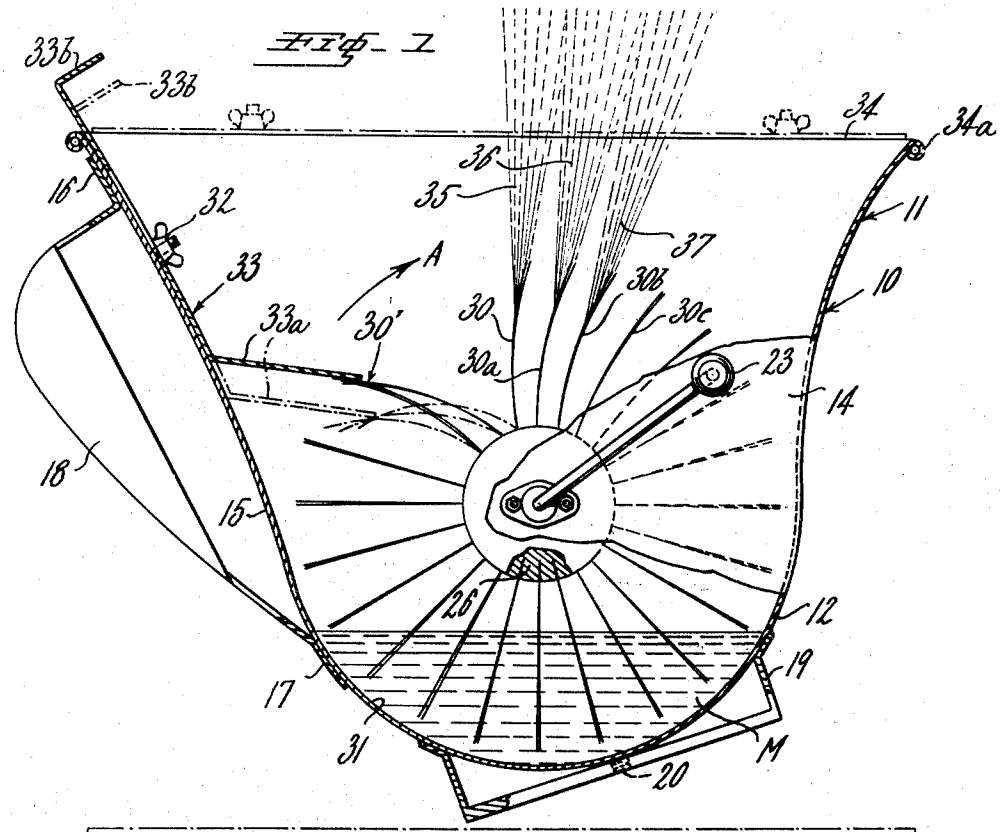
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APPLICATOR FOR SPATTERING MASSES

