

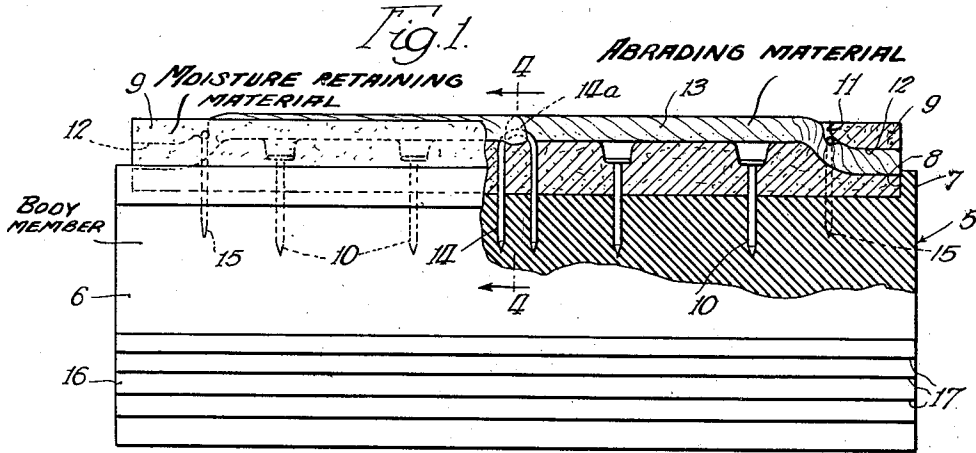
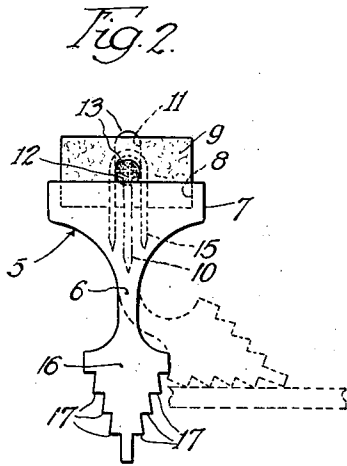
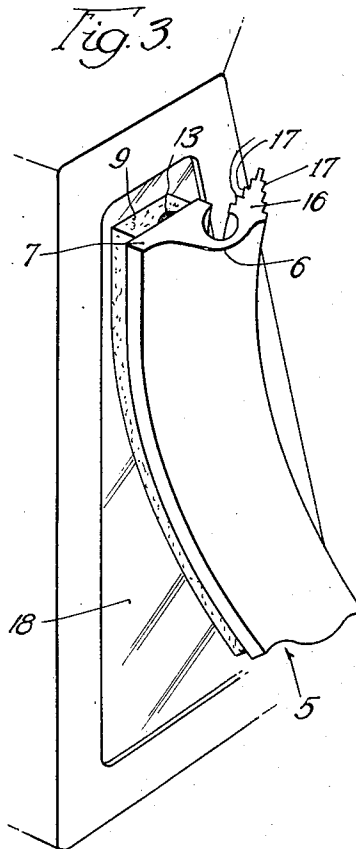
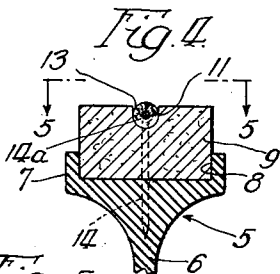
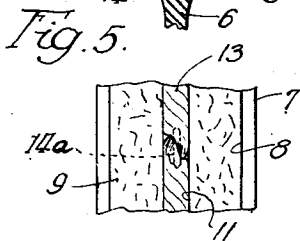
March 1, 1938.

J. W. ANDERSON

2,109,606

CLEANING DEVICE

Filed March 16, 1935



Inventor
John W. Anderson
By *Hill & Hill* Attys.

UNITED STATES PATENT OFFICE

2,109,606

CLEANING DEVICE

John W. Anderson, Gary, Ind., assignor to Productive Inventions, Inc., Gary, Ind., a corporation of Indiana

Application March 16, 1935, Serial No. 11,392

4 Claims. (Cl. 15-105)

This invention relates to cleaning devices, and particularly to hand operated devices, which are durable, efficient and convenient to handle.

One object of the present invention is to provide a cleaning device which may be employed for cleaning small and otherwise inaccessible surfaces.

