US005832832A

United States Patent [19]

Carsel

[11] Patent Number: 5,832,832

[45] Date of Patent: Nov. 10, 1998

[54] **WALL DECORATION PAINT APPLYING DEVICE**

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[21] Appl. No.: **964,193**

[22] Filed: **Nov. 10, 1997**

Related U.S. Application Data

[62] Division of Ser. No. 783,603, Jan. 14, 1997.

[51] **Int. Cl.**[6] **B41F 27/00**

[52] **U.S. Cl.** **101/379**; 101/405; 101/406

[58] **Field of Search** 101/405, 406, 101/379, 368, 380, 333, 384, 382.1; 15/244.1, 244.2, 244.3, 244.4; 401/6, 88, 118, 130, 138, 139, 196, 198, 207, 261, 262, 266

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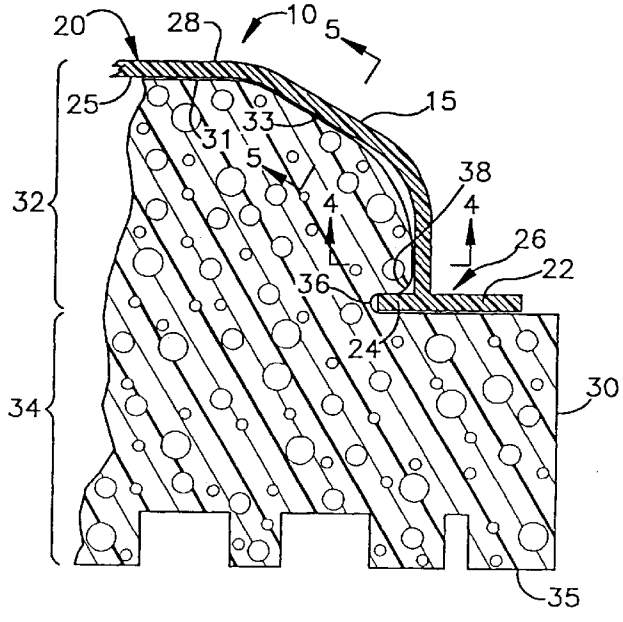
Primary Examiner—Eugene H. Eickholt

