

A. B. SAUTER & H. E. WEHNER.

WINDOW CLEANING DEVICE.

APPLICATION FILED JULY 1, 1911.

1,042,283.

Patented Oct. 22, 1912.

2 SHEETS—SHEET 1.

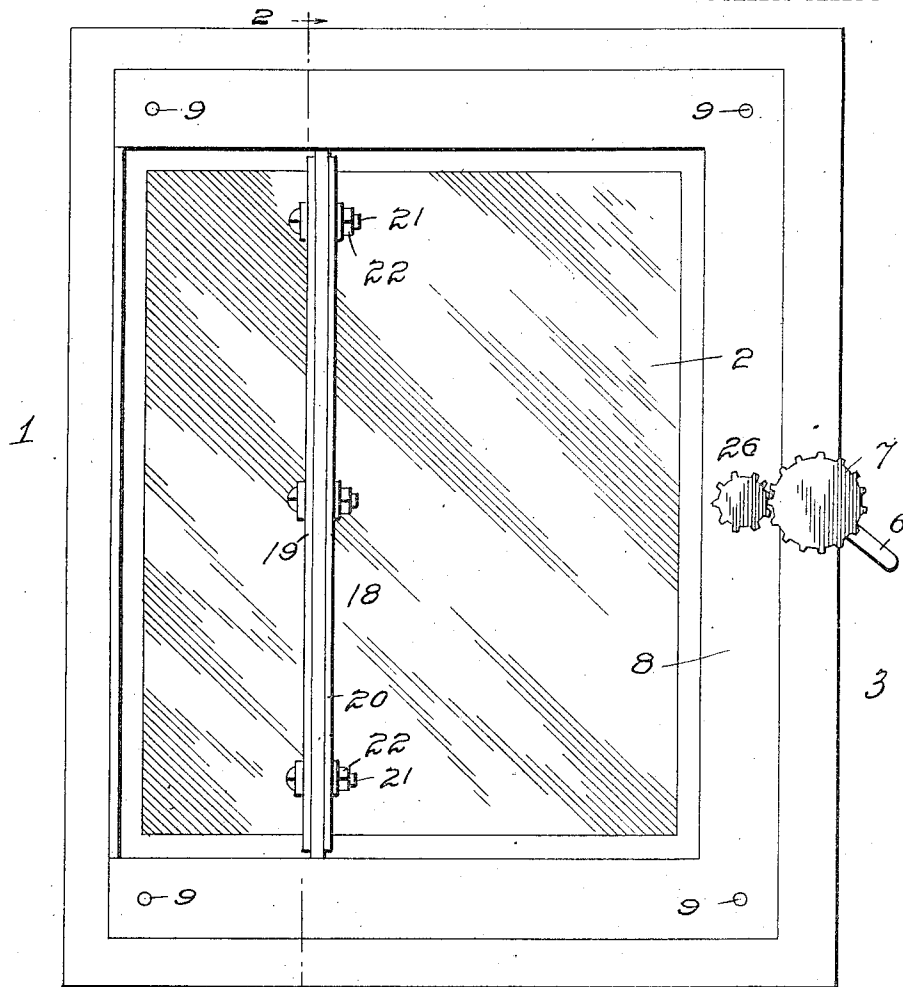


FIG. 1.

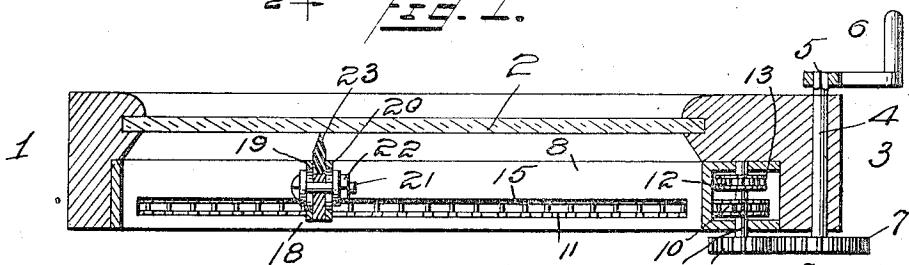


FIG. 4.

