Innovation, Sciences et Développement économique Canada
Office de la Propriété Intellectuelle du Canada

Innovation, Science and Economic Development Canada
Canadian Intellectual Property Office

CA 3215136 C 2024/01/23

(11)(21) **3 215 136**

(12) **BREVET CANADIEN**
CANADIAN PATENT

(13) **C**

(86) **Date de dépôt PCT/PCT Filing Date:** 2022/10/26
(87) **Date publication PCT/PCT Publication Date:** 2023/05/04
(45) **Date de délivrance/Issue Date:** 2024/01/23
(85) **Entrée phase nationale/National Entry:** 2023/10/11
(86) **N° demande PCT/PCT Application No.:** CA 2022/051581
(87) **N° publication PCT/PCT Publication No.:** 2023/070207
(30) **Priorité/Priority:** 2021/10/28 (US63/272,964)

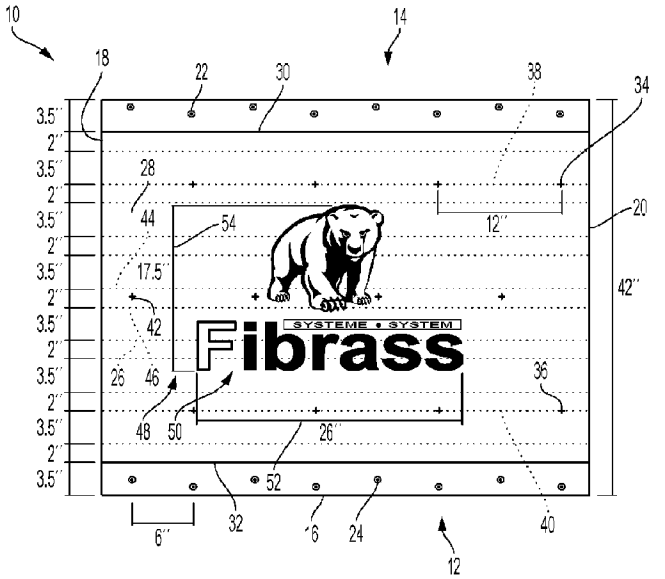
(51) **Cl.Int./Int.Cl.** ***E04D 15/02*** (2006.01)

(72) **Inventeur/Inventor:**
BRASSARD, TOMMY, CA

(73) **Propriétaire/Owner:**
9299-8293 QUEBEC INC., CA

(74) **Agent:** EQUINOX IP INC.

(54) **Titre : APPAREIL POUR INSTALLATION PRECISE DE BARDEAUX DE TOIT**
(54) **Title: APPARATUS FOR ACCURATE INSTALLATION OF ROOF SHINGLES**



(57) **Abrégé/Abstract:**
An apparatus for accurately locating shingles on a roof. The apparatus includes a sheet with two measuring edges. Each edge has a number of spaced apart measuring points located along each edge. A number of hashed lines are located on the sheet's surface. The distance between the lines are pre-determined. The spaced apart hashed lines being disposed substantially parallel relative to each other along the sheet surface. A first series of two spaced apart points are spaced apart an equal distance from each other. The points are located along spaced apart hashed lines. Another spaced apart set of points are located between the first series of spaced apart points. The second series of points are staggered relative to the first series. An internal measuring zone is located within the boundaries of the sheet. The zone has an icon of a pre-determined length and a predetermined height. The hashed lines, the points and the internal measuring zone provide reference locations to permit one or more shingles to align therewith..

Date Submitted: 2023/10/11

CA App. No.: 3215136

Abstract:

An apparatus for accurately locating shingles on a roof. The apparatus includes a sheet with two measuring edges. Each edge has a number of spaced apart measuring points located along each edge. A number of hashed lines are located on the sheet's surface. The distance between the lines are pre-determined. The spaced apart hashed lines being disposed substantially parallel relative to each other along the sheet surface. A first series of two spaced apart points are spaced apart an equal distance from each other. The points are located along spaced apart hashed lines. Another spaced apart set of points are located between the first series of spaced apart points. The second series of points are staggered relative to the first series. An internal measuring zone is located within the boundaries of the sheet. The zone has an icon of a pre-determined length and a predetermined height. The hashed lines, the points and the internal measuring zone provide reference locations to permit one or more shingles to align therewith..

