

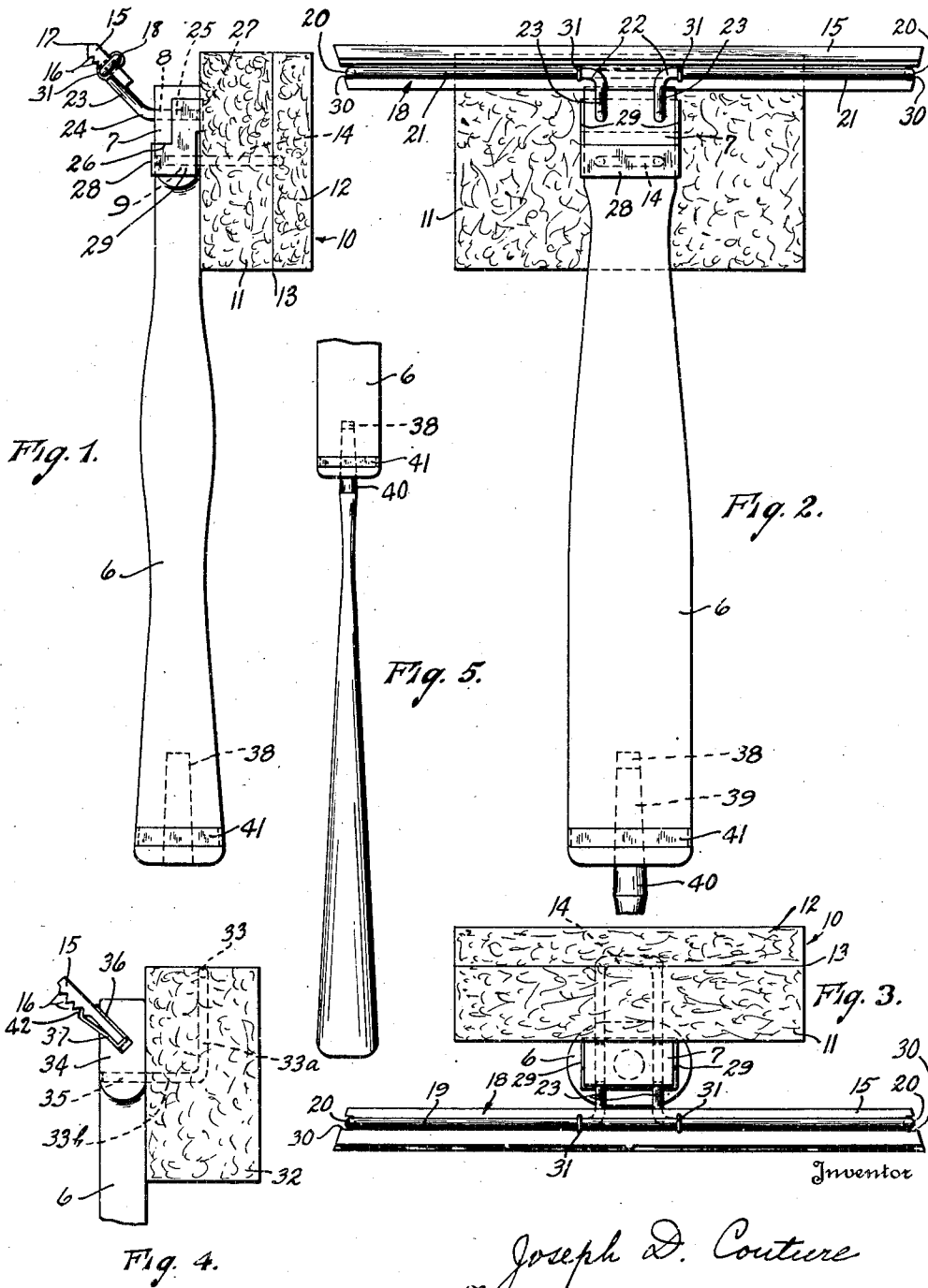
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J. D. COUTURE

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WINDOW CLEANER

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Joseph D. Couture
Norris & Davis
Attorneys

UNITED STATES PATENT OFFICE

JOSEPH D. COUTURE, OF STAMFORD, CONNECTICUT

WINDOW CLEANER

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This invention relates to new and useful improvements in cleaners and has particular relation to a cleaner for windows or other glass or plain surfaces.

