Sept. 7, 1965 N. M. LAMBROS 3,204,278

PAINT APPLICATOR OR THE LIKE

Filed Aug. 13, 1963

Fig. 1.

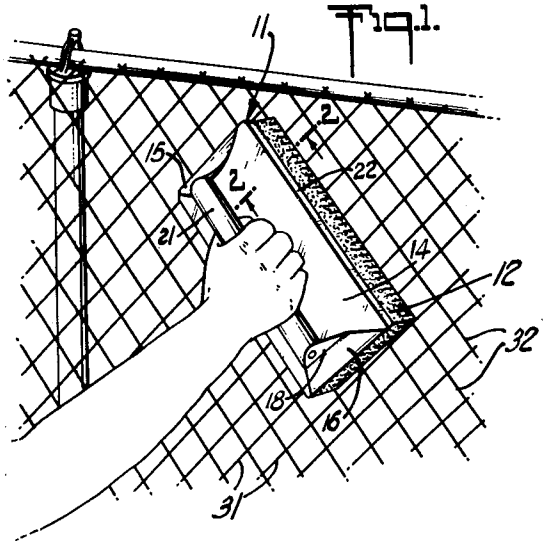


Fig. 2.

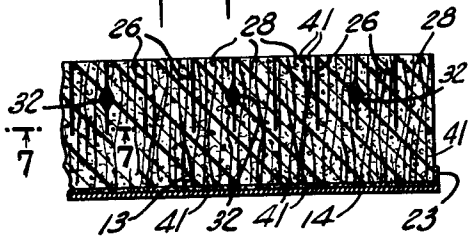


Fig. 2a.

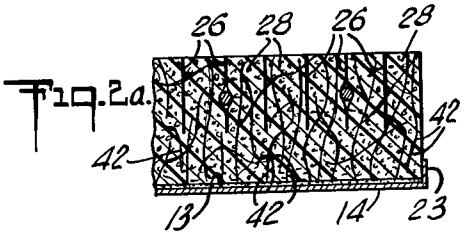


Fig. 3.

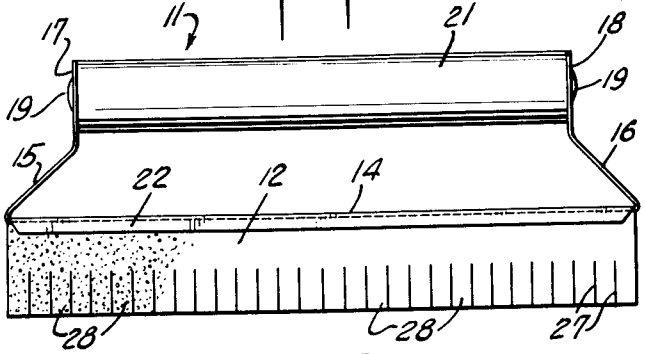


Fig. 4.

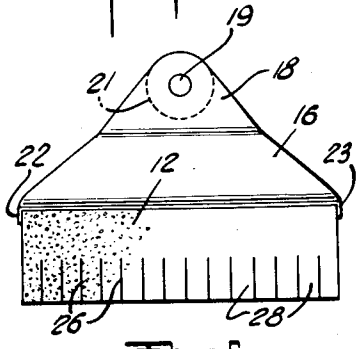


Fig. 5.

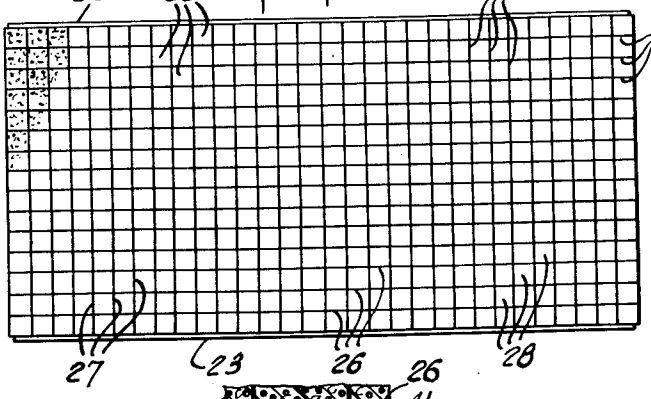


Fig. 6.