APPARATUS FOR ACCURATE INSTALLATION OF ROOF SHINGLES

TECHNICAL FIELD

The present generally concerns installation of shingles on roofs, and more particularly to an apparatus for accurately installing shingles on roofs.

BACKGROUND

Installing roof shingles typically requires labor-intensive manual alignment using equipment such as chalk lines, straight edges and the like. While these pieces of equipment are well known and widely used, they of course have a number of significant drawbacks. For one, maintaining a high degree of accuracy is important, especially since any misalignment of shingles can be costly to correct, and may eventually cause roof leakage. Nowadays, multiple shingles are manufactured so that covering a large roof area can be carried out quickly. Nevertheless, the problem of inaccurately positioned shingles remains a problem.

To date, the inventor is unaware of an apparatus that allows a roofer to quickly and accurately install a plurality of shingles to cover a roof.

BRIEF SUMMARY

I have significantly reduced, or essentially eliminated, the problems associated with the designs described above by designing a sheet membrane which permits the roofer to quickly and efficiently align shingles on a roof. The membrane includes a number of accurately measured lines and points which provide visual reference points which allow the roofer to align a plurality of individual shingles or groups of shingles over a roof. The lines are useful every time the roofer lays a shingle sheet because the lines are calculated so that when each sheet is cut, the pre-determined measured lines remove any guesswork from the roofer. Furthermore, the lines can be printed on various membrane sheets using any number of manufacturers known in the roofing industry.

Accordingly, in one embodiment there is provided an apparatus for accurately locating shingles on a roof, the apparatus comprising:

a sheet having a first measuring edges and a second measuring edge, each measuring edge having a plurality of spaced apart measuring points located therealong;

a plurality of elongate spaced apart hashed lines located on a sheet surface, the distance between the hashed lines being pre-determined, the spaced apart hashed lines being disposed substantially parallel relative to each other along the sheet surface,

a first series of first and second spaced apart points spaced apart an equal distance from each other, the first and second spaced apart points being located along first and second paced apart hashed lines;

a second series of third spaced apart points located between the first series of first and second spaced apart points, the second series of the third spaced apart points being staggered relative to the first series of the first and second spaced apart points; and

an internal measuring zone located within the boundaries of the sheet, the internal measuring zone having located thereon an icon of a pre-determined length and a predetermined height, the spaced apart hashed lines, the spaced apart points and the internal measuring zone being disposed across the sheet so as to provide reference locations to permit one or more shingles to align therewith.

In one example, the first and second measuring points are disposed in a zig-zag orientation.

In one example, the plurality of elongate spaced apart hashed lines located on the sheet surface are separated by different distances. The different distances are measured inwardly from the first and the second edges.

In one example, first and second solid lines form boundaries between the first and second edges and the first and second measuring points. The first and second solid lines are separated from the first and second edges by the same distance. The same distance is 3.5 inches.

In one example, the elongate spaced apart hashed lines are separated by a) 2-inches, 3.5-inches, 2-inches; b) 3.5 inches, 2-inches, 3.5-inches; c) 2-inches, 3.5-inches, 2-inches; d) 3.5 inches, 2-inches, 3.5-inches, 2-inches.

In another example, the elongate spaced apart hashed lines are separated by a) 2-inches, 3.25-inches, 2-inches, 3.5 inches, 2-inches, 3.5-inches; and b) 2-inches, 3.5-inches, 2-inches, 3.25 inches, 2-inches, 3.5-inches.

In one example, the sheet us a membrane.

Accordingly in another embodiment, there is provided an apparatus for accurately locating shingles on a roof, the apparatus comprising:

a membrane sheet having a first measuring edge and a second measuring edge, each measuring edge having a plurality of spaced apart measuring points located therealong;

a plurality of elongate spaced apart hashed lines located on a sheet surface, the distance between the hashed lines being pre-determined, the spaced apart hashed lines being disposed substantially parallel relative to each other along the sheet surface,

a first series of first and second spaced apart points spaced apart an equal distance from each other, the first and second spaced apart points being located along first and second spaced apart hashed lines; and

a second series of third spaced apart points located between the first series of first and second spaced apart points, the second series of the third spaced apart points being staggered relative to the first series of the first and second spaced apart points, the spaced apart hashed lines, and the spaced apart points being disposed across the sheet so as to provide reference locations to permit one or more shingles to align therewith.

