

F. E. WHITAKER & T. H. COX.

WINDOW CLEANER.

APPLICATION FILED AUG. 31, 1911.

1,030,626.

Patented June 25, 1912.

2 SHEETS—SHEET 1.

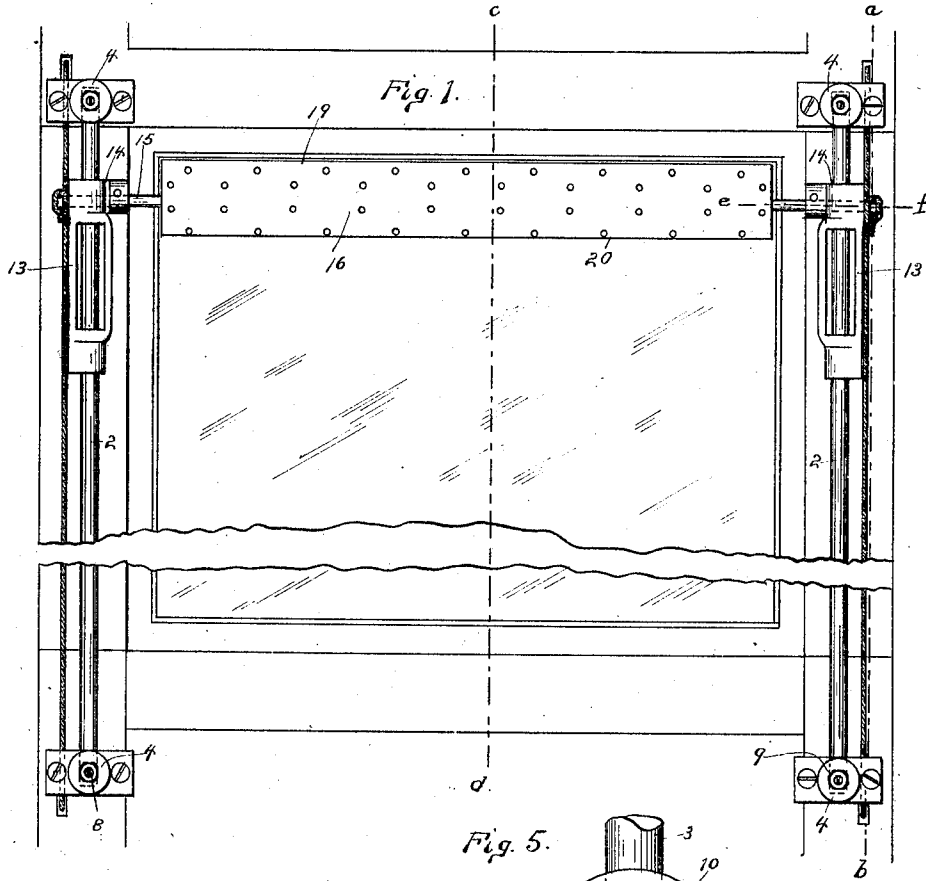


Fig. 4.

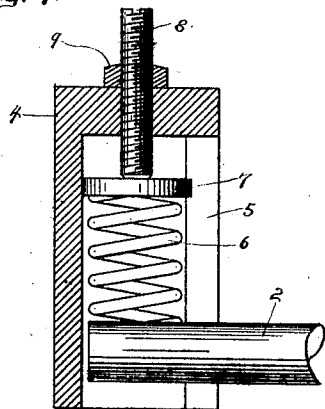


Fig. 5.

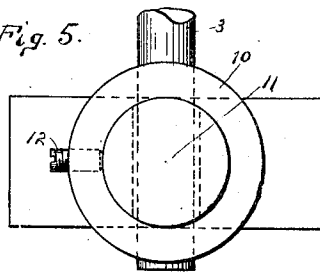
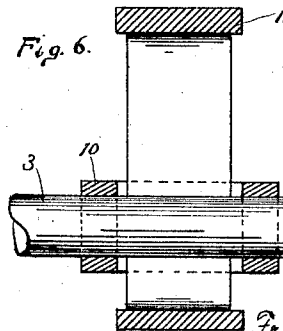


Fig. 6.