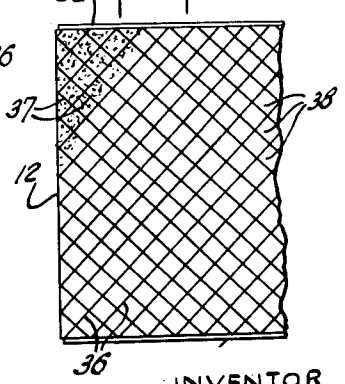
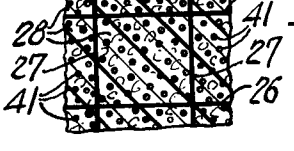


Fig. 7.



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PAINT APPLICATOR OR THE LIKE

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This invention relates to paint or coating applicators which are adapted for use on wire fences of the chain link type, on various reticulated objects, and on other kinds of irregular surfaces.

A salient feature of the present invention is the provision of a sponge-like body which serves not only as its own reservoir for paint, whitewash, calcimine, or the like, but which also has at its operating surface a plurality of integral, closely arrayed, finger-like projections which, by virtue of their resilience and pliability, accommodate themselves for applying paint to all types of irregular surfaces. These fingers are also able to penetrate into recesses and apertures in the surfaces to be coated, or through the holes of various mesh-type objects in order to coat the lateral and, in some cases, the rear surfaces of the structural elements of such reticulated objects.

In one embodiment of the present invention, I provide a rectangular, sponge-like block made of a fluid saturable cellular substance, such as foam rubber, polyethylene foam, urethane foam, or other suitable porous material, either natural or synthetic, and which is pliable and resilient in character. The operative surface of said block of material is cut or sliced to a suitable depth to form a plurality of integral projecting fingers which, by virtue of the resilience and pliability of the material, are able to adapt themselves to different types of surfaces, and even to penetrate between and extend at least partially around such structures as the elements of link-wire fences, chicken wire, or the like. When the block is dipped into paint, the sponge-like structure of the fingers absorbs or takes up the paint, while some of the paint extends into the slits between the fingers. When the applicator is applied to the wire fence, the fingers work against the face and sides of the wire links and due to their mutual close proximity, portions of said fingers extend to the rear surfaces of the wire and apply paint thereon, as well. Because of the novel structure of the applicator of the present invention, paint is efficiently applied to the greatest portion of the wire fence from principally one side thereof only, with minimal or substantially no spattering or waste of paint that frequently occurs with other prior art devices.

In order to prevent or greatly reduce the possibility of the fingers being cut or torn because of flexing and bending action and because of abrasion and wear upon rough and irregular surfaces, there are integrally molded into the sponge-like block numerous elongated filaments or fibers which extend from the backing portion of the block into said fingers to reinforce the latter.

In the preferred embodiment, the filaments are directionally arrayed substantially perpendicularly to the operating face of the brush. In other embodiments, the filaments may be disposed in random array provided a sufficient number of them across the juncture between the backing block and the fingers to reinforce the latter at the critical locations.

Still other objects and advantages of the invention will be apparent from the specification.

The features of novelty which are believed to be characteristic of the invention are set forth herein and will best be understood, both as to their fundamental principles and as to their particular embodiments, by reference to the specification and accompanying drawings, in which:

FIGURE 1 is a perspective view of the applicator of the present invention as it is held in position for painting a wire fence or the like;

FIG. 2 is a greatly enlarged, fragmentary section view, taken on line 2—2 of FIG. 1;

FIG. 2*a* is similar to FIG. 2, but illustrates another embodiment;

FIG. 3 is an enlarged side view of the device shown in FIG. 1;

FIG. 4 is an end view of the device shown in FIG. 3;

FIG. 5 is a bottom view of the device shown in FIG. 3;

FIG. 6 is a fragmentary view, similar to FIG. 5, showing an alternate form of the invention; and

FIG. 7 is a greatly enlarged view taken on line 7—7 of FIG. 2.