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Fig. 1



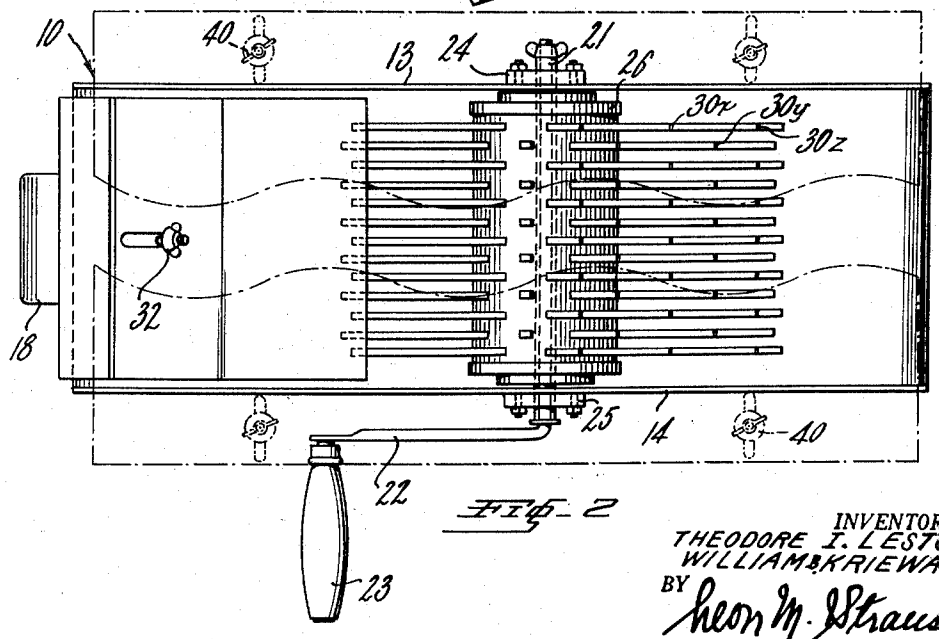


Fig. 2

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Fig. 3

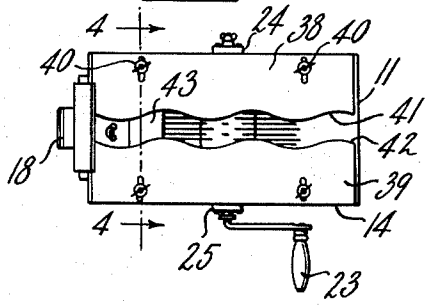
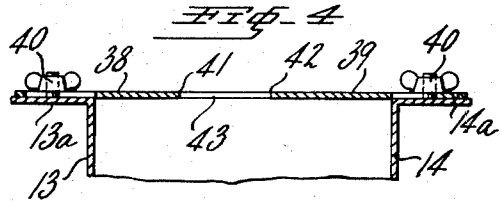


Fig. 4



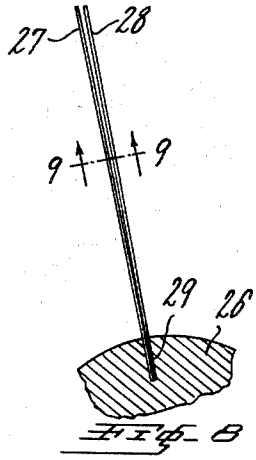


Fig. 8

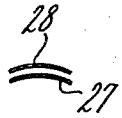
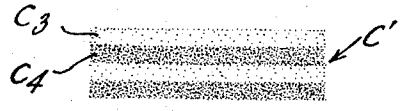


Fig. 9

Fig. 5



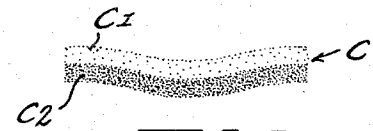


Fig. 6

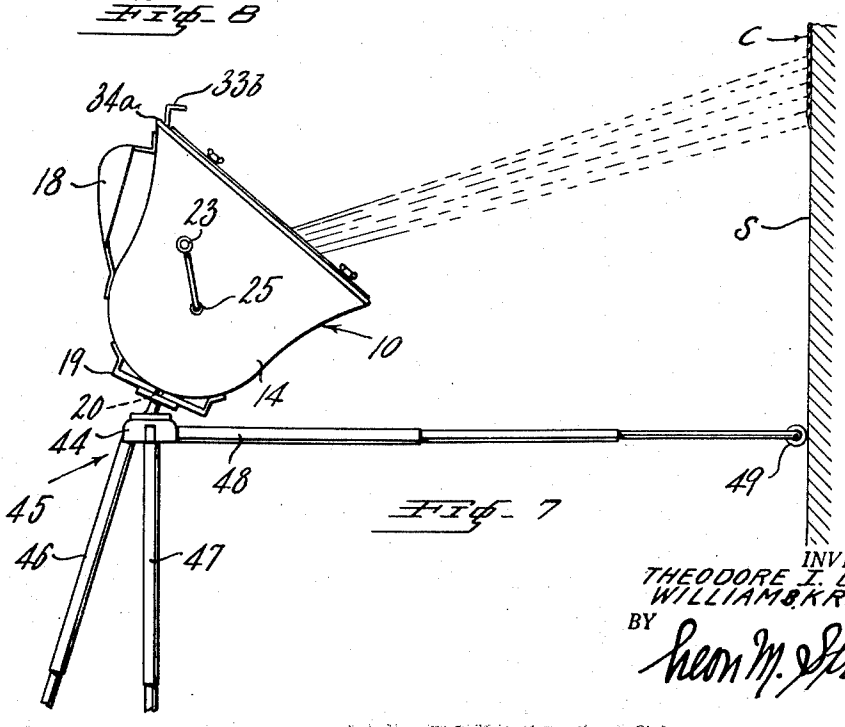


Fig. 7

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APPLICATOR FOR SPATTERING MASSES

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Application November 1, 1954, Serial No. 466,060

12 Claims. (Cl. 118—300)

This invention relates to spattering or like distributing means or applicators for paints, plaster of Paris, plastic materials and similar viscous masses to be applied for adherence to a surface.

