Oct. 4, 1960 C. O. CARROLL ET AL 2,954,649

CLEANING PAD AND HOLDER THEREFOR

Filed May 29, 1958

Fig. 1.

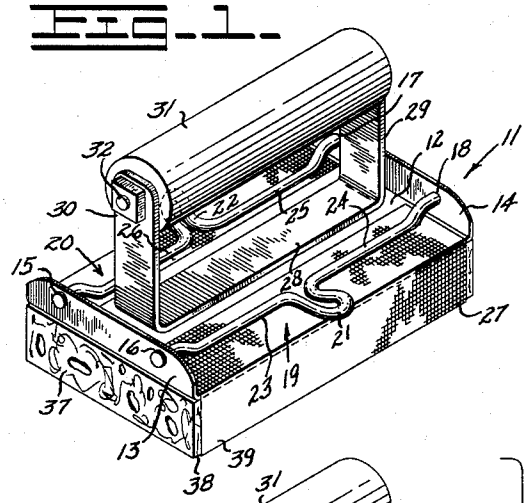


Fig. 3.

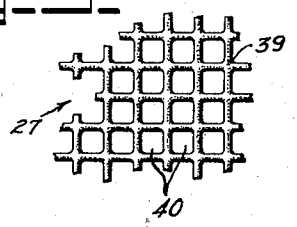


Fig. 4.

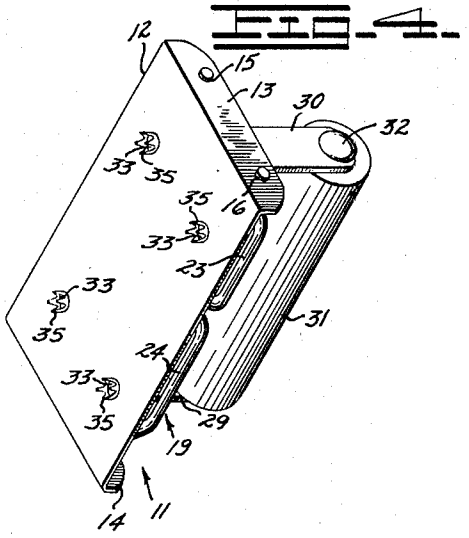


Fig. 2.

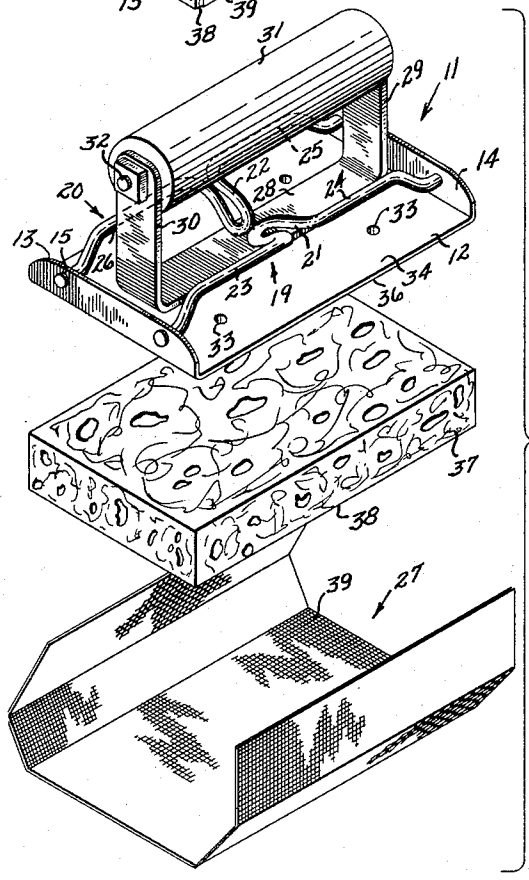
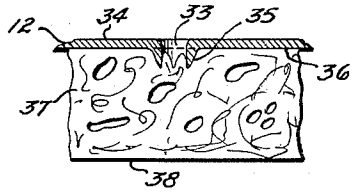


Fig. 5.



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CLEANING PAD AND HOLDER THEREFOR

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4 Claims. (Cl. 51—187)

The present invention relates to a novel cleaning pad and more particularly to a pad and holder combination that greatly simplifies the problem of cleaning and scouring surfaces while combining several prior cleaning operations into an operation accomplished by one unit.

The device of the present invention has extremely high utility in the field of cleaning grills and steel surfaces such as are frequently associated with restaurants and kitchens.