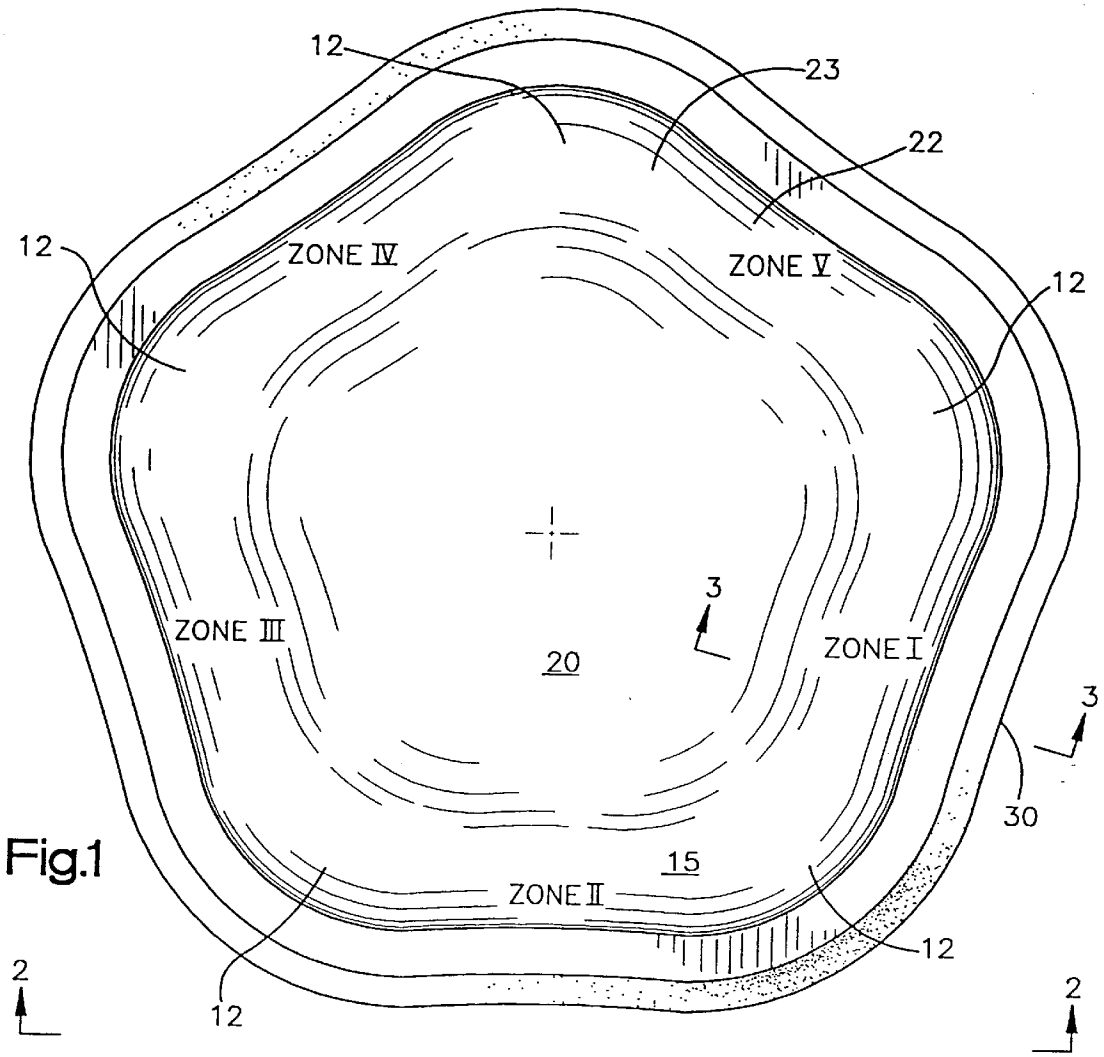
Attorney, Agent, or Firm—Howard M. Cohn

[57] **ABSTRACT**

A unique two piece, hand held, device having an ergonomic and ambidextral hand holder with a detachable, and/or interchangeable, sponge-like, image imprinting element is disclosed. The imprinting element is preferably made of a unitary piece of a sponge body having an ornamental design embossed into the printing face. The embossed printing face is dipped into a paint and the paint is transferred to the desired surface by pressing the printing surface of the sponge body against the surface to be decorated.

9 Claims, 3 Drawing Sheets

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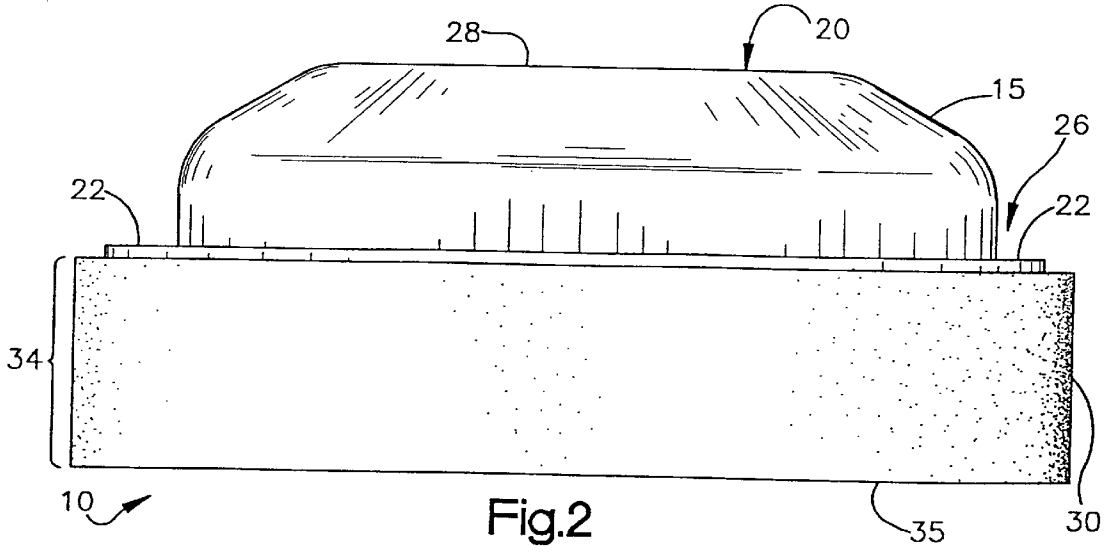
23
22
12
ZONE IV
ZONE V
12
3
ZONE III
20
ZONE I
3
30
15
ZONE II
12
2
12
2