Referring to the drawings, the applicator tool of the present invention, generally designated **11**, comprises a block **12** made of a suitable sponge-like porous substance, such as sponge rubber, foam rubber, polyethylene foam, urethane foam, or other cellular material. Although block **12** may be made in the form of a rectangular shape, as shown in the drawings herein, it may be made in any other suitable shape that may be useful or convenient. Block **12** is securely bonded by means of a layer **13** of a suitable adhesive or the like, to a backing plate **14** made of a stiff sheet metal or the like. See FIGS. 1 and 2.

The ends of plate **14** have integral projections **15** and **16** which are bent upwardly and obliquely toward each other and which terminate in upwardly extending tabs **17** and **18**, respectively. Secured between tabs **17** and **18** by means of bolts or screws **19** is a handle **21** made of a suitable dowel rod of wood, or the like. In some embodiments the backing plate **14** may be provided with a handle similar in structure to that of the mason's or bricklayer's trowel.

The longitudinal edges of backing plate **14** may be bent downwardly and substantially perpendicularly in the form of elongated flanges **22** and **23**, respectively, if desired, in order to provide a smooth edge structure for said plate, and to act as a guard for block **12**.

The bottom or face portion of block **12** has a plurality of parallel longitudinal slits **26** and a plurality of parallel slits **27**, said groups of slits being arrayed substantially perpendicular to each other in a criss-cross or checkerboard pattern. See FIGS. 3, 4, 5. Slits **26** and **27** are cut by any suitable slicing tool or sets of tools that are devised for this purpose, said groups of slits extending a suitable distance into the mass of block **12**, the remainder of which serves as a backing portion for said fingers. See FIGS. 1, 2 and 4, for example.

The arrays of slits **26** and **27** form between them a plurality of closely arrayed individual fingers **28** of substantially uniform and similar cross-section and which are pliable and resilient. When applicator **11** is manipulated by the operator and pressed against objects having irregular surfaces, said fingers **28** are capable of individually adapting themselves to said irregularities and to coat such surfaces with paint or the like.

In operation, block **12** is dipped into the supply of paint, which enters at least partially into the cellular mass of fingers **28**, or adheres to the ends and sides thereof, to the depth desired, after which the applicator is applied to the object to be coated. In the case of painting a chain link fence, as illustrated in FIG. 1, for example, the paint loaded applicator is not only moved laterally in several random directions against the face of the fence, but it is also moved inwardly and outwardly relative to the plane of the fence in such manner that fingers **28** extend through the spaces between the respective parallel wires **31** and the respective parallel cross wires **32**, whereby adjacent fingers **28** are caused to work against the front, side and at least part of the rear surfaces of the respective wires, as is seen in FIGS. 1 and 2. In actual operation, it has been found that fingers **28** are capable

of coating most if not substantially all of the front, side and rear surfaces of wires **31** and **32**, with virtually no waste of paint, nor any appreciable spattering thereof on the ground or the operator, as has been experienced with other paint applicators for wire fences.

In an alternative embodiment of the present invention, the criss-cross slits may be arrayed as shown in FIG. 6, whereby parallel slits **36** are aligned diagonally across the operating face of block **12** and parallel slits **37** are arrayed substantially perpendicularly to slits **36**. Such an array of criss-cross slits to produce integral fingers **38** may be useful for applying paint or the like to particular types of irregular surfaces.

Slits **26** and **27** and slits **36** and **37** are preferably made by knife-like cutting tools so as to produce an array whereby the opposing surfaces of adjacent fingers are in close proximity to each other, or are in intimate contact with each other. When the coating applicator described herein is dipped into paint within a shallow pan, or the like, are pressed against the floor of the pan and moved laterally to temporarily deform fingers **28** or **38**, slits **26** and **27** or slits **36** and **37** are at least partially opened to permit paint to extend along and adhere to the sides of said fingers, while at the same time a good number of the cellular structures thereof take up paint by sponge action. Thereafter, when the applicator is applied with some pressure during lateral movement thereof against the object to be coated, the paint within the slits and the paint that is squeezed out of the cells of the sponge-like structure is caused to be applied to the surfaces of the object being coated.