5 An object of the invention is to provide a window cleaner including a sponge for applying a cleaning solution, as water, soapy water or the like, to the surface to be cleaned, and a rubber drying strip or squeegee, novel
10 means being provided for mounting the sponge and squeegee on a handle in such a manner that they may be readily renewed or replaced.

A further object is to provide a window
15 or other plain surface cleaner which is simple in construction, embodies but a few parts, and may be manufactured and sold at a reasonable price.

Other objects and advantages will become
20 apparent from a consideration of the following detailed description taken in connection with the accompanying drawings wherein satisfactory embodiments of the invention
25 are illustrated. However, it is to be understood that this disclosure is for the purpose of making clear the principles of the invention and that the invention is not limited to the details disclosed but includes all such
30 modifications as fall within the scope of the appended claims to which reference should be had for a definition of the limitations of the invention.

In the drawings:

35 Fig. 1 is a side elevational view of the improved cleaner;

Fig. 2 is an elevational view looking from the left in Fig. 1;

40 Fig. 3 is an end view of the complete cleaner;

Fig. 4 is a view somewhat similar to Fig. 1 but showing a slightly modified construction; and

45 Fig. 5 is a view showing the application of an extension to the handle of the device.

Referring in detail to the drawings, the improved cleaner includes a handle 6 which at one portion 7 may be substantially rectangular in cross-section. This end 7 has two
50 pairs of openings 8 and 9 through it, the

pair of openings 8 being closer to the end than is the pair of openings 9.

The sponge or cleaner or washer element of the device is indicated at 10 and comprises parts 11 and 12 secured together along the
55 line 13. The portion 11 may be of tougher or more rigid material than is the portion 12 and the two portions when secured together as by vulcanizing or cementing form a more or less rigid area about the line of connection
60 between them.

A wire staple or U-shaped wire member 14 has its loop portion embedded in the sponge 11 and over the connecting portion 13 since this is the more rigid portion of the element
65 10 and the free ends of the staple 14 extend from the element 10 and are inserted in the openings 9 whereby the washer element is secured to the handle. It will be seen that this is an extremely simple form of fastening
70 means and that the sponge may be readily connected and disconnected with the handle since it is merely necessary to insert the ends of the staple 14 into the openings 9 and remove them therefrom.
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At the side of the handle 6 opposite the sponge or washer element 10 is a drying strip or squeegee 15 formed of rubber and removably secured to the handle. Attention is
80 called to the ribs 16 extending longitudinally of the strip 15 on the under side thereof. These ribs carry off the water and it is, therefore, not necessary to wipe the edge 17 of the strip or squeegee as is usual.

The holder 18 for the drying strip 15 is
85 formed of a single length of wire and includes the body portion 19 disposed at the upper side of the strip and at the ends of the strip bent upon itself as at 20 and continued along the underside of the strip as at 21. The portions
90 21 do not meet since before they come together the wire is again bent as at 22 to provide the laterally projecting arms 23 which are slightly bent as at 24 to provide the straight portions 25 for insertion into the
95 openings 8 in the handle 6.

Openings 8 and 9 extend entirely through the handle and to close these openings and re-inforce the handle at the end portion 7 a member 26 is provided. This member 26 in-
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cludes a strap 27 arranged at one side of the handle in a position to close the ends of the openings 8 and a strap 28 arranged at the other side of the handle in a position to close the opposite ends of the openings 9.

Side portions 29 arranged at the sides of the handle and extending longitudinally thereof connect the straps 27 and 28. It will be understood that the straps 27 and 28 of the member 26 limit the extent to which the ends of the staple 14 and the ends of the holder 18 may be inserted into the respective pairs of the openings 9 and 8. These members are, therefore, properly positioned and the ends do not project from the handle. Further, it will be obvious that the member 26 embraces and re-inforces the end portion 7 of the handle and the same is therefore not likely to split.

The strip 15 at its ends is cut away as at 30 to receive the bends 20 of the holder 18 whereby the strip is not likely to fall out of the holder. An additional means is provided for securing the strip to the holder and this means comprises the staples or clips 31 extending through the strip and disposed about the arms of the holder.