In the cleaning of grills and the like the labor involved in such cleaning has been quite difficult inasmuch as an abrasion operation was required, concurrent with wetting of the surface to be cleaned and finally swabbing up of the cleaning residue. To date, no structure is believed to have provided a combination for accomplishing all of these functions.

It is, therefore, one of the objects of the present invention to provide a sturdy scrubbing frame for securing elements that will accomplish abrasion, wetting of the surface to be cleaned, and clean-up swabbing of the dislodged material.

Another object is to provide a quick release clamping structure for retaining a sponge-like pad, and cleaning net.

Other objects including simple construction, simple refill advantages, and knock-down for cleaning and maintenance will be more really appreciated as the description proceeds.

In the drawings:

Figure 1 is a perspective view of the holder and pad structure as fully assembled and ready for use.

Figure 2 is a perspective exploded view indicating the principal elements in the combination.

Figure 3 is an enlarged partial elevation view through the abrasive grid cloth.

Figure 4 is a perspective bottom accentuating view indicating the simplicity of holding lugs which securely grip the sponge or pad portion of the device and which eliminate slippage or mislocation of the pad.

Figure 5 is an enlarged partial section view illustrating the simple forming of one of the pad holding lugs and showing its grip on the pad member.

General description

In general, the present invention comprises a frame having a substantially flat base portion and an interconnected handle. The frame carries a pair of simple disconnect clamps. To the bottom of the frame, and secured in relation thereto by depending lugs, is a pad of sponge-like material. Wrapped around the sponge is a sheet of grid cloth. Grid cloth is an open weave fabric upon which has been deposited an abrasive material such as aluminum oxide.

In use the grid cloth sheet with its open grid surface is clamped on one side of the frame and encircles the pad or sponge, the grid cloth being locked to the frame on the other side by the second of the disconnect clamps. The structure is immersed in water and is used to scrub

or clean grills and the like. Soaps or detergent materials may be used beneficially, and in cleaning some grills, cooking oil is employed. The pad retains the liquid dispensing it during scouring as desired by the application of pressure. The abrasive surface of the grid cloth removes sticky deposits and excess liquid. The debris is picked up by action of the sponge. The grid cloth is not easily plugged and provides a mesh membrane which allows two-way movement of liquid and grime material from and to the sponge face.

Specific description

Referring more particularly to the drawing, a frame **11** is provided comprising a relatively flat surface plate **12** having upturned flanges **13** and **14** at two of its ends. Bearings **15** and **16** are provided in the flange **13** and corresponding bearings **17** and **18** are provided in the other of the flanges **14**. These bearings **15**, **16**, **17**, and **18** comprise openings defined by the flanges **13** and **14** in spaced apart relation. Lock members **19** and **20** are journaled at either of their ends in the bearings. The lock members **19** and **20** are wire formed so as to provide a camming and springing action in rotated relation with the plate **12**. The lock members **19** and **20** are provided with thumb release loops **21** and **22** respectively for locking and unlocking purposes. In Figure 1, showing the assembled structure, the lock members **19** and **20** are in locked relationship with their spring camming portions **23**, **24**, **25** and **26** bearing upon the abrasive sheet **27** and securing it to the plate **12**. In Figure 2 the locks **19** and **20** are in the unlocked position, the camming portions **23**, **24**, **25** and **26** swung out of camming engagement with the surface **12** of the frame **11**.

The cam lock structures **19** and **20** are made from a length of relatively stiff wire stock. The locks **19** and **20** are journalled at their ends as indicated and shallow bends provide an eccentric surface engagement. The extent of eccentricity is slightly in excess of the distance from the bearings to the surface of the plate **12**.

A U-shape handle bracket **28** is secured centrally and longitudinally to the plate **12** and its arms **29** and **30** are extended upwardly and perpendicular to the plate **12**. Spanning the gap between the two arms **29** and **30** of the handle bracket **28** is the handle **31**. The handle **31** is preferably made from a tubular piece of wood and is secured to the bracket **28** by means of a through fastener **32**.

A plurality of openings **33** are provided in the surface of the plate **12** as best noted in Figures 3, 4, and 5. These openings are rough punched through from the upper surface **34** of the plate **12** so as to provide depending lug portions **35** raggedly extending downward from the undersurface **36** of the plate **12**. As will be appreciated by reference to Figures 4 and 5 these depending lug portions extend to impinge in the pad **37**. This secures the pad **37** from shifting in relationship to the plate **12**, while it does not extend so far as to interfere with the working face **38** of the pad **37**. The pad **37** is actually a sponge or made of material having a sponge-like ability to pick up and store, or to store and deliver liquids on contact. The preferable material is a cellulose sponge such as those commonly procurable from E. I. du Pont de Nemours and Company. The cellulose sponges provide a relatively stiff resilient action under pressure, while some of the other rubber and synthetic sponge materials flex too readily. As will be appreciated the pad material is variable depending upon the stubbornness of the surface to be cleaned and the resiliency desired by the user. The sponge pad **37** is generally rectangular and overlaps the ends of the frame **11**. This overlap provides a buffer surface to avoid

metal to metal contact with the frame **11** and surface served during usage.