Witnesses

E. C. Duffy
Wm. North

Inventors
Alfred B. Sauter
Herman E. Wehner

334 *Victor J. Evans*
Attorney

A. B. SAUTER & H. E. WEHNER.
 WINDOW CLEANING DEVICE.
 APPLICATION FILED JULY 1, 1911.

1,042,283.

Patented Oct. 22, 1912.

2 SHEETS—SHEET 2.

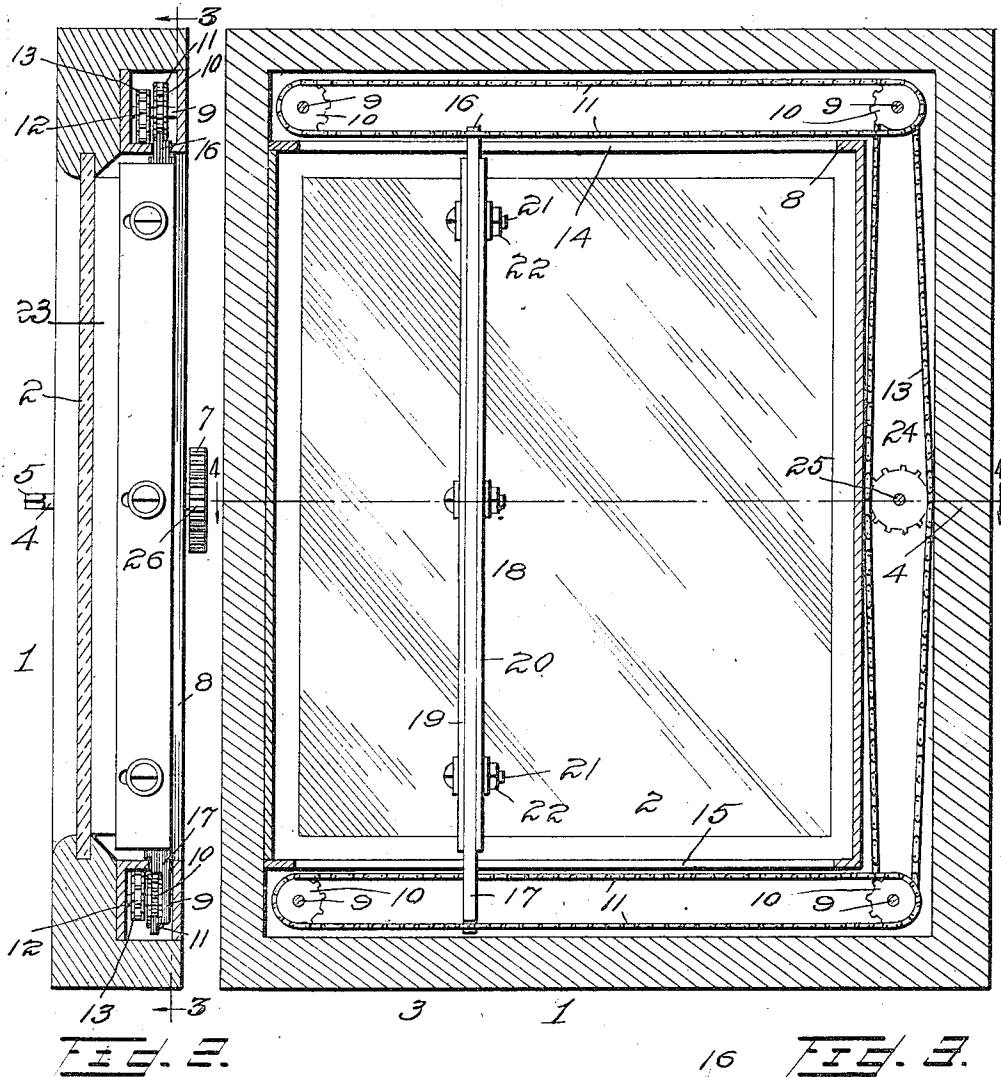


FIG. 2.