In one example, the apparatus further includes an internal measuring zone located between the first and the second measuring edges, the internal measuring zone having located thereon an icon of a pre-determined length and a predetermined height. The

spaced apart hashed lines, the spaced apart points and the internal measuring zone being disposed across the sheet so as to provide reference locations to permit the one or more shingles to align therewith.

BRIEF DESCRIPTION OF THE DRAWINGS

These and other features of that described herein will become more apparent from the following description in which reference is made to the appended drawings wherein:

Fig. 1 is a front view of an embodiment of a measuring apparatus for roof shingles;

Fig. 2 is a front view of an elongate, flattened roll of measuring apparatus for roof shingles;

Fig. 3 is a front close-up view of the measuring apparatus of **Fig. 1**;

Fig. 4 is a front view of another embodiment of a measuring apparatus for roof shingles;

Fig. 5 is a front view of an elongate, flattened roll of measuring apparatus for roof shingles; and

Fig. 6 is a front close-up view of the measuring apparatus of **Fig. 4**.

DETAILED DESCRIPTION

Definitions

Unless otherwise specified, the following definitions apply:

The singular forms "a", "an" and "the" include corresponding plural references unless the context clearly dictates otherwise.

As used herein, the term "comprising" is intended to mean that the list of elements following the word "comprising" are required or mandatory but that other elements are optional and may or may not be present.

As used herein, the term "consisting of" is intended to mean including and limited to whatever follows the phrase "consisting of". Thus, the phrase "consisting of" indicates

that the listed elements are required or mandatory and that no other elements may be present.

Referring to FIGs. 1 through 6, broadly speaking there is shown an apparatus generally at 10, which is used to accurately locate asphalt shingles on a roof. In the example shown, the apparatus is a membrane sheet which is first located on a solid roof decking before roof shingles are mounted thereon. The apparatus 10 is useful for various asphalt brands such as for example, IKO, GAF, BP. The apparatus 10 advantageously permits a roofing contractor to align the shingles quickly and with a high level of accuracy when compared to conventional methods, which typically use chalk-lines or pre-existing straight edges. The apparatus 10 is generally provided on a roll and cut to size either on-site or before the contractor arrives on-site so as to save time.

As best seen in Figs. 1 and 4, the apparatus 10 is generally a rectangular sheet 12, which includes a first measuring edge 14 and a second measuring edge 16, and two side edges 18, 20. Each one of the measuring edges 14, 16 has a plurality of spaced apart measuring points 22, 24 located along the edge and moved slightly inwardly therefrom. Although the sheet 12 is shown as generally rectangular, a square-shaped sheet is also within the scope of this discovery.

Referring back to Fig. 1, a plurality of elongate spaced apart hashed lines 26 are located on a front-facing sheet surface 28. The spaced apart hashed lines 26 are disposed substantially parallel relative to each other along the sheet surface 28. First and second solid lines 30, 32 extend between the two side edges 18, 20 to form boundaries between the first and second edges and the first and second measuring points 22, 24. The first and second solid lines 30, 32 are separated from the first and second edges 18, 20 by an identical distance. In the example shown, the distance is 3.5-inches. A first series of first and second spaced apart points 34, 36 spaced apart an equal distance from each other. The first and second spaced apart points 34, 36 are located along first and second spaced apart hashed lines 38, 40. A second series of third spaced apart points 42 are located between the first series of first and second spaced apart points 34, 36, and between two parallel hashed lines 44, 46. The second series of the third spaced apart points 42 are staggered relative to the first series of the first and second spaced apart points 34, 36.

Still referring to Fig. 1, an internal measuring zone 48 is located within the boundaries of the sheet. In the example shown, the internal measuring zone 48 has located thereon an icon 50 of a pre-determined length 52 and a predetermined height 54, which may be used to provide additional references. A person of ordinary skill in the art will of course recognize that other icons of varying dimensions may be used and may be part of a custom-made apparatus 10. The spaced apart hashed lines, the spaced apart points and the internal measuring zone 48 are disposed across the sheet so as to provide reference locations to permit one or more shingles to align therewith.

Still referring to Fig. 1, the first and second measuring points 22, 24 are disposed in a zig-zag orientation.

