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(54) **Masking disc with absorbent pad**

Maskierungsscheibe mit absorbierenden Belag

Disque de masquage avec plaquette absorbante

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Description

BACKGROUND OF THE INVENTION

[0001] The field of invention is paint line markers, more particularly masking discs adapted for use with paint line markers.

[0002] Paint line markers are used to paint lines on car parks, warehouse flooring, playgrounds, sports grounds, and the like. A typical paint line marker has a frame with ground engaging wheels at one end and a handle at the other. A detachable spray paint can mounted to the frame sprays paint between the wheels to paint a line own the ground.

[0003] It is desirable for the paint line marker to spray a crisp line, that is, a line with sharp well defined edges. A spray paint can, however, expels paint from the nozzle with paint concentrated in the center of the spray, and as the distance from the spray center increases, the paint concentration diminishes, resulting in a poorly defined paint edge.

[0004] One method of providing a crisp paint line is to maintain the paint spray within a predetermined area by masking the paint spray with discs. The discs are spaced on opposing sides of the paint spray to block over spray from reaching the surface to foul the paint line. However, when the spray paint makes contact with the discs the paint begins to drip from the discs onto the surface resulting in a fouled line. Therefore, the masking discs must be periodically cleaned or replaced in order to continue marking the lines.

[0005] To extend the use of the masking discs, wells or cavities are formed on the disc face facing the paint spray to catch and hold the paint, thus increasing the amount of paint the disc can hold prior to dripping.

[0006] US-A-4 641 780 showing the features in the precharacterizing part of claim 1 discloses such wells formed by flanges axially extending from each of the masking disks for retaining material which is sprayed onto the disks. Furthermore, ribs are provided on a circular wall of each masking disk for catching paint. The disks are mounted on an axle which is free to move up and down within the spraying apparatus as the latter moves over the surface which is being sprayed.

[0007] GB-A-2 111 568 discloses a similar line marker in which a small running clearance is provided between the peripheral edge of a masking disk and its adjacent wheel. Furthermore, there is provided an annular space between the masking disks and the inwardly facing side of the adjacent wheels which helps to prevent the sprayed material from reaching the wheel bearing surface.

[0008] It is still desirable, however, to further extend the useful life of a disc before cleaning or replacement due to paint accumulation is required.

[0009] This object is solved by the subject matter of the independent claims. Advantageous further developments are defined in the subclaims.

BRIEF SUMMARY OF THE INVENTION

[0010] The present invention provides a paint line marker with an elongated frame with a distal end, and a pair of spaced surface engaging wheels mounted to the frame distal end. A pair of circular masking discs having opposing inwardly directed faces are interposed between the wheels, and have an absorbent pad mounted to each of the masking disc inwardly directed faces. A can of spray paint is mounted to the frame and sprays paint between the masking discs to form a paint line on the surface. The masking disc absorbent pads absorb paint over spray to provide a crisp paint line on the surface.

[0011] A general objective of the invention solved by claim 1 is to provide a paint line marker which sprays a crisp paint line on a surface. This objective is accomplished by providing a paint line marker with masking discs which absorb paint over spray and prevent it from dripping onto the surface.

[0012] Another objective of the invention is to provide a masking disc for masking paint over spray from a paint line marker with an improved useful life. This objective is accomplished by using a masking disc with an absorbent pad to absorb the paint over spray and being made from an absorbent material.

[0013] The foregoing and other objects and advantages of the invention will appear from the following description. In the description, reference is made to the accompanying drawings which form a part hereof, and in which there is shown by way of illustration a preferred embodiment of the invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014]

Fig. 1 is a side view of a paint line marker incorporating the present invention;
Fig. 2 is a front view of the paint line marker of Fig. 1 with the rear wheels and bracket removed;
Fig. 3 is a side view of the masking disc of Fig. 1; and
Fig. 4 is a front view of the masking disc of Fig. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[0015] Referring to Figs. 1 and 2, an aerosol paint line marker 10 has an elongated frame 12 with a handle 14 at a proximal wheels 18 at a distal end 20. An aerosol spray paint can 22 detachably mounted to the frame 12 sprays paint between a pair of masking discs 24 interposed between the wheels to form a crisp paint line on the surface 25.