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Fig. 3.

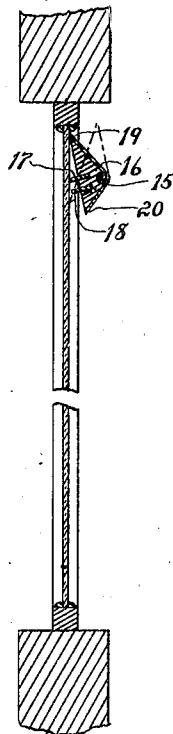


Fig. 2.

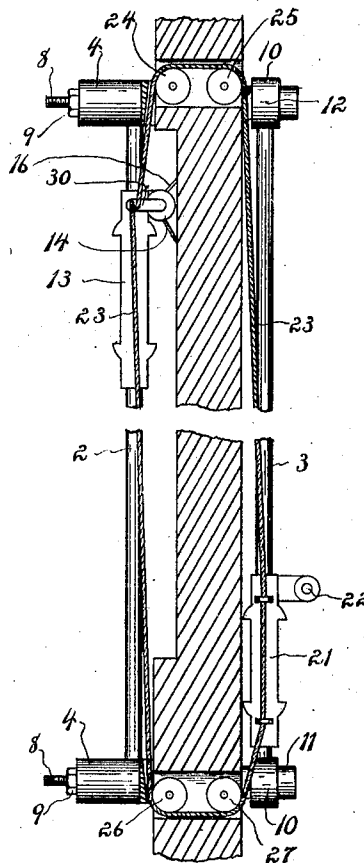
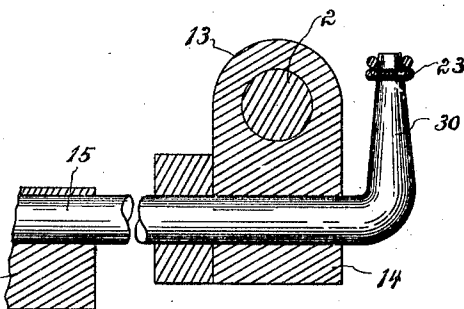


Fig. 7.



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UNITED STATES PATENT OFFICE.

FREDERICK E. WHITAKER AND THOMAS H. COX, OF NEW HAVEN, CONNECTICUT.

WINDOW-CLEANER.

1,030,626.

Specification of Letters Patent.

Patented June 25, 1912.

Application filed August 31, 1911. Serial No. 647,125.

To all whom it may concern:

Be it known that we, FREDERICK E. WHITAKER and THOMAS H. COX, citizens of the United States, residing at New Haven, in the county of New Haven and State of Connecticut, have invented a new and useful Improvement in Window-Cleaners; and we do hereby declare the following, when taken in connection with the accompanying drawings and the letters of reference marked thereon, to be a full, clear, and exact description of the same, and which said drawings constitute part of this specification, and represent, in—

Figure 1 a broken front view of a window frame showing our improved cleaner attached thereto. Fig. 2 is a sectional view on line *a—b* of Fig. 1. Fig. 3 is a sectional view on line *c—d* of Fig. 1. Fig. 4 is a sectional view of one of the bearing blocks for the outside of the window, on a large scale. Fig. 5 is a top or plan view of one of the blocks for the inside of the window frame. Fig. 6 is a vertical sectional view of the same. Fig. 7 is a sectional view on the line *e—f* of Fig. 1.

This invention relates to an improvement in window cleaners particularly adapted for cleaning the front windows of street railway cars, engines, cabs, etc., the object of the invention being to arrange a window cleaner which will readily compensate for the irregularities in the forms of window frames and apply such force to the wiper as to thoroughly clean the window. These devices are particularly adapted for use during snow or ice storms when snow or ice accumulates on the window so as to obstruct the vision of the operator.