As best seen in Figs. 1 and 4, the plurality of elongate spaced apart hashed lines 26 located on the sheet surface 28 are separated by different distances. The distance between each of the hashed lines is pre-determined. In the example shown, the elongate spaced apart hashed lines are separated by a) 2-inches, 3.5-inches, 2-inches; b) 3.5 inches, 2-inches, 3.5-inches; c) 2-inches, 3.5-inches, 2-inches; d) 3.5 inches, 2-inches, 3.5-inches, 2-inches. In another example, the elongate spaced apart hashed lines are separated by a) 2-inches, 3.25-inches, 2-inches, 3.5 inches, 2-inches, 3.5-inches; and b) 2-inches, 3.5-inches, 2-inches, 3.25 inches, 2-inches, 3.5-inches.

The different distances are measured inwardly from the first and the second edges.

In sum, for the apparatus 10, the measuring edges 14, 16; the side edges 18, 20 together with the measuring points 22, 24 and line details (hashed lines, dots and crosses) all provide significant advantages over conventional measuring devices. Moreover, once the measuring features are printed on the membrane, they provide an immovable set of references which resist modification.

Other Embodiments

From the foregoing description, it will be apparent to one of ordinary skill in the art that variations and modifications may be made to the embodiments described herein to adapt it to various usages and conditions.

CLAIMS

What Is Claimed Is:

1. An apparatus for accurately locating shingles on a roof, the apparatus comprising:

a sheet having a first measuring edge and a second measuring edge, each measuring edge having a plurality of spaced apart measuring points located therealong;

a plurality of elongate spaced apart hashed lines located on a sheet surface, the distance between the hashed lines being pre-determined, the spaced apart hashed lines being disposed substantially parallel relative to each other along the sheet surface,

a first series of first and second spaced apart points spaced apart an equal distance from each other, the first and second spaced apart points being located along first and second spaced apart hashed lines;

a second series of third spaced apart points located between the first series of first and second spaced apart points, the second series of the third spaced apart points being staggered relative to the first series of the first and second spaced apart points; and

an internal measuring zone located between the first and the second measuring edges, the internal measuring zone having located thereon an icon of a pre-determined length and a predetermined height,

the spaced apart hashed lines, the spaced apart points and the internal measuring zone being disposed across the sheet so as to provide reference locations to permit one or more shingles to align therewith.

2. The apparatus, according to claim 1, in which the first and second measuring points are disposed in a zig-zag orientation.

3. The apparatus, according to claim 1, in which the plurality of elongate spaced apart hashed lines located on the sheet surface are separated by different distances.

4. The apparatus, according to claim 3, in which different distances are measured inwardly from the first and the second edges.

5. The apparatus, according to claim 1, in which first and second solid lines form boundaries between the first and second edges and the first and second measuring points.

6. The apparatus, according to claim 5, in which the first and second solid lines are separated from the first and second edges by the same distance.

7. The apparatus, according to claim 6, in which the same distance is 3.5 inches.

8. The apparatus, according to claim 1, in which the elongate spaced apart hashed lines are separated by a) 2-inches, 3.5-inches, 2-inches; b) 3.5 inches, 2-inches, 3.5-inches; c) 2-inches, 3.5-inches, 2-inches; d) 3.5 inches, 2-inches, 3.5-inches, 2-inches.

9. The apparatus, according to claim 1, in which the elongate spaced apart hashed lines are separated by a) 2-inches, 3.25-inches, 2-inches, 3.5 inches, 2-inches, 3.5-inches; and b) 2-inches, 3.5-inches, 2-inches, 3.25 inches, 2-inches, 3.5-inches.

10. The apparatus, according to claim 1, in which the sheet us a membrane.

11. An apparatus for accurately locating shingles on a roof, the apparatus comprising:

a membrane sheet having a first measuring edge and a second measuring edge, each measuring edge having a plurality of spaced apart measuring points located therealong;

a plurality of elongate spaced apart hashed lines located on a sheet surface, the distance between the hashed lines being pre-determined, the spaced apart hashed lines being disposed substantially parallel relative to each other along the sheet surface,

a first series of first and second spaced apart points spaced apart an equal distance from each other, the first and second spaced apart points being located along first and second spaced apart hashed lines; and

a second series of third spaced apart points located between the first series of first and second spaced apart points, the second series of the third spaced apart points being staggered relative to the first series of the first and second spaced apart points,

the spaced apart hashed lines, and the spaced apart points being disposed across the sheet so as to provide reference locations to permit one or more shingles to align therewith.