A grid cloth sheet **39**,, illustrated best in Figures 2 and 3 is provided for replaceable wrap-around securing of the sponge pad **37**. The ends of the sheet **39** are tensionally secured to the plate **12** by action of the cam locks **19** and **20**. The action of the cam locks **19** and **20** is rotational, inwardly drawing the grid cloth **39** toward the center of the plate **12** while pressing the cloth **39** into engagement with the plate **12**.

The assembled structure as shown in Figure 1 is advantageous in that the abrasive surface is of relatively durable open-work construction. Thus a pattern of voids **40** as shown in Figure 3 allows the working face **38** of the sponge pad **37** to extend into pick up or delivering contact with the surface to be cleaned. The grid cloth **39** comprises a grid of fibers with the fibers being coated with abrasive material. The preferred abrasive is aluminum oxide material in that it is durably retained by the cloth fibers and resists wear beyond that of other materials. The preferred grid cloth is obtained commercially from Bay State Abrasives Company of Westboro, Massachusetts. The preferred grid size for general utility is A–220 which provides about 25 voids per lineal inch.

In use, both the grid cloth **39** and sponge pad **37** are easily removed for cleaning and washing or replacement. The frame **11** is easily flushed clean of debris, the frame device being built to avoid deposition areas where matter can build up. The combined cleaning pad and holder are dipped into liquid material and the surface to be cleaned is scrubbed with the abrasive grid sheet surface down. Scrubbing is greatly facilitated by the use of the holder unit. Depending upon the downward pressure applied to the cleaning and scouring structure the liquid is dispensed or picked up from the surface served. The results of such cleaning are highly advantageous, the pad and abrasive face flexing with the surface contours of the surface to be cleaned and lifting off debris from the surface as the combination structure is used. In restaurants, hotels, and household kitchens the devices have found excellent reception.

Having thus disclosed one embodiment of my invention it will be appreciated that some modifications will occur to those skilled in the art, and such modifications are intended to be included herein limited only by the scope of the hereinafter appended claims.

We claim:

1. A pad and wrap around holder frame comprising: a flat rectangular plate; an upturned flange at either end of said plate defining bearing openings therethrough; wire stock cam blocks journalled in said bearing openings of said flanges and having eccentric portions which upon rotation resiliently engage the upper surface of said plate; a plurality of lugs depending from the bottom of said plate; and a handle attached to said plate.

2. In a cleaning structure, the combination including: a frame holder; a pair of spaced apart eccentric locks in parallel opposed relation on said frame; a liquid retaining pad in mating relationship with said frame; means depending from said frame and impinging said pad thereby preventing lateral shifting of said pad in relationship to said frame; and an open work abrasive faced grid cloth releasably secured at either end by said eccentric locks and enveloping the working face and two sides of said pad in wrap-around relationship.

3. In a cleaning structure, the combination comprising: a frame having a flat plate portion with upturned ends; a handle bracket attached to the upper surface of said frame; a handle connected to said handle brackets; a pair of wire cam locks in spaced apart parallel relationship on either side of said bracket and having eccentric portions, eccentric with respect to the journals for said cam locks; lugs depending from the bottom of the flat plate portion of said frame; a sponge block impinged upon said lugs and in substantial register with the flat plate of said frame; and a rectangular sheet of abrasive grid cloth around said sponge block and tensionally secured at the ends of said cam locks in engagement with the surface of said frame.

4. In a cleaning structure, the combination comprising: a frame of flat stock having a central flat rectangular portion and upturned ends, said upturned ends defining spaced apart journal openings therethrough; a pair of wire cam lock members journalled in said ends and operative eccentrically to selectively and resiliently engage and disengage said flat rectangular portion of said frame; a handle mounted parallel to said cam locks and between said cam locks; lugs depending from said central flat portion of said frame; a block of sponge having substantially contiguous openings dispersed therethrough and impinged on said lugs in register with said flat portion of said frame; and an open-work abrasive cloth wrapped around said sponge and lapped over said central flat rectangular portion of said frame and tensionally secured at its ends by said cam locks forcing said abrasive cloth into engagement with the upper surface of said frame.

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