[0016] The spray paint can 22 is known in the art, and has a cylindrical body 26 with a central axis 28. Paint sprays from a nozzle 30 disposed at a downwardly facing end of the body 26 upon actuation of a button (not

shown) disposed at the opposing body end. The nozzle 30 and button are aligned with the central axis 28.

[0017] The frame 12 is preferably an elongated square tube with a lever 32 pivotally mounted thereon proximal the handle 14. Although a square tube is preferred, the frame 12 may be formed from any elongated shape, such as a round tube or molded shape, without departing from the scope of the present invention. Pulling the lever 32 toward the frame handle 14 displaces a rod 34 downwardly to actuate the spray paint can button. Two brackets 36 mounted to the frame guide the rod to maintain rod alignment between the lever 32 and a spray can button. A spring 38 disposed between one of the brackets 36 and the lever 32 biases the lever 32 in a non-spray position.

[0018] A can clip 40 and can nozzle retainer 42 releasably mount the can 22 to the frame 12. The can clip 40 has a pair of opposing arcuate arms 41 formed from a thin metal strip attached to the frame 12. The arms 41 springingly wrap around the can body 26 to hold it tightly to the frame 12. The can nozzle retainer 42 is flat plate mounted to and extending from the frame 12 with a circular opening 44 formed therein for receiving the spray can nozzle 30. The nozzle 30 extends through the opening 44 and the flat plate supports the can body 26.

[0019] Two rotatable front wheels 18 are disposed at the frame distal end 20 and engage the surface 25 being painted. The wheels 18 are mounted to the frame 12 with a U-shaped bracket 46 which is mounted to the frame distal end 20, using bolts, screws, rivets, or the like. The U-shaped bracket 46 has a pair of opposing legs 48 which extend away from the frame 12 and straddle the paint spray can central axis 28. Each leg 48 has an inner side 50 facing the opposing leg 48, and an outer side 52. Each wheel 18 is adjacent a leg outer side 52 and is mounted to a spindle 54 which extends through an aperture formed in the leg 48 and a bushing 56 mounted to the leg inner side 50.

[0020] The masking discs 24 are mounted to the inner ends of each spindle 54 to mask the paint sprayed from the paint can nozzle 30, and provide a paint line on the surface 25 with sharp edges. Each disc 24 is preferably formed from a molded plastic material, such as polypropylene, and has an inwardly directed front face 58 which is exposed to the sprayed paint. A disc rear face 59 has a hub 61 for mounting to the spindle 54. A flange 60 formed on the disc perimeter surrounds the disc front face 58 to form a cavity which catches excess paint sprayed wider than the desired paint line width.

[0021] Referring to Figs. 3 and 4, an absorbent pad 62 is mounted to the inwardly directed disc face 58 in the cavity to absorb the paint over spray. The pad 62 is formed from an absorbent material and is mounted to the disc 24 using methods known in the art, such as ultrasonic welding, adhesives, or the like. Preferably, the absorbent pad 62 is formed from a woven fabric which is cut to fit in the cavity formed by the flange 60, and has a thickness less than the cavity depth to allow the flange 60 to define the paint line sharp edge. Most preferably, the pad 62 is ultrasonically welded to the plastic disc 24 for maximum adhesion and ease of manufacture. Advantageously, the pad 62 extends the useful life of the disc by preventing all of the paint over spray from accumulating on the flange 60 and dripping onto the surface 25 to foul the sprayed line.

[0022] Referring back to Fig. 1, a pair of surface engaging rear wheels 64 stabilize the paint line marker 10 during operation. The rear wheels 64 are rotatably mounted to the frame 12 with a rearwardly extending bracket 66, and are opposingly spaced outwardly of the front wheels 18 to avoid marring the freshly painted line. The bracket 66 length is adapted such that the front and rear wheels 18, 64 engage the surface 25 when the frame 12 is at an angle to facilitate the user urging the paint line marker 10 forward while grasping the handle 14 and lever 32.