In operation, fingers **28** are subjected to wear and abrasion, not only on their facing ends but also along the sides on their slit boundaries. Also after continued flexion and bending, the fingers tend to break at their roots in the area of the inner ends of the slits. In order to obviate this tendency and to prolong the life of the brush, there are provided a fairly evenly distributed number of filaments or fibers **41** (FIGS. 2 and 7) which are aligned substantially perpendicularly to the face of the brush and which extend from the region of the backing portion of block **12** into fingers **28**.

Filaments **41** which are made of a suitably tough material such as natural bristle, nylon, rayon, or the like, are particularly useful at the critical juncture at the inner ends of slits **26** and **27** where they resist the abrasive action of such things as wires **31** and **32** (FIG. 1) or natural attrition due to prolonged and repeated flexion and bending of fingers **28**.

In the embodiment shown in FIG. 2*a*, filaments or fibers **42**, similar in nature to filaments **41**, are shown disposed in random as well as curved array which may be desirable in some operations of the applicator. Although filaments **42** may be disposed in random array, nevertheless a sufficient quantity of them extend from the backing portion of block **12** into the fingers **28** to reinforce the latter at their roots in the area of the inner ends of slits **26** and **27**.

The quantity of filaments incorporated into the fingered applicator block will be limited by the desirable porosity that is to be maintained for absorbing or taking up liquid paint or other coating materials for applying to wire fences, walls and the like. Yet a sufficient quantity of filaments will be provided to increase the resistance of the fingers to wear and abrasion or to tearing from the backing portion of the block.

The present invention also contemplates the advantageous incorporation of filaments into resilient porous blocks which have protruding integral fingers of different shapes and sizes, which are spaced apart at different distances from each other, and which perform various other functions, such as washing, polishing, and the like. It is also contemplated that the integral finger elements may

extend from more than one operating face of the porous resilient block.

Block **12** may alternatively be formed in an elliptical or circular shape, provided the criss-cross parallel slits **26** and **27**, respectively, or **36** and **37**, respectively, form between them closely arrayed integral fingers, as described hereinabove.

Although the respective arrays of parallel slits have been described hereinabove as being at right angles relative to each other, there may be some variations in the angular relationship between the respective arrays of slits **26** and **27** to form fingers **28** having diamond shaped cross-sections, without departing from the purview of the present invention.

Although the depths of slits **26** and **27** have been described as being substantially half the thickness of block **12**, it is understood that the depths of said slits may be of any other suitable dimension to produce fingers **28** having sufficient length, pliability, and resilience to be worked around such objects as the links of wire fences, and the like, to coat said links with paint or other required coating material.

Although slits **26**, as well as slits **27**, are shown herein as being substantially equi-distantly spaced apart, it is contemplated that in some embodiments the spacing of the parallel slits may be modified as desired, or as may be necessary in some operative applications.

As shown in FIGS. 3–6, the outer ends of fingers **28** and of fingers **38** together form a substantially flat plane. In some embodiments, however, it may be desirable or necessary to provide the outer end of said fingers with irregular, rippled, rounded or pointed terminal configurations whereby the application of paint or the like to special structures may be facilitated.

It is claimed:

1. A coating applicator comprising an elongated block of resilient, porous material, a plurality of substantially parallel longitudinal slits cut to a predetermined depth into said block intermediate the front and back thereof, a plurality of substantially parallel lateral slits cut to the same depth in said block, said lateral slits being arrayed at an angle relative to said longitudinal slits, said longitudinal and lateral slits forming between them a plurality of closely arrayed resilient fingers, the remainder of said block forming a backing portion for said fingers, and a plurality of elongated filaments incorporated into said block, said filaments extending from said backing portion into said fingers and being arrayed substantially perpendicular to the operating end faces of said fingers, said filaments crossing over the junctures of said fingers and said backing portion to reinforce the bases of said fingers against tearing and abrasion.

2. A coating applicator according to claim **1** wherein said filaments are substantially evenly distributed throughout said block.

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