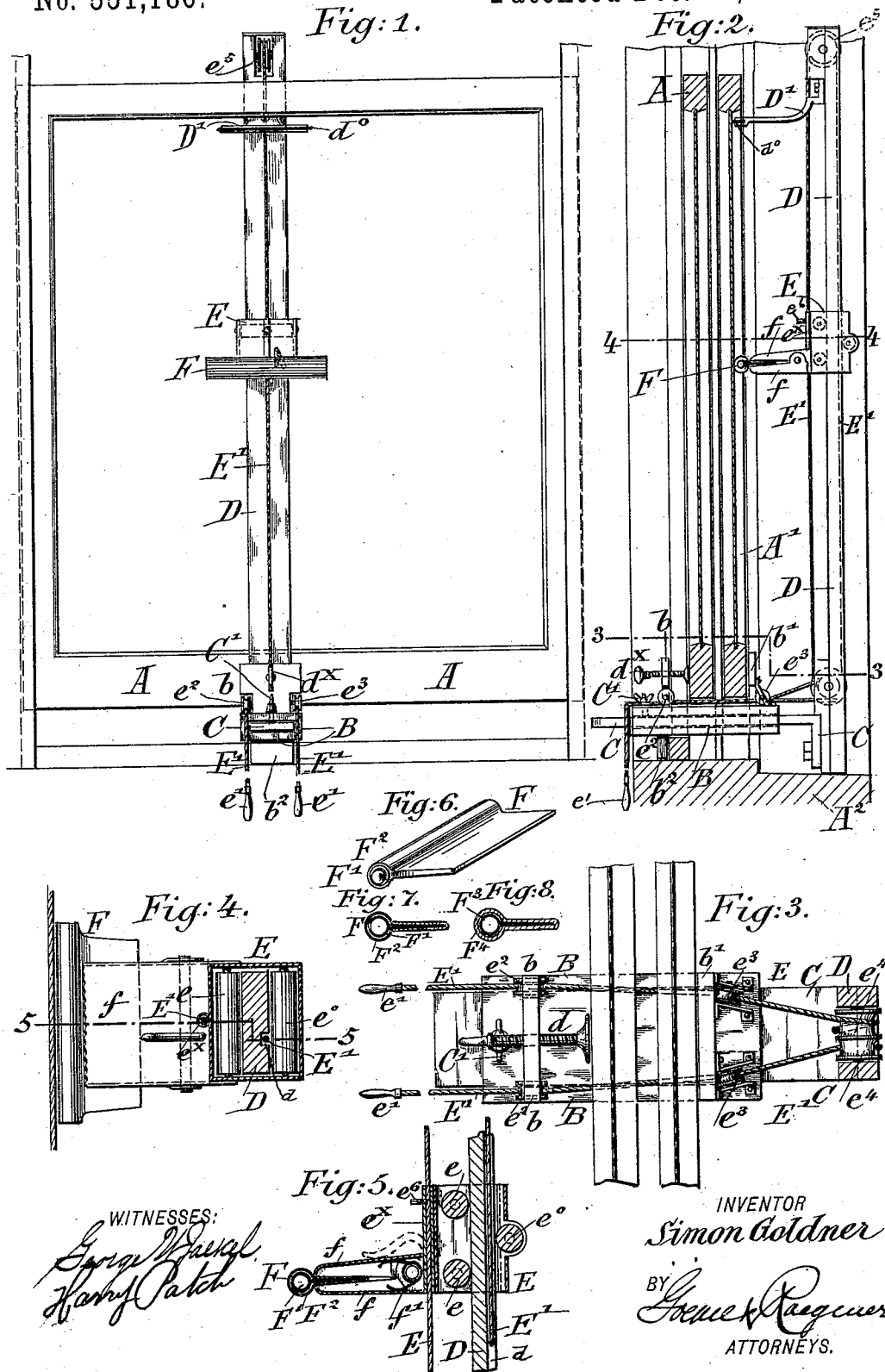


(No Model.)

S. GOLDNER.
WINDOW CLEANING DEVICE.

No. 551,186.

Patented Dec. 10, 1895.



UNITED STATES PATENT OFFICE.

SIMON GOLDNER, OF NEW YORK, N. Y., ASSIGNOR TO BERNHARD KUPFERMANN, OF SAME PLACE.

WINDOW-CLEANING DEVICE.

SPECIFICATION forming part of Letters Patent No. 551,186, dated December 10, 1895.

Application filed January 30, 1895. Serial No. 536,730. (No model.)

To all whom it may concern:

Be it known that I, SIMON GOLDNER, a citizen of the Kingdom of Roumania, residing in the city, county, and State of New York, have invented certain new and useful Improvements in Window-Cleaning Devices, of which the following is a specification.