Another object of the invention is to provide a cleaning device having a resilient body member, whereby the cleaning and drying portions of the device may readily adjust themselves to the contour of surfaces being cleaned.

Another object of the invention is to provide a device of the character described, wherein an abrading material is employed in conjunction with a moistening and cleaning pad, and whereby dried substances, such as bugs and the like, may be readily removed from surfaces such, for example, as the windshields of motor vehicles.

Another object of the invention is to provide a device of the character described wherein the material of the cleaning element may be maintained in an efficient operative condition.

A further object of the invention is to provide a cleaning device constructed of materials which will not be readily affected by water, and which will not deteriorate if left in a moist or wet condition.

A still further object of the invention is to improve devices of the character described in sundry details hereinafter referred to and particularly pointed out in the appended claims.

One embodiment of the present invention is shown for illustrative purposes in the accompanying drawing, in which:

Fig. 1 is a side elevational view, partly in section, of a cleaning device embodying features of the present invention;

Fig. 2 is an end elevational view of the structure illustrated in Fig. 1, and illustrating, in dotted lines, the manner of its use as a squeegee in relation to a surface being cleaned;

Fig. 3 is a fragmentary perspective view illustrating its use in cleaning relatively small surfaces;

Fig. 4 is a fragmentary transverse sectional elevational view taken substantially as indicated by the line 4-4 of Fig. 1; and

Fig. 5 is a fragmentary face view of the cleaning portion of the device viewed as indicated by the line 5-5 of Fig. 4.

The illustrative embodiment of the present invention comprises a body member, indicated as a whole by the numeral 5, formed, preferably, of a flexible resilient material, such, for example, as

rubber or the like, and having a portion of reduced thickness indicated at 6 intermediate its longitudinal edge portions and, preferably, adjacent the central longitudinal portion of the body member.

As clearly illustrated in Figs. 1 and 2, one of the edge portions, indicated at 7, is shown as of substantial width, and provided with a longitudinally disposed recess 8 formed therein and having a pad 9 of moisture retaining material, such as felt or the like, positioned in said recess and secured to the body member 5 by means of nails 10 having their heads sunk into the material of the pad 9, as shown in the drawing, or by other suitable means, the moisture retaining pad 9 being adapted to extend beyond the adjacent edge portion 7 of the body member 5 in a manner to readily contact the surfaces to be cleaned.

Formed in the moisture retaining pad 9 adjacent the exposed side thereof, is a longitudinally disposed channel 11 terminating at its ends in apertures 12 formed in the moisture retaining pad 9 and shown, in the present instance, as extending outwardly in alignment with said channel to the end surfaces of the moisture retaining pad 9.

Positioned in the channel 11 and extending into the apertures 12 adjacent the ends of the channel is a strip 13 of abrading material shown, in the present instance, as formed of twisted or rope-like metal fiber, the arrangement of the strip 13 being such as to expose one side of the strip at the outer or exposed side of the moisture retaining pad 9 in a manner to abrade or wear away hard or dried substances on surfaces to be cleaned while water or other moisture retained in the pad 9 is applied to the surface, such an arrangement being desirable and highly advantageous in the removal of particles, such as bugs or the like which have dried on the surfaces, such, for example, as the windshields of motor vehicles.

For retaining the strip 13 securely within the channel 11, a staple 14 having its bight portion 14a extending transversely of the immediate central portion of the strip 13 and longitudinally with respect to the channel 11, the staple having been so positioned with the strip extending transversely of the channel, and after positioning the staple in the manner above described, the opposite free end portions of the strip are swung in opposite directions into alignment with the channel 11 and extended through the apertures 12 at the opposite ends of the cleaning pad 9, after

which a plurality of staples 15 are driven through the cleaning pad 9 and into the body member 5 in a manner to secure the opposite end portions of the strip 13 against displacement with respect to the end portions of the channel and the apertures 12 formed in the pad 9.

It will be observed from the foregoing description, particularly with reference to the securing of the central portion of the strip 13 within the channel 11, that an overlapping arrangement of the portions of the strip adjacent the staple 14 is obtained, as clearly illustrated in Fig. 5, thereby providing a continuity of the outer exposed surface of the strip 13, by reason of which an efficient contact of the strip throughout its length with a surface is obtained.

Formed adjacent the opposite longitudinal edge portion of the body member 5 is a squeegee shown, in the present instance, as comprising, preferably, a transversely tapered head 16, shown, in the present instance, as having a plurality of longitudinally disposed substantially parallel arrises 17 formed on opposite sides thereof.