[0023] During use, the paint can 22 sprays paint between the masking discs 24 as the paint line marker 10 is urged forward by a user. The masking discs 24 collect over spray from the paint can 22 to provide a crisp line. The absorbent pads 62 delay the over spray on the masking discs 24 from accumulating on the disc flanges 60 and dripping onto the painted surface 25.

[0024] Forward movement of the paint line marker 10 causes the surface engaging front wheels 18 to rotate. Each rotating front wheel 18 rotates the respective spindle 54 and disc 24 mounted thereon. Advantageously, continuous rotation of the disc 24 during the spraying operation exposes a continuously changing portion of the absorbent pad 62 (shown in Fig. 4) to the paint spray and allows the absorbent pad 62 to absorb a greater amount of paint to further extend the masking disc 24 useful life.

[0025] While there has been shown and described what are at present considered the preferred embodiment of the invention, it will be obvious to those skilled in the art that various changes and modifications can be made therein without departing from the scope of the invention defined by the appended claims.

Claims

1. A paint line marker (10) comprising:

a frame (12) having a distal end (20) and a proximal end (16);
a pair of spaced surface engaging wheels (18) mounted to said frame distal end (20);
a pair of masking discs (24) having opposing inwardly directed faces (58) interposed between said wheels (18); and
means (22) for spraying paint between said masking discs (24) which mask the sprayed paint,

characterized by
an absorbent pad (62) absorbing paint over spray, being made from an absorbent material and being mounted to each of said masking disc inwardly directed faces (58).

2. The paint line marker as in claim 1, wherein a spray paint can (22) in mounted to said frame (12) as said means for spraying paint between said masking discs (24).

3. The paint line marker as in claim 1, wherein said masking disc (62) as a flange (60) formed around a perimeter of said masking disc.

4. The paint line marker as in claim 1, wherein said absorbent pad (62) is formed from a woven fabric.

5. The paint line marker as in claim 1, wherein said absorbent pad (62) is ultrasonically welded to said disc.

6. The paint line marker as in claim 1, wherein said disc (24) is formed from a plastic material.

7. The paint line marker as in claim 1, wherein said disc (24) is rotatably mounted, such that movement along said surface of said paint line marker (10) causes rotation of said disc.

8. The paint line marker as in claim 1, wherein a flange (60) surrounding said inwardly directed face (58) of each masking disk forms a cavity, and said absorbent pad (62) is mounted to said front face in said cavity.

9. Use of a masking disc (24) within a paint line marker (10) according to any of claims 1 to 8,
characterized in that said masking disc (24) has a front face corresponding to said inwardly directed faces (58) and said absorbent pad (62) being mounted to said front face, absorbing paint over spray and being made from an absorbent material.

Patentansprüche

1. Farblinienmarkiergerät (10), umfassend:

einen Rahmen (12) mit einem distalen Ende (20) und einem proximalen Ende (16);
ein Paar beabstandeter, zum Angreifen an einer Oberfläche dienender Räder (18), die am distalen Rahmenende (20) montiert sind;
ein Paar zwischen den Rädern (18) eingefügter Maskierscheiben (24) mit einander gegenüberliegenden, nach innen weisenden Flächen (58); und
Mittel (22) zum Spritzen von Farbe zwischen den genannten Maskierscheiben (24), die die gespritzte Farbe maskieren,

gekennzeichnet durch
einen absorbierenden Belag (62), der ein Overspray an Farbe absorbiert, aus einem absorbierenden Material hergestellt ist und an jeder der nach innen weisenden Maskierscheibenflächen (58) montiert ist.

2. Farblinienmarkiergerät nach Anspruch 1, bei dem ein Sprayfarbbehälter (22) an dem genannten Rahmen (12) als das Mittel zum Spritzen von Farbe zwischen den genannten Maskierscheiben (24) montiert ist.

3. Farblinienmarkiergerät nach Anspruch 1, bei dem die Maskierscheibe (24) einen Flansch (60) hat, der um eine äußere Begrenzung der genannten Maskierscheibe herum ausgebildet ist.