This invention has reference to an improved window-cleaning device by which both sashes of a window can be readily cleaned from the outside of the window without necessitating the sitting on the sill and washing the same from the outside, which mode of cleaning windows is connected with considerable danger of injury to life and limb; and the invention consists of certain details of construction, which will be fully described hereinafter, and finally pointed out in the claims.

In the accompanying drawings, Figure 1 represents a front elevation of my improved window-cleaning device, showing the same as applied to a window-frame. Fig. 2 is a side elevation of the same, showing the sashes in vertical transverse section. Fig. 3 is a horizontal section on line 3 3, Fig. 2, drawn on a larger scale. Fig. 4 is a horizontal section on line 4 4, Fig. 2. Fig. 5 is a vertical central section on line 5 5, Fig. 4. Figs. 6 and 7 are details of the device for washing the glass panes of the sashes, and Fig. 8 is a vertical transverse section of the device for drying the same.

Similar letters of reference indicate corresponding parts.

Referring to the drawings, A A' represent the sashes with which my improved window-cleaning device is to be used.

The window-cleaning device consists of a base portion B, which is provided with a stationary piece *b* near its inner end and with a transverse stationary piece *b'* at its outer end. In the base-piece B is applied the horizontal portion or shank of an angle-plate or slide C, which is preferably made of wrought-iron or other suitable material, and to which the lower end of an upright guide-post D is applied. To the under side of the base-piece B is likewise applied a transverse strip *b²*, which rests against the bead on the sill A² of the window-frame, as shown clearly in Figs. 1 and 2. An adjustable clamping-screw *d^x* is arranged on the inner stationary strip *b*, the

outer transverse piece *b'* of the base-piece B being placed against the outer surface of the lower rail of the sash or sashes A A', while the end of the clamping-screw is tightly screwed up against the inner surface of the lower rail of the sash or sashes A A', as shown in Figs. 2 and 3. The upright post D is attached by suitable screws or otherwise to the adjustable slide C, the guide-post being further provided at its upper end with an arm D', which bears by means of an elastic strip or pad *d^o* against the upper part of the pane of the outer or inner sash, according as the outer or inner sash is to be cleaned.

The horizontal portion of the slide C is clamped in position on the base-piece B by means of a clamping-screw C' (shown in Figs. 1, 2, and 3) after the slide is adjusted in the proper position in the base-piece B. On the upright post or guide-piece D is guided, by means of inner and outer antifriction rollers *e* and *e^o*, respectively, a vertically-reciprocating carriage E, which is preferably made of suitable sheet metal. As the carriage is of sleeve form, so as to encircle the post, and as the antifriction-rollers are arranged at the front and rear of the same, there is absolutely no danger of the carriage being accidentally displaced, and the same is always guided on the post without any binding action.

The upright post D is provided with a longitudinal groove *d* in its outer surface for guiding the actuating-cord E', which is provided at its inner ends with handles *e'*, and which is guided by pulleys *e²* *e³*, arranged near one side of the base-piece B, then over one half of a double pulley *e⁴*, arranged in a recess in the lower part of the upright guide-post D, then in upward direction through the carriage E and over a guide-pulley *e⁵* at the upper end of the guide-post D, then along the groove *d* of the guide-post, back over the second half of the double pulley *e⁴*, and then over the guide-pulleys *e³* and *e²* at the opposite side of the base-piece to the inside of the room. The cord E' passes through a guide-tube *e^x* of the carriage E and can be firmly clamped in said guide-tube by means of a clamping-screw *e⁶*, as shown in Fig. 5, so that the operating-cord E' is firmly connected to the carriage and the latter thereby compelled

to follow the motion of the cord E' when the same is operated alternately in one or the opposite direction by the hands.

The carriage E is provided with pivoted and
5 spring-actuated jaws $f'f'$ (the spring being f'')
which extend from the carriage in forward
direction toward the glass pane of the sash,
said jaws being preferably serrated at their
adjacent edges, so as to engage the shank of
10 a cleaning or drying device F , according as the
washing or drying of the glass pane is to be
produced. The washing attachment is com-
posed of a hollow tube F' , provided with open-
ings and open at one end for being supplied
15 with water. The shank and tube are sur-
rounded by felt or other covering F^2 , as shown
in Figs. 6 and 7.

The drying attachment is composed of a
shanked tube F^3 without apertures and of a
20 heavier felt covering F^4 , extending over the
tube and shank, as shown in Fig. 8.