It will be observed by reference to Fig. 2 that the reduced portion 6 of the body member 5 permits the member to readily flex along a longitudinal line in a manner to cause the arrises 17 to engage the surfaces being wiped, as illustrated by dotted lines in Fig. 2, thereby providing a plurality of wiping edges for removing moisture from the surfaces.

It will be observed also by reference to Fig. 3 that the flexing of the device longitudinally also permits the device to be bent or flexed transversely to enable a portion of the moisture retaining pad 9 and abrading strip 13 mounted therein to efficiently contact relatively small surfaces such as a small glass panel, indicated at 18, which otherwise would be inaccessible in the use of a cleaning device having a rigid body member, and that by reason of the flexible character of the body member 5, the entire structure may be flexed, twisted and worked to loosen up the fibers and rejuvenate the felt of the cleaning pad 9 in the event that the fibers thereof become matted from moisture and continuous application to a surface to be cleaned.

It will be observed from the foregoing description that the present invention provides a cleaning device especially well adapted for use in garages, auto laundries, and at filling stations, and wherein a novel construction and arrangement is provided for applying moisture to surfaces and for removing dried or hardened substances, such as bugs or the like, from the surfaces of windshields, and wherein an efficient squeegee is conveniently mounted along the opposite edge of the device for removing water from the surfaces. Also, that by reason of the resilient character of the body member, the squeegee may be flexed in a manner to present a plurality of efficient wiping edges to the surface to be cleaned, and permits of the flexing of the body member transversely for operating on relatively small or otherwise inaccessible surfaces.

Obviously, the present invention is not limited to the precise construction and arrangement shown and described, as the same may be variously modified without departing from the spirit and scope of the invention as set forth in the appended claims. Moreover, all the features of the invention need not be used conjointly as the same may be used to advantage in variously different combinations and subcombinations.

What I claim as new and desire to secure by Letters Patent is:

1. A cleaning device comprising an elongated relatively thin body member provided with a plurality of edge portions, said body member having a longitudinally disposed recess formed in one of its edge portions, an elongated flexible moisture retaining pad secured in said recess and extending outwardly therefrom beyond the adjacent edge portion of said member, said pad having a longitudinally disposed channel formed therein on the exposed side thereof, said channel terminating at its ends in apertures formed in said pad and extending outwardly from the channel and in alignment therewith to the end surfaces of said pad, and a strip of flexible abrading material in said channel and apertures.

2. A cleaning device comprising an elongated relatively thin body member having a longitudinally disposed recess formed in one of its edge portions, an elongated flexible moisture retaining pad secured to said recess and extending outwardly therefrom beyond the adjacent edge portion of said member, said pad having a longitudinally disposed channel formed therein on the exposed side thereof, said channel terminating at its end in apertures extending outwardly in alignment with said channel to the end surfaces of said pad, and a twisted strip of flexible abrading material in said apertures and channel.

3. A cleaning device comprising a substantially flat elongated body member having edge portions and having a longitudinally disposed recess formed in one of said edge portions, an elongated flexible moisture retaining cleaning pad secured in said recess and extending outwardly therefrom beyond the adjacent edge portion of said member, said pad having a longitudinally disposed channel formed therein on the exposed side thereof, said channel terminating at its ends in apertures formed in said pad and extending outwardly from said channel, a strip of flexible abrading material in said channel and apertures, and means for securing said strip therein, said means comprising a staple having a bight portion extending longitudinally of said groove and engaging the central portion of said strip, and a plurality of staples adjacent said apertures engaging the adjacent respective end portions of said strip.

4. A cleaning device comprising an elongated relatively thin body member having a plurality of edge portions and having a longitudinally disposed recess formed in one of said edge portions, an elongated flexible moisture retaining cleaning pad secured in said recess and extending outwardly therefrom beyond the adjacent edge portion of said member, said pad having a longitudinally disposed channel formed therein on the exposed side thereof, said channel terminating at its ends in apertures formed in said pad and extending outwardly from said channel, a strip of flexible abrading material in said channel and apertures, and means for securing said strip therein, said means comprising a staple having a bight portion extending longitudinally of said groove and engaging the immediate central portion of said strip transversely thereof, and a plurality of staples adjacent said apertures engaging the adjacent respective end portions of said strip.