4. Farblinienmarkiergerät nach Anspruch 1, bei dem der absorbierende Belag (62) aus einer Webware gebildet ist.

5. Farblinienmarkiergerät nach Anspruch 1, bei dem der genannte absorbierende Belag (62) an die genannte Scheibe ultraschall-angeschweißt ist.

6. Farblinienmarkiergerät nach Anspruch 1, bei dem die genannte Scheibe (24) aus einem Kunststoffmaterial gebildet ist.

7. Farblinienmarkiergerät nach Anspruch 1, bei dem die genannte Scheibe (24) derart drehbar montiert ist, dass eine Bewegung des genannten Farblinienmarkiergeräts (10) längs der genannten Oberfläche eine Drehung der genannten Scheibe verursacht.

8. Farblinienmarkiergerät nach Anspruch 1, bei dem ein Flansch (60), der die nach innen weisende Fläche (58) jeder Maskierscheibe umgibt, eine Aushöhlung bildet und der genannte Belag (62) an der genannten Frontfläche in der genannten Aushöhlung montiert ist.

9. Verwendung einer Maskierscheibe (24) innerhalb eines Farblinienmarkiergeräts (10) nach irgendeinem der Ansprüche 1 bis 8, **dadurch gekennzeichnet, dass** die genannte Maskierscheibe (24) eine Frontfläche hat, die dem genannten nach innen weisenden Flächen (58) entspricht,und der genannte absorbierende Belag (62) an der genannten Frontfläche montiert ist, ein Overspray an Farbe absorbiert und aus einem absorbierenden Material hergestellt ist.

Revendications

1. Traceur à peinture (10) comprenant :

un cadre (12) comportant un extrémité distale (20) et une extrémité proximale (16) ;
une paire de roues espacées en contact avec une surface (18) montées sur ladite extrémité distale du cadre (20) ;
une paire de disques de masquage (24) ayant des faces opposées dirigées vers l'intérieur (58) placées entre lesdites roues (18) ; et
des moyens (22) de pulvérisation de peinture entre lesdits disques de masquage (24) qui masquent la peinture pulvérisée,

caractérisé par
une plaquette absorbante (62) absorbant la peinture pulvérisée débordante, fabriquée avec une matière absorbante et étant montée sur chacune desdites faces dirigées vers l'intérieur des disques de masquage (58).

2. Traceur à peinture selon la revendication 1, dans lequel un bidon de peinture à pulvériser (22) est monté sur ledit cadre (12) en tant que moyens de pulvérisation de peinture entre lesdits disques de masquage (24).

3. Traceur à peinture selon la revendication 1, dans lequel ledit disque de masquage (62) a un rebord (60) formé autour d'un périmètre dudit disque de masquage.

4. Traceur à peinture selon la revendication 1, dans lequel ladite plaquette absorbante (62) est formée de tissu.

5. Traceur à peinture selon la revendication 1, dans lequel ladite plaquette absorbante (62) est soudée par ultrasons audit disque.

6. Traceur à peinture selon la revendication 1, dans lequel ledit disque (24) est formé de matière plastique.

7. Traceur à peinture selon la revendication 1, dans lequel ledit disque (24) est monté de manière rotative, de sorte qu'un mouvement le long de ladite surface dudit traceur à peinture (10) entraîne la rotation dudit disque.

8. Traceur à peinture selon la revendication 1, dans lequel un rebord (60) entourant ladite face dirigée vers l'intérieur (58) de chaque disque de masquage forme une cavité et dans lequel ladite plaquette absorbante (62) est montée sur ladite face avant de ladite cavité.

9. Utilisation d'un disque de masquage (24) dans un traceur à peinture (10) selon l'une quelconque des revendications 1 à 8,

caractérisé en ce que ledit disque de masquage (24) possède une face avant correspondant auxdites faces dirigées vers l'intérieur (58) et que ladite plaquette absorbante (62) est montée sur ladite face avant, absorbe la peinture pulvérisée débordante et est faite d'une matière absorbante.