Fig.1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20
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22
22
34
10
35
30

Fig.2

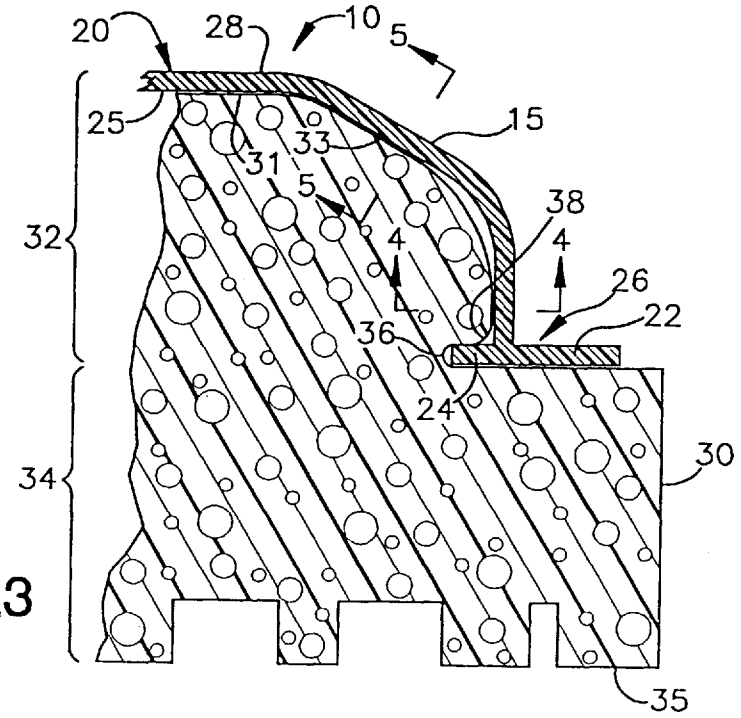

Fig.3

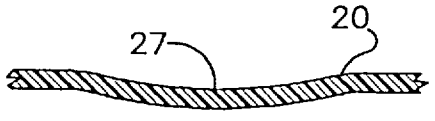

Fig.4

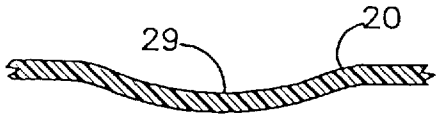

Fig.5

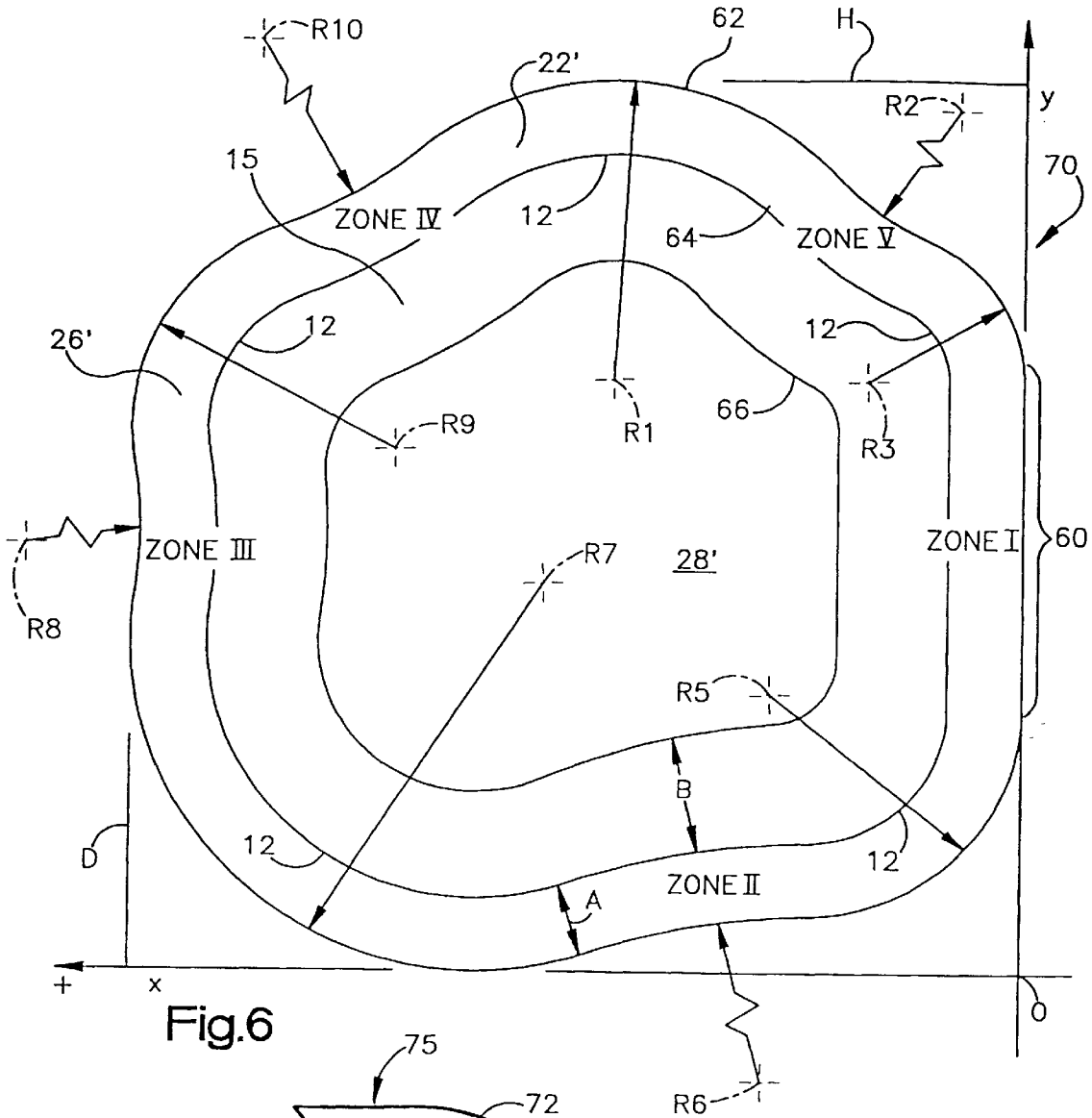
R10
22'
62
H
y
R2
70
15
ZONE IV
12
64
ZONE V
26'
12
12
R9
R1
66
R3
ZONE III
R7
28'
ZONE I
60
R8
R5
B
D
12
12
ZONE II
A
+
x
0
R6

Fig.6

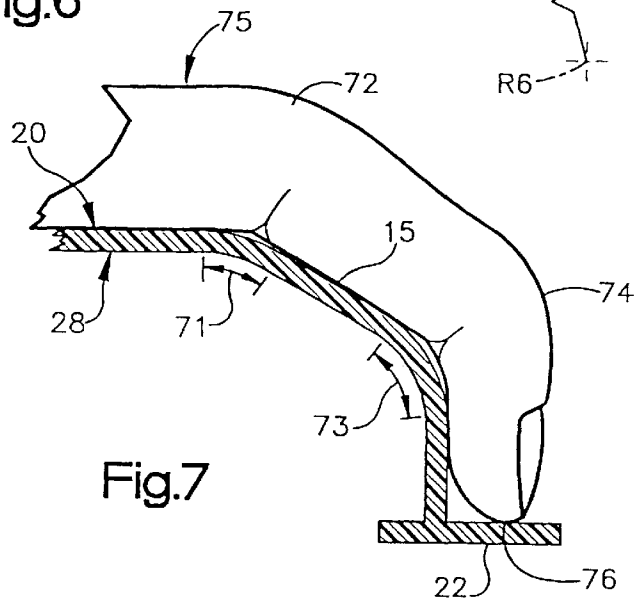
75
72
20
15
74
28
71
73
22
76

Fig.7

WALL DECORATION PAINT APPLYING DEVICE

This application is a division of application Ser. No. 08/783,603 filed Jan. 14, 1997 which application is now pending.

BACKGROUND OF THE INVENTION

a) Field of the Invention

The present invention relates to an improved printing block type of stenciling device for applying decorative and ornamental designs upon a surface, such as a wall, by transfer-printing various ornamental patterns, designs and/or images upon the surface. Although I refer to the device disclosed herein as a stenciling device, it is in reality a type of printing device, typically for applying a pattern of paint onto a surface, such as a wall to simulate wallpaper.

b) Description of the Prior Art

A search of the prior art disclosed the following U.S. Patents:

Hampson U.S. Pat. No. 1,908,237

Harwood U.S. Pat. No. 3,142,082

Joseph U.S. Pat. No. 3,280,260

Lambros U.S. Pat. No. 3,204,278

Zacha et. al. U.S. Pat. No. 3,785,000

Hagen U.S. Pat. No. 3,817,178

Briggs U.S. Pat. No. 3,843,992

McGuire U.S. Pat. No. 4,030,414

Winston U.S. Pat. No. 5,431,098

Of the foregoing patents, teaching various stenciling devices, for imprinting a decorative and/or ornamental pattern upon a wall surface, none of the references teach a stenciling device that incorporates means for conveniently exchanging or replacing the stenciling element. Further, the foregoing references do not disclose a device that interchangeably and comfortably fits the palm of either the right or left hand whereby the palm of the hand may be effectively used to directly apply the necessary stamping pressure without stressing or otherwise cramping the fingers of the applicator's hand.

OBJECTS OF THE PRESENT INVENTION

In view of the foregoing it is an important object of the present invention to provide an ergonomic, ambidextral, hand held, wall stenciling device that is configured to comfortably and interchangeably fit either the right or left hand of a user.

It is a further object of the present invention to provide a hand held, ergonomic, wall stenciling device where the palm of the user's hand is used to apply a significant portion of the necessary stamping pressure when applying the stencil pattern upon a wall surface, preferably to simulate wallpaper.

It is another object of the present invention to provide a wall stenciling device constructed so that the stenciling element may be easily and conveniently removed, interchanged and/or replaced.

It is a further object of the present invention to provide a wall stenciling device constructed so that the stenciling element may be easily removed for cleaning and storage.

SUMMARY OF THE INVENTION

The present invention teaches a novel device for applying printed ornamental images or designs upon a surface and is particularly suitable to the wall decorating art for simulating the look of wall paper.

A two piece, preferably hand held, device is taught comprising an ergonomic and ambidextral hand holder having a removable imprinting element attached thereto. The imprinting element is preferably made of a unitary, resilient, self-restoring, sponge body, such as for example a sponge-like open celled polyurethane foamed plastic, having a imprinting surface with a desired ornamental image or design embossed therein. The imprinting surface is typically dipped into a paint or a slurry mixture and then pressed upon the wall surface causing the image to be transferred thereto.

The hand holder comprises an open ended, generally concave, "bowl-like" configuration having a planer flange circumscribing the periphery of the opening. The dome of the hand holder comprises a unique configuration of circumscribing protrusions having concave, finger receiving areas therebetween. Because of the unique arrangement of the protrusions, the dome of the hand holder comfortably fits either the right or left hand of the user in a multiple of hand held positions. Further, because of the unique configuration of the hand holder, the full surface of the user's palm may be used to apply the necessary image applying pressure, thereby preventing finger and/or hand cramps sometimes experienced by users of prior art devices.

The imprinting element is preferably one piece having a "mushroom-like" head, or top portion and a lower image imprinting portion containing the image printing face. The mushroom-like head is preferably configured to completely fill the internal volume of the concave hand holder whereby forces applied to the hand holder are compressively transmitted through the imprinting element's body to the printing face. A circumscribing peripheral groove is provided at the juncture of the mushroom-like head and the imprinting portion of the imprinting element. The groove lockingly receives therein an inward projecting lip of the hand holders peripheral flange thereby, removably, attaching the imprinting element to the hand holder. Thus, the imprinting element may be easily removed from the hand holder for cleaning and/or replacement.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a top plan view of a wall decorating and imprint applying device constructed in accordance with the present invention;

FIG. **2** is an elevational view of the paint applying device illustrated in FIG. **1**;

FIG. **3** is a cross sectional view taken along line **3—3** in FIG. **1** showing the internal structure of the present imprint applying device;

FIG. **4** presents a cross sectional view taken along line **4—4** in FIG. **3**;

FIG. **5** presents a cross sectional view taken along line **5—5** in FIG. **3**;

FIG. **6** presents a plan layout including horizontal and vertical axis, x and y, for identifying the location of various centers of curvature whereby the preferred asymmetrical configuration of the present invention may be constructed; and

FIG. **7** presents an elevational view, similar to the elevational view of FIG. **3**, illustrating the form fitting feature of the present invention with the human hand.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring to FIGS. **1**, **2**, and **3**, a wall stenciling and/or imprinting apparatus **10**, as illustrated, generally comprises a domed, shell-like, concave, hand holding device **20** having a resilient, self-restoring, sponge-like imprinting element **30** removably attached thereto. Imprinting element **30** may be

made of any suitable, preferably unitary, sponge-like, resilient, self-restoring sponge body, such as for example an open cell, foamed synthetic resin material, such as polyurethane, or a combination of any other suitable materials or composite of materials as will be further described below.