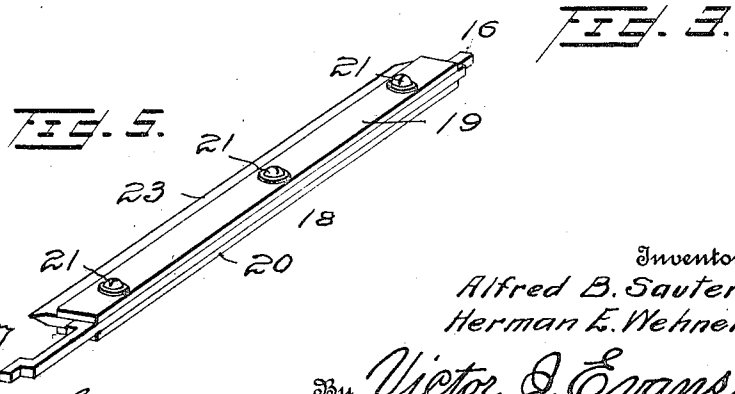


FIG. 5.

FIG. 3.

Witnesses

Ed. Duffy
Wm. North

Inventors

Alfred B. Sauter
Herman E. Wehner

By *Victor J. Evans*

Attorney

UNITED STATES PATENT OFFICE.

ALFRED B. SAUTER AND HERMAN E. WEHNER, OF CHICAGO, ILLINOIS.

WINDOW-CLEANING DEVICE.

1,042,283.

Specification of Letters Patent.

Patented Oct. 22, 1912.

Application filed July 1, 1911. Serial No. 636,326.

To all whom it may concern:

Be it known that we, ALFRED B. SAUTER and HERMAN E. WEHNER, citizens of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented new and useful Improvements in Window-Cleaning Devices, of which the following is a specification.

This invention relates to a cleaning device for windows, and is primarily adapted for use in connection with car windows, but of course susceptible for use upon other windows, the object of the invention being to provide simple and effective means for removing dust, dirt, or moisture from the exterior of the window so as to render the scenery, through which the train traverses, discernible to the passengers and without necessitating the raising or lowering of the window sash.

With the above objects in view, and others which will appear as the description of the invention progresses, the improvement resides in the novel construction and arrangement of parts hereinafter fully described and claimed.

In the drawings, accompanying this specification, there has been illustrated a simple and preferred embodiment of the improvement, it being understood, however, that the showing therein is merely illustrative, and that changes in the minor details of construction, such as to shape, size, proportion, material, etc., which fall within the scope of the appended claim, may be resorted to, if desired, without departing from the spirit or sacrificing any of the advantages of the invention.

In the drawings, Figure 1 is a side elevation of a window provided with the improvement, and looking toward the outer portion thereof. Fig. 2 is a vertical sectional view taken upon the line 2—2 of Fig. 1. Fig. 3 is a vertical longitudinal sectional view taken upon the line 3—3 of Fig. 2. Fig. 4 is a sectional view taken upon the line 4—4 of Fig. 3. Fig. 5 is a perspective view of the squeegee detached from the window.

In the drawings, the numeral 1 designates an ordinary window sash commonly employed upon railway trains, the same being provided with the usual glass 2. The numeral 3 designates the casing within which the sash is positioned. Rotatably mounted within an opening provided upon

one of the stiles of the casing 3 is a shaft 4. This shaft projects a suitable distance beyond the opposite sides of the said casing, and the inner projecting portion of the said shaft is angular as at 5, to receive the angular bore of a removable handle 6. The outer projecting portion of the shaft is provided with a toothed wheel 7, the purpose of which will presently be set forth.