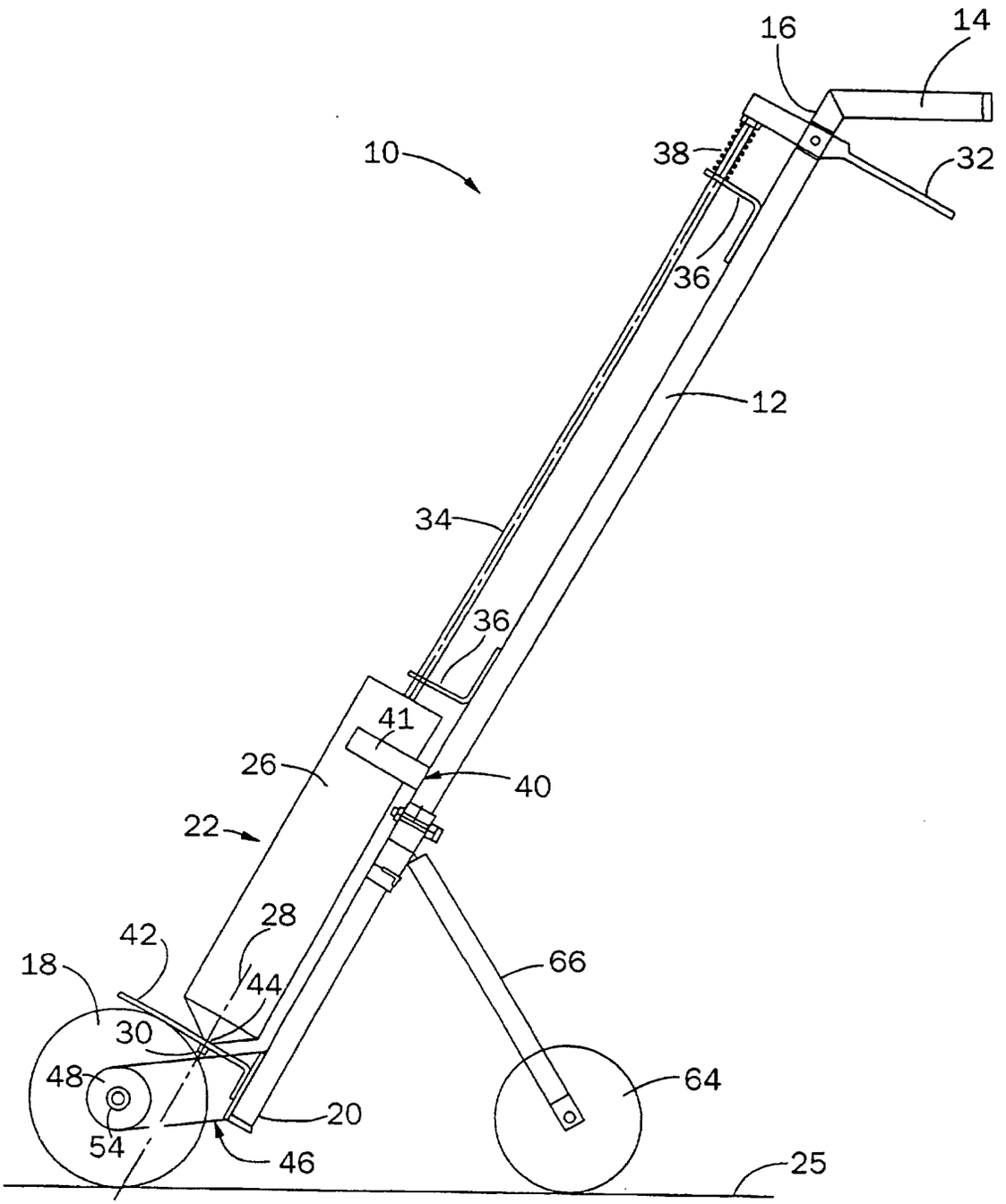

16
14
10
38
32
36
12
34
36
41
26
40
22
28
42
18
44
66
30
48
64
20
54
46
25

FIG. 1