Holding device **20** generally comprises an upper hollow domed portion **28** having a planer circumscribing rim or flange **26**. Flange **26** includes a radially outward extending rim **22** and a radially inward extending lip **24** as best illustrated in FIG. **3**. The outer surface of the holding device **20** is preferably provided with a textured surface that provides a non-slip grip for the user. Received within the hollow dome **28**, of holding device **20**, is imprinting element **30** which generally comprises a convex, mushroom-like, upper interlocking hand holding portion **32** and a lower pattern imprinting portion **34** with a relieved, design defining paint imprinting face **35** which is formed integrally therewith so that the pattern imprinting portion extends radially beyond the hand holding portion. One of the important features of the present invention is the construction and configuration of imprinting element **30**'s upper portion **32** as will be explained in more detail below.

As best illustrated in FIG. **3**, dome **20** forms a radially inward extending ledge at the juncture of dome **20** and the inwardly extending lip **24** of flange **26**. The interlocking portion **32** of imprinting element **30** is configured whereby, at least, the greater portion, or as more preferred the total volume of dome cavity **28**, is filed by interlocking portion **32**. Further, imprinting element **30** includes a circumscribing peripheral notch **36**, integrally molded therein, at the juncture of element **30**'s interlocking portion **32** and its lower imprinting portion **34**. Thus, when the interlocking portion **32** of element **30** is inserted into domed cavity **28** of holder **20**, as illustrated in FIG. **3**, the inwardly extending lip **24** of flange **26** engages peripheral notch **36** in element **30** thereby releasably affixing element **30** to holder **20**.

Although the domed holder **20** may be of any desired configuration, for example generally of a hemi-spherical configuration rather than the asymmetrical configuration as illustrated herein (the asymmetrical configuration will be discussed at greater length below), it is preferred that the interlocking portion **32** of element **30** be in surface to surface contact with the inside surface **25** of dome **28**. Thus as force is applied upon holder **20**, an evenly distributed imprinting pressure is transferred from the inside surface **25** of dome **28**, and from flange **26** of holder **20** through the sponge-like medium of imprinting element **30** and to the imprinting face **35** of imprinting element **30**.

Preferably, the inside domed surface **25** of holder **20** and the corresponding external surface **33** of imprinting element **30** are correspondingly sloped with the maximum horizontal dimension of the interlocking portion of imprinting element **30**'s top most surface **31** being smaller than the bottom opening of holder **20** as defined by lip **24** of holder **20** (See FIG. **3**). Thus, as the interlocking portion **32** of imprinting element **30** is inserted into the domed cavity **28** of holder **20**, the inwardly projecting peripheral lip **24** of flange **26**, will easily pass downward over the circumscribing peripheral nose **38** and pop into peripheral notch **36** to lock imprinting element **30** into holder **20**. Because of the generally circular configuration of holder **20** and imprinting element **30**, a slight alternating clockwise and counterclockwise rotation of holder **20**, relative to imprinting element **30**, will facilitate inserting the interlocking portion **32** of imprinting element **30** into the domed cavity **28** of holder **20**.

To remove imprinting element **30** from holder **20** one only needs to pull lip **24** of holder **20**, upward over nose **38** of imprinting element **30** and imprinting element **30** is easily removed from the holder. Similar to attaching imprinting element **30** to holder **20**, as described above, removal of imprinting element **30** from holder **20** may be further facilitated by alternately rotating holder **20** clockwise and counterclockwise with respect to imprinting element **30** as the imprinting element is removed from holder **20**.

The imprinting element **30** generally is sized to slightly protrude past the outer edge of flange **26**, as seen in FIG. **3** so that a painter can see the edge of the imprinting element as it is applied to the wall. It is also within the terms of the invention to size the outer circumferential surface of element **30**.

While the imprinting element **30** is preferably used in conjunction with a holder **20**, it is also within the terms of the present invention to use the imprinting element by itself for applying a design, such as with paint, onto a surface. In this case, the user can grip the imprinting element **30**, typically with the fingers in the notch **36**, with the palm of the hand resting on the external surface **33** so that a relatively evenly distributed pressure can be applied to the circumferential outwardly extending surface **37** originating at and extending radially outward from the juncture of the holding portion and the pattern imprinting portion sponge-like medium of the imprinting element **30**.