My improved cleaning device for windows
is operated as follows: The base-piece B is
placed in position on the window-sill, so that
25 its transverse strip b^2 rests on the same, while
the guide-post rests on the outer portion of
the sill, the lower end of the guide-post being
for this purpose extended below the slide C .
The outer transverse piece b' is placed against
30 the lower rail of the upper sash after it is
moved down into the position shown in Fig.
2. The clamping-screw d is then applied
to the lower rail of the lower sash. The
slide C is then adjusted in the base-piece un-
35 til the upper arm D' abuts against the upper
rail of the sash, as shown in Fig. 2. The
slide is then firmly clamped to the base-piece.
In this position the washing attachment is
placed in the jaws $f'f'$ of the carriage and is
40 then in contact with the outer surface of the
pane of the upper sash. The operating-cord
 E' is then taken hold of at its handles e' and
the same pulled alternately to such an extent
that a vertically-reciprocating motion is im-
45 parted to the carriage of the cleaning device,
the same being moved thereby from the up-
per to the lower rail and back again to the upper
rail, and so on alternately. After the wash-
ing is completed the washing attachment F
50 is removed from the jaws of the carriage and
replaced by the drying attachment F^3 , which
is then moved in the same manner over the
outside of the pane of the sash, so that the
part just washed is thoroughly dried by the
55 absorbent felt covering of the drying attach-
ment F^3 . The carriage is then moved later-
ally sufficiently so that the reciprocating
washing attachment can take the next adjoin-
ing portion of the pane of the sash, and then
60 this portion is washed and dried in the same
manner as before. The washing attachment is
then again moved along the sash and oper-
ated in the same manner until the surface of
the pane of the upper sash is cleaned. The
65 upper sash is then returned to its raised po-
sition and the slide C moved forward in the
base-piece until the upper supporting-arm

D' and the washing attachment abut against
the pane of the lower sash. The outer trans-
verse strip b' is then applied to the lower rail
70 of the sash and the clamping device to the
opposite side of said rail, so that the wash-
ing attachment is again in position for use.
The operating-cord is then again pulled alter-
nately by the hands and thereby the carriage
75 and washing attachment moved alternately
in upward and downward direction over the
portion of the pane of the lower sash, this
operation being repeated by moving the wash-
ing attachment gradually in transverse di-
80 rection over the pane of the lower sash until
the same is entirely cleaned. The device is
then removed and put away, as the inner sur-
faces of the panes are cleaned in the usual
manner from the inside of the room. 85

The advantages of my improved window-
cleaning device are, first, that it takes up but
little room and can be quickly and readily ap-
plied to sashes for cleaning the same, the op-
eration being performed entirely from the in-
90 side of the room, so as to obviate any danger
to life and limb, which is incidental to the
cleaning of windows when the person is sit-
ting on the window-sill; second, the window-
cleaning device is operated with great facility
95 after the same is adjusted to the sash or
sashes, as the up-and-down motion of the
washing attachment does not require the ex-
ertion of great power, while the exchanging
of the washing and drying attachments is 100
readily accomplished when the carriage is at
its lowermost position on the guide-post;
third, the window-cleaning device, owing to its
simple construction, is comparatively cheap,
105 while it can be stored away in any closet, as
owing to its small width it takes up compar-
atively little room.

Having thus described my invention, I
claim as new and desire to secure by Letters
Patent— 110

1. In a window-cleaning device, the combi-
nation of a base-piece, a pair of transverse
strips fixed to the upper part of the base-piece
and separated a suitable distance apart, a
clamping-screw passing through the inner 115
transverse strip, a transverse strip fixed to
the underside of the base-piece, said strips and
clamping-screw forming the means for secur-
ing the base-piece in position, an upright post
provided at its lower end with a slide guided 120
in the base-piece and projecting below the
slide at its lower end so as to rest on the win-
dow-sill, a carriage guided on the post, a wash-
ing attachment applied to the carriage, and
means for reciprocating the carriage, sub- 125
stantially as set forth.

2. In a window-cleaning device, the combi-
nation, with a base-piece provided with means
for clamping the same to the lower rails of the
sash or sashes, and to the window-sill, pulleys 130
on the base-piece, an upright guide-post sup-
ported on the window-sill and attached to the
base-piece, a pulley journaled in the top of the
guide-post, and a double pulley mounted in

the lower part of the guide-post, of a carriage
guided on the post and provided with clamp-
ing-jaws, an attachment held between said
jaws for cleaning the window-pane, and an op-
5 erating-cord attached to the carriage and
guided at its midlength over the top pulley
of the guide-post, while its outer portions are
guided respectively over the end-portions of
the double pulley and the pulleys of the base-
10 piece, the ends of said cord being provided

with handles for reciprocating the carriage
and the cleaning-attachment, substantially as
set forth.

In testimony that I claim the foregoing as
my invention I have signed my name in pres- 15
ence of two subscribing witnesses.

SIMON GOLDNER.

Witnesses:

PAUL GOEPEL,

GEORGE W. JAEKEL.