In Fig. 4 a slightly modified form of cleaner is shown and here it will be noted that there is but one sponge section indicated at 32. This is a soft sponge and in order that the same may be secured to the handle 6 in a manner such that it is not likely to break away or become loosened a staple 33 comprising angularly disposed portions 33_a and 33_b is employed. As will be seen a considerable portion of the sponge is disposed between the end portion 34 of the handle and the portion 33_a of the staple whereby the sponge is not likely to be torn away from the handle. It will be understood that the end portions of the staple 33 are received in the openings 35 in the portion 34 of the handle.

In this form of the invention a different means is employed for securing the rubber drying strip or squeegee 15 to the handle. As here shown a substantially transversely U-shaped metal clip 36 receives an edge portion of a strip 15 and the portion 34 of the handle is provided with an inwardly and downwardly inclined slot 37 into which the clip carrying the drying strip may be inserted. It is preferred that on one side of the clip 36 the free edge be bent inwardly as shown at 42 to form a rib or flange to embrace a rib 16 or seat in the groove between two ribs to positively hold the rubber strip in the clip with no danger of its being drawn out in use. It will be understood that the staple 33 and clip 36 are only frictionally held in the handle and that they may be readily applied thereto and removed therefrom.

At its lower end the handle 6 is provided with a tapered socket 38 extending longitudinally therein. This socket is to receive

the reduced end portion 39 of a handle extension member 40 when the handle member 6 is found to be of insufficient length for the work in hand. To prevent the handle 6 from splitting due to insertion of the end 39 into the socket 38 a metal ferrule 41 is provided about the end portion of the handle.

It will be understood that in use the sponge is wet and is rubbed over the surface to be cleaned to loosen and wash away any dirt or dust and that the clean surface is then dried with the squeegee or drying strip 15. This drying operation simply involves drawing of the strip 15 over the cleaned surface.

Having thus set forth the nature of my invention, what I claim is:

1. In a window cleaner, a handle having a pair of openings adjacent one of its ends, a sponge, a wire staple connected to said sponge and having its ends extending into said pair of openings from one side of the handle, a member on said handle and including a strap at each side of the handle, one of the straps extending across and closing one of the ends of each of the openings, and side members extending longitudinally of the handle at the sides thereof and connecting said straps.

2. In a window cleaner, a handle member, a washer comprising two sponge sections of which one is softer than the other, said sponge sections secured together to form a somewhat rigid area about their connections, and a staple embedded in the more rigid sponge section and over the somewhat rigid area and connecting the washer to the handle.

3. In a squeegee, a handle, a pair of openings in said handle, an elongated drying strip, a holder for said drying strip, said holder formed from a single length of wire bent to almost completely encircle the strip longitudinally, said strip having a groove extending longitudinally thereof and disposed beyond the holder, and said holder including attaching means comprising the end portions of said wire bent to extend laterally from the body of the holder into the openings in the handle.

4. In a dryer, a handle, said handle having an inwardly and downwardly extending slot opening through one of its sides adjacent one of its ends, a rubber drying strip, and a U-shaped metal clip adapted to receive one edge portion of said drying strip and have the other edge portion of the strip extend therebeyond and insertable into said slot to secure the strip to the handle with said other edge portion exposed for use.

5. In a window cleaner, a handle having a pair of openings adjacent one of its ends, a sponge, a wire staple including portions arranged at right angles to each other, all of one of said portions and part of the other thereof embedded in said sponge, the remaining part of the other of said portions including the free ends of the staple, and said free

ends adapted to be inserted in the openings in the handle whereby the sponge will be held against the handle with a portion of it clamped between the handle and a part of the staple.

5 6. In a window cleaner, a handle having a transverse slot adjacent one end, a dryer comprising a substantially U-shaped metal clip, a rubber strip partially inserted in said clip
10 having a series of longitudinal grooves in one side beyond the clip, the free edge of one side of the clip extending inwardly and seated in one of said grooves to retain the strip in the clip, and the clip being inserted
15 in the slot and held thereby.

7. In a window cleaner, a handle having a pair of openings in one of its sides adjacent one of its ends, a sponge, a staple member including a pair of arms and a portion connecting said arms, said staple member having
20 its connecting portion and a part of each of its arms embedded in said sponge, and said staple member having the free end portions of its arms received in the openings in the handle whereby to secure the sponge to and
25 against the handle.

In testimony whereof I affix my signature.

JOSEPH D. COUTURE.

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