Although in the preferred embodiment of the present invention imprinting element **30** is taught as being of a unitary, one-piece sponge-like construction, it is also within the scope of the present invention, that imprinting element **30** may be a composite, multi-piece construction comprising an upper resilient body, for interlocking with holder **20**, and a rubber-like imprinting surface or pad affixed to the resilient upper body.

Although the present invention advantageously relies on the imprinting element being removably and replaceably secured to the holder **20** through the interconnection of interlocking portion **32** of the imprinting element **30** with a structural portion of the holder, it is also within the terms of the invention to secure the upper, interlocking portion **32** of element **30** with surface to surface contact with the inside surface **25** of dome **28** by means such as for example, a Velcro strip attachment or a weak glue that allows for re-attachment.

Now turning to FIG. **6**, there is illustrated an example of a holder **20** constructed with a set of two dimensional coordinates having a horizontal axis x and a vertical axis y are defined with the plan form of holder **20** sketched within quadrant I of the coordinates. In the coordinate system as defined in FIG. **6**, positive values are in the vertical direction for the y axis and positive values for the x axis are to the left of the origin O.

The exemplary configuration, as illustrated in FIG. **6**, and generally illustrated in the other figures, represents a unique, ambidextral, asymmetrical configuration that comfortably fits either the left or right hand in multiple hand positions. Five finger zones, I, II, III, IV, and V are defined by the five, knob-like, curved surfaces **12**. Curved surfaces **12** are determined by radii R1, R3, R5, R7, and R9 as further explained below.

When holder **20** is held in the right hand the thumb comfortably rests in zone IV, the right index finger comfortably rests in zone V, the second and third fingers, together, comfortably rest in zone I, and the little finger comfortably rests in zone II. Similarly, when holder **20** is held in the left hand, the thumb comfortably rests in zone II, the index finger in zone I, the second and third fingers together in zone V and the little finger in zone IV. It is preferred that the portions of dome **28** extending between the curved sections **12** be slightly concave as illustrated, by depressions **27** and **29** in FIGS. **4** and **5**, whereby the fingers and thumb of the hand will comfortably rest therein. While it has been found

that the fingers and thumb of a user generally fits the handle as described before, it is within the terms of the invention for the user to grip the handle in any number of other positions.

Referring to FIG. **6**, there is illustrated an exemplary holder **70** wherein the x and y dimensions as illustrated, are about 5.700 inches, designated by line D and 5.850 inches, as designated by line H. Thus the overall dimension of exemplary holder **70** is approximately six inches by six inches. The outer periphery of **62** of rim **26'** is generally defined by radii **R1** through **R10** having the following locations and length within the coordinate system as shown:

Radius	Length (inches)	Location (x, y)
R1	1.900	(2.700, 3.95)
R2	3.000	(0.670, 7.56)
R3	1.020	(1.020, 3.85)
R5	1.635	(1.640, 2.10)
R6	3.000	(2.530, −1.19)
R7	2.730	(3.085, 2.78)
R8	2.930	(8.600. 2.93)
R9	2.030	(3.850, 3.29)
R10		(not shown)

Radius **R1** is 1.900 inches and located such that the arc thereof smoothly blends with the arc of radius **R1** and radius **R9**. Although section **60** of contoured outline **62**, as seen in FIG. **6**, may be curved inward as illustrated in FIG. **1**, it is preferred that this section comprise a straight line, as illustrated in FIG. **6**, thereby providing a locating key whereby the imprinting element **30** may be properly indexed or positioned when inserting it onto holder **70**. Alternatively other means of indexing holders **20,70** and imprinting element **30** may be used such as an indexing mark, arrow, or the like may be integrally molded into or otherwise applied to rim **26,26'**.

Contoured outline **62** generally defines the preferred outer periphery of rim **22'** while contoured outline **64** generally defines the juncture of sloped surface **15** of dome **20'** with rim **22'** and contoured outline **66** generally defines the transition of the dome's top horizontal surface to the sloped surface **15**. Throughout the specification, primed numbers represent structural elements which are substantially identical to structural elements represented by the same unprimed number.

