and, also, the inconvenience, expense, and danger of using safety belts and the like appliances is avoided.

Many changes in the arrangement and combination of parts and in their construction may be made without departing from the nature and spirit of the present invention.

It is, of course, understood that the window washing device of this invention may be adapted to be used in connection with windows of other construction than that particularly shown in the drawings, and, moreover, the device embodying the present invention may, also, be adapted to wash and

clean framed panes of glass and the like that are not used in connection with window-openings, an example of such a framed pane of glass being the window shield of an automobile.

I claim:

1. In a device of the character described, the combination with the upper and lower sash of a window of a flexible member adapted to be looped around said sash, a rubbing member carried by said flexible member, a substantially U-shaped member adapted to lie against the end of the sash, teeth carried by the said last-named member, the last-named member being held in position by the tension of the flexible member.

2. In a device of the character described, the combination with the upper and lower sash of a window of a flexible member adapted to be looped around said sash, a rubbing member carried by said flexible member, a substantially U-shaped member adapted to lie against the end rail of said sash, and teeth carried by the ends of said U-shaped member, said teeth being adapted to bite into the end rail of said sash under the tension of said flexible member.

3. In a device of the character described, the combination with the upper and lower sash of a window of a flexible member adapted to be looped around said sash, a rubbing member carried by said flexible member, a substantially U-shaped member adapted to lie against the end rail of the sash, said U-shaped member being adjustable longitudinally in order to fit sash of different widths.

4. In a device of the character described, the combination with the upper and lower sash of a window of a flexible member adapted to be looped around said sash, a rubbing member carried by said flexible member, and a substantially U-shaped member adapted to lie against the end rail of the sash and being formed of two pieces, one of which is adapted to slide reciprocally within the other.

5. In a device of the character described, the combination with the upper and lower sash of a window of a flexible member adapted to be looped around said sash, a rubbing member carried by said flexible member, a substantially U-shaped member adapted to lie against the end rail of the sash and being formed of two tubular sections and adapted to slide one within the other, said sections being solid at their outer ends, and teeth carried by the said ends of said sections.

In testimony whereof I hereunto affix my signature.

CHARLES D. LYON.