It is one of the primary objects of this invention to provide means affording marked economy and easy manipulation of an applicator for distributing or applying viscous masses to a surface for covering or coating the same, either partly or entirely, for protective, decorative or like purposes.

It is another object of the present invention to provide means facilitating the construction of a portable applicator from which predetermined quantities of particles of a viscous mass may be dispensed to thereby obtain, if so desired, a predetermined pattern along a surface to which the applicator is directed.

It is still another object of this invention to provide means contributing to a very efficient and simple applicator construction which requires only a few parts, may be either motor-driven or hand-operated, and has adjustable discharge openings to thereby vary the extent of application of a viscous mass to a surface to be treated.

A further object of the invention resides in the provision of means making it possible to support the applicator at predetermined angular positions relative to the surface to be treated and at a certain distance therefrom, means being provided for continuously moving the applicator along said surface.

It is still a further object of this invention to provide means conducive to a very efficacious applicator for spattering masses against a surface to be treated and with variable slinging or impelling forces.

Yet another object of the invention is to provide means envisaging certain improvements in carrying out the spattering of viscous masses onto an even or uneven surface and in a predetermined fashion, whereby floor surfaces, overhead ceilings and other wall surfaces may be readily treated and within a minimum of time and without any substantial waste.

Still a further object of the present invention is to provide means affording interchangeability and disassembly of applicator parts for cleaning purposes and for feeding different kinds of masses to, mixing the same in, and discharging them from the applicator.

Still a further object of the invention is to provide means ensuring homogeneous mixing operation for a plurality of viscous, flow-resistant or plastic masses in a reservoir, which may be integral with or may form a separate part of the applicator housing and thereafter discharge of such thoroughly mixed masses from said housing under force or impact against a surface to be treated.

A further object of the invention resides in the provision of means rendering the possibility of applying adhesive or like mass or masses to a surface to be decorated in various configurations, thicknesses and layer formations.

These and other objects of the invention will become

further apparent from the following detailed description, reference being made to the accompanying drawings, showing preferred embodiments of the invention.

In the drawings:

Fig. 1 is a partial sectional vertical view through an applicator embodying the invention.

Fig. 2 is a top plan view of the applicator of Fig. 1, closure plates thereof being shown in dotted lines.

Fig. 3 shows a similar top plan view as Fig. 2 with the top plates shown in full lines and applied in one operative position, the applicator being shown on a reduced scale.

Fig. 4 shows a cross sectional view taken along lines 4—4 of Fig. 3.

Figs. 5, 6 show, respectively, top plan views of a section of a surface after treatment with the applicator made in accordance with the invention.

Fig. 7 illustrates in side view the applicator of Fig. 1 mounted on a tripod, showing schematically the applicator in operation.

Fig. 8 is a fragmentary view partly in section showing the mounting of the blades of the applicator in the drum body of the latter.

Fig. 9 shows an enlarged sectional view taken along lines 9—9 of Fig. 8.

Referring now more particularly to the drawings and, in particular, to Figs 1 and 2 there is disclosed an applicator **10** having a housing **11** which is U-shaped in cross section with a substantially arcuate bottom **12**, opposite side walls **13**, **14** and rear wall **15**. To rear wall **15** there is attached exteriorly thereof at **16**, **17** a handle **18** for grasping applicator **10** to thereby maintain the same in an operative position or to carry it from place to place. Bottom **12** is provided with a suitable base frame **19** having a central screw-threaded opening **20** for a purpose later referred to.

The side walls **13**, **14** of the applicator **10** support a transverse shaft **21** to which is connected a crank **22** with handle **23** for operating the same. Instead of a crank and handle arrangement **22**, **23** a small motor may be employed to continuously or intermittently drive said shaft **21**.

Shaft **21** is supported in suitable bearings **24**, **25** which contain glands (not shown) in order to ensure liquid or fluid-tightness. On shaft **21** there is mounted within housing **11** a hub or drum body **26**, in which there are progressively inserted at spaced intervals a plurality of pairs of somewhat spaced, springy fingers or blades **27**, **28** diverging toward the outer extremities thereof and made of steel, plastic or plastic composition, slots or similar openings **29** being provided in drum **26** to retain the respective pairs of the flexible blades in fixed position as can be more clearly visualized from Fig. 8. Instead of two, three or more springy or flexible blades may be inserted in each respective slot and in predetermined succession, as may be visualized from the placement of the ends **30***x*, **30***y*, **30***z* of said blades (Fig. 2), bunches of blades **30**, **30***a*, **30***b*, **30***c* being seen in Fig. 1.