It has been found that the operable dimensions A and B are preferably about 0.5 inches and 0.75 inches, respectively. Contoured outline **64** generally parallels contoured outline **62** and contoured outline **66** generally parallels contoured outline **64**. Thus contoured outline **62**, as defined by radii **R1**, **R2**, **R3**, **R5**, **R6**, **R7**, **R8**, **R9**, and **R10** generally determines the overall shape, size, and configuration of a holder **20,70**.

Referring to FIGS. **1**, **3**, **4**, and **5**, holder **20** is preferably provided with slightly curved or concave depressions **27** and **29** between each adjacent pair of knob-like protrusions **12** to comfortably receive therein the fingers, and/or thumb, thereby providing a comfortable, fit within the hand when gripped during use. In addition, a textured surface on holder **20** is provided to prevent slippage on the hand of the user.

Referring now to FIG. **7**, in an effort to further assure that holder **20** is form fitting to the human hand and comfortable therein when in use, the dome portion **28** of holder **20** is further configured such that with the palm of the human hand resting upon the top portion of the holder and with the fingers positioned within the finger zones as described above, the first contoured transition zone **71** of dome **28** is positioned such that the first knuckle **72** of the human finger **75** is approximately aligned therewith, and the second transition zone **73** similarly aligns with the second knuckle **74** with the finger tip **76** approximately resting upon rim **22**. Thus by the structure as taught and disclosed herein the palm of either the right or left hand comfortably rests upon the top portion of dome **20** and the fingers naturally and comfortably wrap around transition zones **71** and **73**. Of course, the same comfort of applying a human hand to grip holder **70** exists as with holder **20**.

Although the preferred embodiment of the invention disclosed herein is primarily disclosed as an ergonomic hand held device, many of the unique features taught, such as the means for interchangeably replacing the imprinting element **30** within holder **20, 70** may also be embodied within other versions of such devices such as stenciling devices supported upon extended application poles or handles, etc. Thus it is evident that many alternatives, modifications, and variations of the present invention will be apparent to those skilled in the art in light of the foregoing teachings. Accordingly, the invention is intended to embrace all such alternatives, modifications and variations as fall within the spirit and scope of the appended claims.

We claim:

1. A device for applying an ornamental image upon a surface comprising:

a) a holder configured to be held within the human hand, said holder having a dome-like, hemi-spherical configuration;

b) a resilient, self-restoring sponge-like body having a first interlocking portion being releasably attached to said holder and a second imprinting portion for applying said ornamental image upon said surface; and

c) said holder having a dome-like, hemi-spherical configuration comprises a dome-like, hollow, concave configuration having a circumscribing peripheral lip about its open end, wherein said lip attaches to a corresponding circumscribing peripheral groove in said sponge-like body to mount said sponge-like body to said holder.

2. The device as claimed in claim **1** wherein the interlocking portion of said sponge-like body is configured to completely fill the internal volume of said hollow, concave configuration of said holder.

3. The device as claimed in claim **1** wherein said lip of said holder extends radially inward of said holder.

4. The device as claimed in claim **3** wherein said lip further extends outward beyond the outer periphery of said holder forming a circumferential rim there around.

5. The device as claimed in claim **4** wherein the outer circumferential periphery of said sponge-like body extends slightly beyond said circumferential rim.

6. A paint applying device for applying an ornamental design upon a surface comprising:

a unitary compressible, self restoring sponge body having a hand holding portion and a pattern imprinting portion extending radially beyond the hand holding portion, the sponge body being adapted for applying paint in the ornamental design upon the wall surface;

a circumferential outwardly extending surface originating at and extending radially from the juncture of the holding portion and the pattern imprinting portion for evenly distributing printing pressure to said imprinting portion; and

said pattern imprinting portion having a paint retaining and applying face, said face including relieved portions therein defining the ornamental design to be applied to said wall surface.

7. The paint applying device as defined in claim **6** wherein said hand holding portion is adapted for attaching said sponge body to a holder.

8. A device for applying an ornamental image upon a surface comprising:

a) a holder having an open end and a peripheral flange extending radially outward and beyond an outer periphery of said holder to form a rim; and

b) a resilient, sponge-like body having an interlocking portion and an imprinting portion extending radially beyond said interlocking portion to engage said rim for applying an evenly distributed printing pressure to said imprinting portion.

9. The device of claim **8** wherein the holder has:

a) a peripheral lip extending radially inward from said open end; and

b) the resilient sponge-like body releasably attaching to said peripheral lip of said holder.

* * * * *