The invention consists in the construction as hereinafter described and particularly recited in the claims.

In carrying out our invention we mount two rods (2) on opposite sides of the front face of a window frame and two similar rods (3) on the inside of the window frame. These rods (2) are mounted in blocks (4) secured to the outside of the window frame by screws which are formed on one side with vertical slots (5) to clear the rods. These blocks are hollow to receive spiral springs (6) which bear upon the rods. On the upper end of the springs are bearing disks (7) which may be crowded down by screws (8) extending through the tops of blocks to compress the springs to greater or

less extent. These screws may be held against turning by lock-nuts (9). The inner rods may be adjustably supported by passing through rings (10) which are set over posts (11) having slots through which the rods (3) extend. The posts 11 are secured to the inside of the window frame by screws, the rings being clamped to the posts by set screws (12) so that the rods 65 may be adjusted with relation to the window frame. On each of the front rods is a slide (13) formed at their upper ends with tubular bearings (14) which receive the outwardly bent ends 30 of a rock shaft (15) on 70 which is mounted a scraper (16). This scraper has a flat inner face in which are arranged transverse wipers (17) and (18) formed from strips of rubber, leather or other suitable material. The scraper is an- 75 gular in cross section, one side being longer than the other so that the upper edge (19) of the scraper is farther away from the rock shaft (15) than is the lower edge (20). This scraper is preferably covered with 80 metal so as to form sharp edges. On the rods (3) are similar slides (21) which are connected together by an operating bar (22) which corresponds to the rock shaft (15). The slides of the front and rear bars of the 85 opposite sides are connected together by a cord, wire, or chain (23) which passes over rollers (24) (25) at the top, and rollers (26) (27) at the bottom of each side of the window casing and is attached to the out- 90 wardly turned ends (30) of the rock shaft (15), and so that if the bar (22) is lifted the rock shaft (15) will be drawn downward. The lifting of the operating bar (22) draws 95 the scraper down and the rock shaft (15) will turn so as to cause the lower edge (20) of the scraper to bear against the glass and so as to remove ice or snow, and the surface of the glass is then wiped by the strips (17) and (18). After the scraper has been 100 moved to the bottom of the glass the operating bar (22) will be drawn downward which will return the scraper to its former position at the top of the glass, and in this upward movement the upper edge of the 105 scraper bears against the glass and the strips (17) and (18) again come into action to wipe the glass. The operating bar (22) remaining at the bottom of the window pane does not interfere with the view of 110 the operator and is in a position convenient for operation. By providing spring bear-

ings for the rod (2) any variation in the window frame will be compensated for and the scraper always held tightly against the glass.

5 We claim:

1. A window cleaner comprising vertically arranged rods on opposite sides of the outside and inside of the window frame, bearing blocks for the ends of said rods, 10 springs in the blocks on the outside of the window frame and bearing on the rod mounted therein, slides mounted on said rods, a rock shaft mounted in the slides on the outside of the window frame, an operating bar mounted in the slides on the inside of the window frame, a wiper carried 15 by the rock shaft, and cords connecting the slides on the outside and inside of the window frame.

2. A window cleaner comprising vertically arranged rods on opposite sides of the outside and inside of the window frame,

bearing blocks for the ends of said rods, springs in the blocks on the outside of the window frame and bearing on the rods 25 mounted therein, slides mounted on said rods, a rock shaft mounted in the slides on the outside of the window frame, said rock shaft having outwardly turned ends, an operating bar mounted in the slides on the inside of the window frame, a wiper carried 30 by the rock shaft, and cords connecting the slides on the outside and inside of the window frame and connected with the ends of the rock shaft.

35 In testimony whereof, we have signed this specification in the presence of two subscribing witnesses.

FREDERICK E. WHITAKER.
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Witnesses:

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