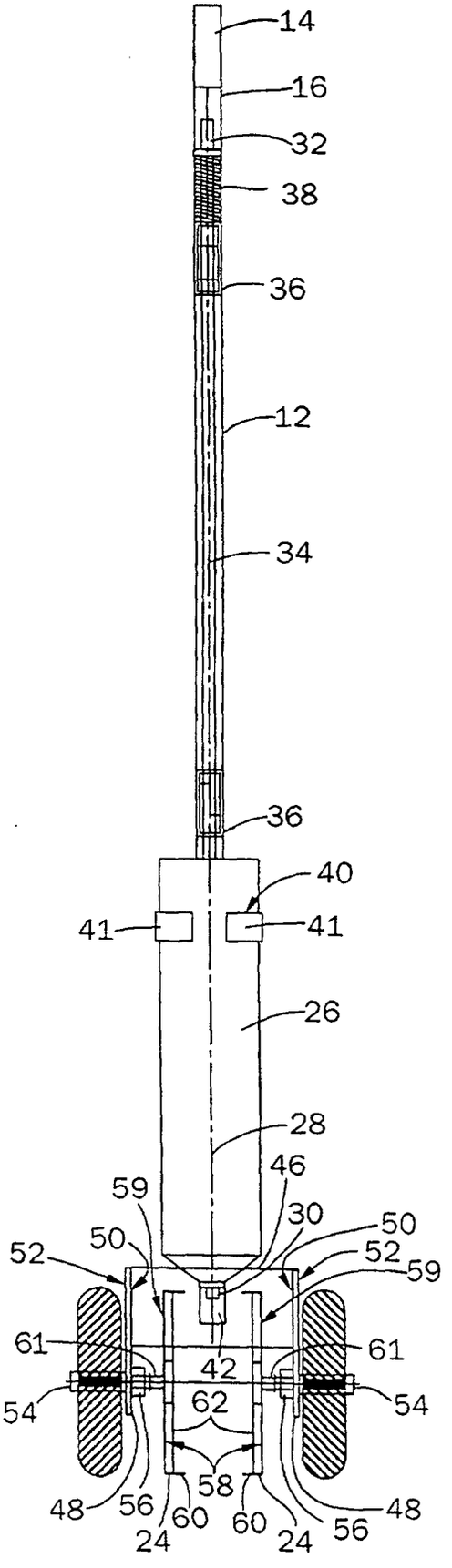


FIG. 2

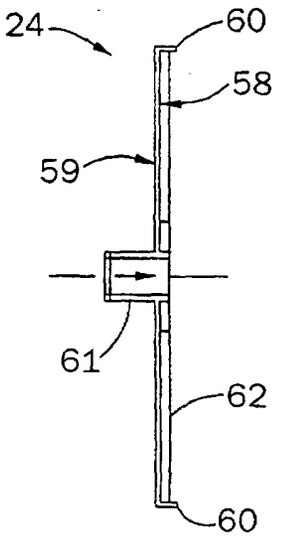


FIG. 3

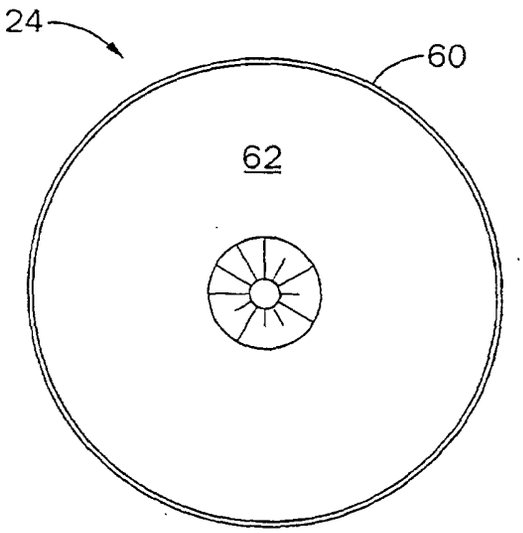


FIG. 4