Fig. 9 shows, for example, blades **27** and **28** somewhat curved in cross-section so that any material M lifted out of the reservoir **31** of applicator **10** may be first collected by the blades forming resilient applicator or catapulting means and retained within the respective space between these blades along substantially their entire length from the hub **26** to the outer extremities or free ends of said pair of blades, then impelled and spattered beyond housing **11** in a manner more clearly indicated in Fig. 1 at **35**, **36**, **37**.

As seen in Fig. 2 the blades are arranged in pairs or tuft-shaped fashion and in staggered relation to each other on said drum **26**.

On the inner face or rear wall **15** of housing **11** there

is adjustably attached by means of wing screw **32** an abutment plate **33** having an inwardly projecting portion **33***a* and an upwardly and inwardly directed grip portion **33***b* for facilitating adjustment of plate **33** to different positions (as indicated in dash and dot lines in Fig. 1).

Blades **30**, **30***a* etc. during rotation of handle **23** and drum **26** in the direction of arrow A first pass through reservoir portion **31** where they come into contact with viscous or flow-resistant mass M, thence abut against spattering plate portion **33***a*, at which the blades are first bent into a position as clearly seen in Fig. 1 at **30'** and thereafter released to a position indicated by blades **30**, **30***a*, **30***b* etc., whereby the material M after having been previously moved lengthwise of these blades is thrown with great force and spattered along paths **35**, **36** and **37** toward a surface S (Fig. 7), thereby building up a coating or covering C of predetermined thickness thereon.

As can be visualized from Figs. 1 and 2 the housing **11** has an open top at **34** and is preferably reinforced thereat by a curled rim **34***a*.

According to the invention the side walls **13**, **14** may optionally be provided with lateral, outwardly directed flange pieces **13***a*, **14***a* for adjustably receiving thereon pattern plate portions **38**, **39** which may be adjusted to each other and relative to housing **11** by means of slot and wing screw arrangement **40** as may be readily visualized from Figs. 3 and 4. The effective edges of pattern plates **38**, **39** may be, for instance, scallop-shaped as at **41**, **42**, whereby a predetermined width or opening **43** between them may be obtained through which viscous mass M may be spattered from within housing **11** therewithout and against wall surface S in a fashion, as exemplified at C in Fig. 6, whereby C_1 signifies a thinner layer and C_2 a relatively heavier layer of spattered coatings.

Instead of scallop-shaped edges **41**, **42** straight edges may be employed, to thereby obtain a coating configuration, as more clearly seen in Fig. 5 at C', which consists of portions C_3, C_4 which are disposed to each other in alternate relation.

As can be further seen from Fig. 7 applicator **10** may be connected at threaded opening **20** to a threaded stud of a tripod **45** having telescopic legs **46**, **47** and **48**.

At least one of the legs, such as leg **48**, may be provided with a ball- or wheel-shaped end **49**, by which the applicator **10** may be equidistantly spaced from surface S, while the applicator is being moved in predetermined angular position relative to tripod surface **44**, as seen.

The applicator housing as herein disclosed and shown in the drawings may be made of stainless steel, plastic or light-weight material, if desired, so that easy transportation from place to place may be had.

It has been found in practice to fill the bottom reservoir **31** with mass approximately up to the level of the drum body or carrier **26** depending upon the position of the surface to be treated.

In order to use the device for spattering a floor surface with concrete, metallizing substance, rubberized or linoleum mass or masses, it is preferred to fill up housing **11** approximately to ¼ or less than ½ of its effective capacity.

It will be further understood that upon retraction of regulator or abutment plate **33** to a position which may be marked on the outer surface thereof, in which abutment piece or spattering plate portion **33***a* will not come into contact with the ends of the blade means, the resilient applicator or catapulting means may first be employed to thoroughly and homogeneously mix the mass or masses M contained in the reservoir of housing **11** and may then be used to effectuate spattering operation upon adjusting abutment member **33***a* relative to said ends of the blade means thereby attaining sufficient flexing action for final spattering through the top or spout of said housing.

It is understood that material or mass M will adhere prior to spattering to both surfaces of each of said blades and will collect within spaces between individual blades grouped in bunches or tufts.