The numeral 8 designates a frame which is adapted to be positioned between the members forming the casing and to contact with the sash 1. This frame may be secured in any desired manner, and the said frame has three of its sides substantially U-shaped in cross section. Arranged adjacent the corners of the U-shaped sides are shafts or trunnions 9, the said trunnions being adapted to receive sprocket wheels 10 which carry endless chains 11, the said chains being arranged adjacent the top and bottom of the frame. The trunnions 9 adjacent the U-shaped side member of the frame are further provided with sprocket wheels 12, and these sprocket wheels are adapted to engage with endless chains 13, the latter traveling vertically between the sides of the vertical U-shaped member of the frame. The horizontal members of the frame are provided with longitudinally extending slots 14 and 15, and adapted to extend through the said slots and to engage with the longitudinally extending sprocket chains are the fingers 16 and 17 of the cleaning or wiping member 18. The wiping device comprises essentially a central member which is formed with reduced fingers 16 and 17 and a pair of oppositely arranged plates 19 and 20. These plates 19 and 20 are each provided with elongated openings, the latter being adapted to receive securing elements, such as bolts 21 and nuts 22, and whereby the said members may be adjusted with regard to the central member of the cleaning or wiping device. Arranged between the plates 19 and 20 is a cleaning strip 23, the latter being of a length corresponding with that of the side members and adapted to contact with the glass 2 of the sash 1.

One of the fingers 16 of the cleaning device is arranged so as to engage the lower flange of the upper chain member 11, while the opposite finger 17 is extended through the opening or slot 15 and is off-set to form a substantially L-shaped extension, the ver-

tical member of which engages the lower flight of the lower chain 11. By reference to Fig. 5 of the drawing, it will be noted that the finger 16 is arranged in a plane with
5 the inner edge of the central member to which it is connected, the shoulder formed at the juncture of the said finger with the said inner member is adapted to serve as a stop or contact for the said central member
10 with the lower lead of the upper chain 11. It will be further noted that the L-shaped or offset portion of the finger 17 is provided upon a reduced extending portion which has its outer edge in a plane with the outer edge
15 of the central member, thus providing a cutaway portion or space upon the inner edge of the said central member to permit of the said central member passing the upper lead of the lower chain 11 without inter-
20 fering with the movement of the said chain, as well as to permit of the inner edge of the vertical portion of the said L-shaped finger being arranged in a plane with the inner edge of the finger 16. It will be further
25 noted that the offset portion provided by the said L-shaped finger will serve as a stop or rest for this end of the central plate or member, when the cleaner is arranged upon the chains. Furthermore the fingers are sub-
30 stantially rectangular in cross section to snugly but frictionally engage between the links of the chain to prevent a swinging movement of the cleaner and to effectively direct the same to its work. Trunnioned be-
35 tween the sides of the vertical U-shaped member of the frame is a sprocket wheel 24, the latter engaging the opposite flights of the chain 13, and the trunnion 25 of the said sprocket wheel 24 is extended a suitable distance and provided with a gear wheel 26, the
40 latter adapted to mesh with the toothed wheel 7 heretofore described.

It is of course to be understood that a certain amount of slack is allowed the upper
45 and lower endless chains 11, and by connecting the finger 16 between the links of the lower flight of the upper chain 16, and the

off-set finger 17 with the lower flight of the lower chain 11, the member 18 may be raised so as to first remove the off-set portion of
50 the finger 17 from between the links of the lower chain 11, this being effected, of course, by an upward pressure upon the said member 18, and the said member 18 may then have its finger 16 readily drawn from the
55 chain 11, so that the side members 18 and 19 may be removed and a new cleaning strip may be inserted therebetween.

Having thus fully described the said invention, what I claim is:—

60 In a window cleaning device, upper and lower endless chains and means for operating the chains in unison, a cleaning member comprising a central plate provided with removable side plates, and a cleaning ele-
65 ment clamped between the side plates, the central plate having one of its ends provided with a reduced finger, the outer edge of which is in a plane with the outer edge of the central plate, the said finger being rec-
70 tangular in cross section and adapted to frictionally engage between two of the links of the lower lead of the upper chain and to have the shoulder provided between the
75 finger and the central plate contact with the said lower lead of the upper chain, the opposite end of the central plate being provided with a reduced extension which is arranged in a plane with the inner edge of the
80 said plate, the extremity of the said extension being formed with a substantially L-shaped finger, the said finger being rectangular in cross section, and being adapted to engage between two of the links of the
85 lower lead of the lower endless chain, substantially as and for the purpose set forth.

In testimony whereof we affix our signatures in presence of two witnesses.

ALFRED B. SAUTER.
HERMAN WEHNER.

Witnesses:

FRANZ KOCH,
VINCENT KOSTAWSKI.