Instead of grooved, springy blade means bristles or like flexible elements may be employed which are sufficiently resilient and lift a predetermined quantity of mass out of the reservoir during operation. These blade means are preferably arranged on drum body **26** in predetermined or changeable fashion (staggered or displaceable relation).

It can thus be seen that there has been provided according to the invention a portable applicator for directing under force a pasty mass against a surface to be treated comprising a portable housing having a spout, a rotatable carrier mounted in said housing, a reservoir for said mass communicating with said housing, and abutment member adjacent said spout and spaced from said carrier and said reservoir, flexible blade means distributed over and extending from said carrier into said reservoir and toward said abutment member, whereby upon rotation of said carrier said blade means come successively in contact with said mass and then with said abutment member to be flexed by the latter, said blade means upon release from said abutment member impel or catapult mass particles through said spout against said surface against which said spout is directed.

Various changes and modifications may be made without departing from the spirit and scope of the present invention and it is intended that such obvious changes and modifications be embraced by the annexed claims.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent, is:

1. A device for directing under force a pasty mass against a surface to be treated, which device has a portable housing with a spout, a rotatable carrier mounted in said housing, a reservoir for said mass communicating with said housing, an abutment member adjacent said spout and spaced from said carrier and said reservoir, pairs of outwardly diverging, flexible blade means extending from said carrier into said reservoir and toward said abutment member, whereby upon rotation of said carrier said pairs of blade means come successively in contact with said mass, retain portions of the latter between each pair of blades, and then strike said abutment member, past which said blade means are flexed, so that said blade means upon release from said abutment member impel mass particles through said spout against said surface against which said spout is directed.

2. A device according to claim 1, including pattern plate means supported by said housing adjacent said spout and constructed to permit adjustment of the effective opening of said spout.

3. In a device for spattering a viscous mass against a surface to be treated, whereby said mass is stored in a reservoir housing with an open top, abutment means at said housing top, a rotatable hub traversing said housing, springy applicator means mounted on said hub and adapted to strike said abutment means during rotative movement past the latter; said applicator means comprising at least one pair of flexible blades diverging from said hub toward the free ends of said blades and shaped to collect from said reservoir housing and to retain a portion of said mass between substantially the entire length of the blades of each pair so that said portion of said mass is delivered beyond said open top under force against said treatment surface as soon as said pair of blades has passed said abutment means.

4. In a device according to claim 3, according to which said blades are both curved in the same direction to facilitate collection and scooping of said portion from said reservoir.

5. In a device according to claim 3, including means seated on said housing top for constricting and shaping the opening of the latter and to thereby regulate the quantity of mass discharged from said reservoir housing.

6. In a device according to claim 5, wherein said shap-

ing means comprises two oppositely arranged slidable pattern plates terminating in spaced apart adjacent edges determining the effective opening of said top of said housing reservoir.

7. In a device according to claim 6, wherein said spaced apart edges are scallop-shaped.

8. In a device according to claim 6, wherein said spaced apart edges extend substantially parallel and rectangular to the axis of rotation of said hub.

9. In a device for catapulting a viscous mass against a surface to be treated, which device has a housing serving as a reservoir for said viscous mass and having a discharge opening formed at one end of said housing; rotatable hub means connected to said housing for rotation relative thereto, means operatively connected to said rotatable hub for driving the latter, resilient catapulting means mounted on said rotatable hub for rotation therewith, said catapulting means comprising at least one pair of flexible blades which diverge from said hub toward the respective free ends of said pair of blades, whereby upon rotative movement of said flexible blades the latter collect viscous mass from the reservoir along substantially the entire length of said pair of blades between said hub and said respective free ends, and adjustable abutment means located adjacent said housing opening and cooperable with said pair of flexible blades, whereby continuing rotative movement of said pair of flexible blades results in striking of said abutment means by said pair of blades, thereby producing a bending moment on said pair of blades so that upon further movement of said pair of blades past said abutment means said viscous mass contained between said flexible blades of each pair is catapulted through said opening and against the surface to be treated.

10. In a device according to claim 9, including means for adjusting the angle of inclination of said housing to vary the position of the opening with respect to the surface to be treated.

11. In a device according to claim 9, including tripod means for mounting said housing, a portion of said tripod means being adapted to maintain said housing a predetermined distance from said surface to be treated.

12. A device according to claim 9, including adjustable pattern plate means adjacent said one end and supported by said housing so as to vary the effective opening of said housing.

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