12. The apparatus, according to claim 11, further includes an internal measuring zone located between the first and the second measuring edges, the internal measuring zone having located thereon an icon of a pre-determined length and a predetermined height.

13. The apparatus, according to claim 12, in which the spaced apart hashed lines, the spaced apart points and the internal measuring zone being disposed across the sheet so as to provide reference locations to permit the one or more shingles to align therewith.

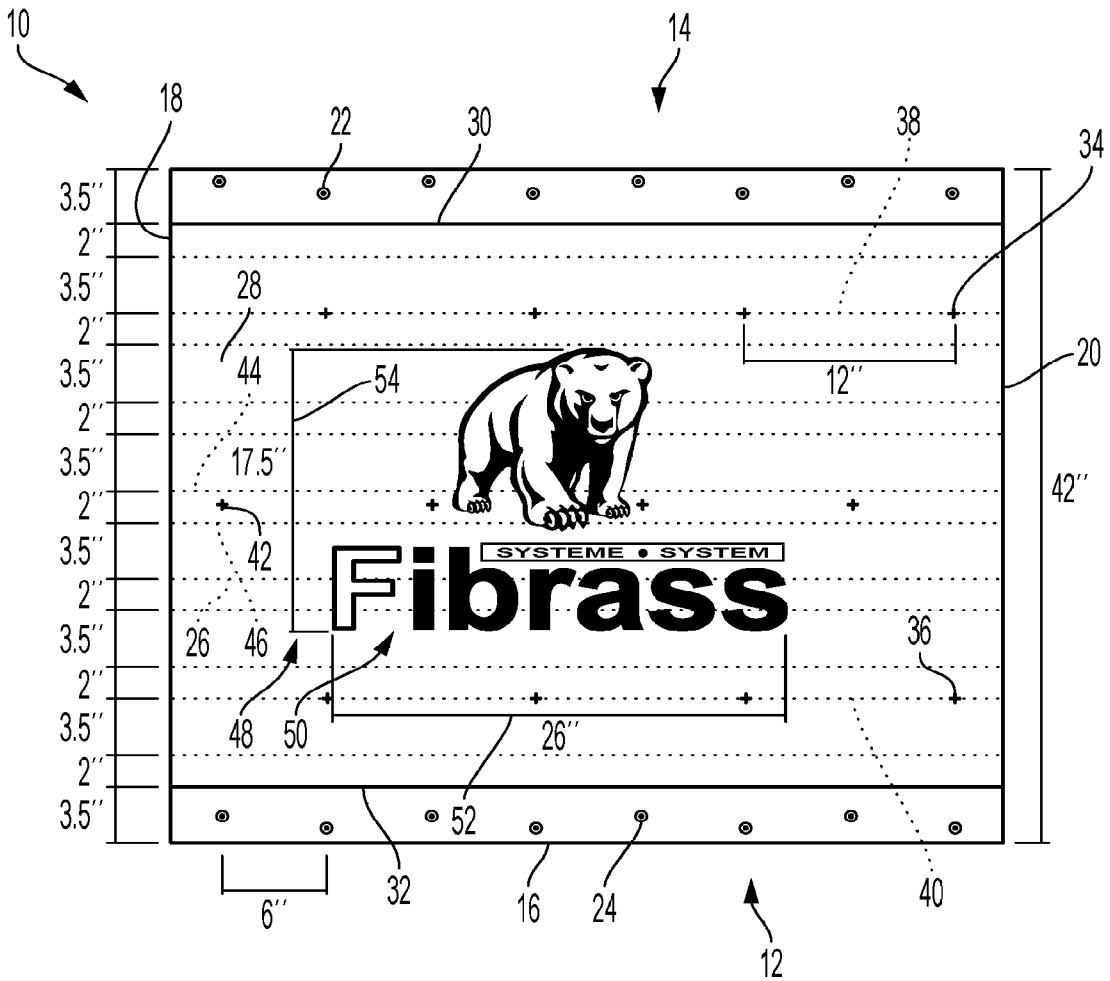

10
14
18
22
30
38
34
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
28
44
54
12''
20
17.5''
42''
42
SYSTEME • SYSTEM
Fibrass
26
46
36
48
50
26''
52
6''
32
16
24
40
12

FIG. 1

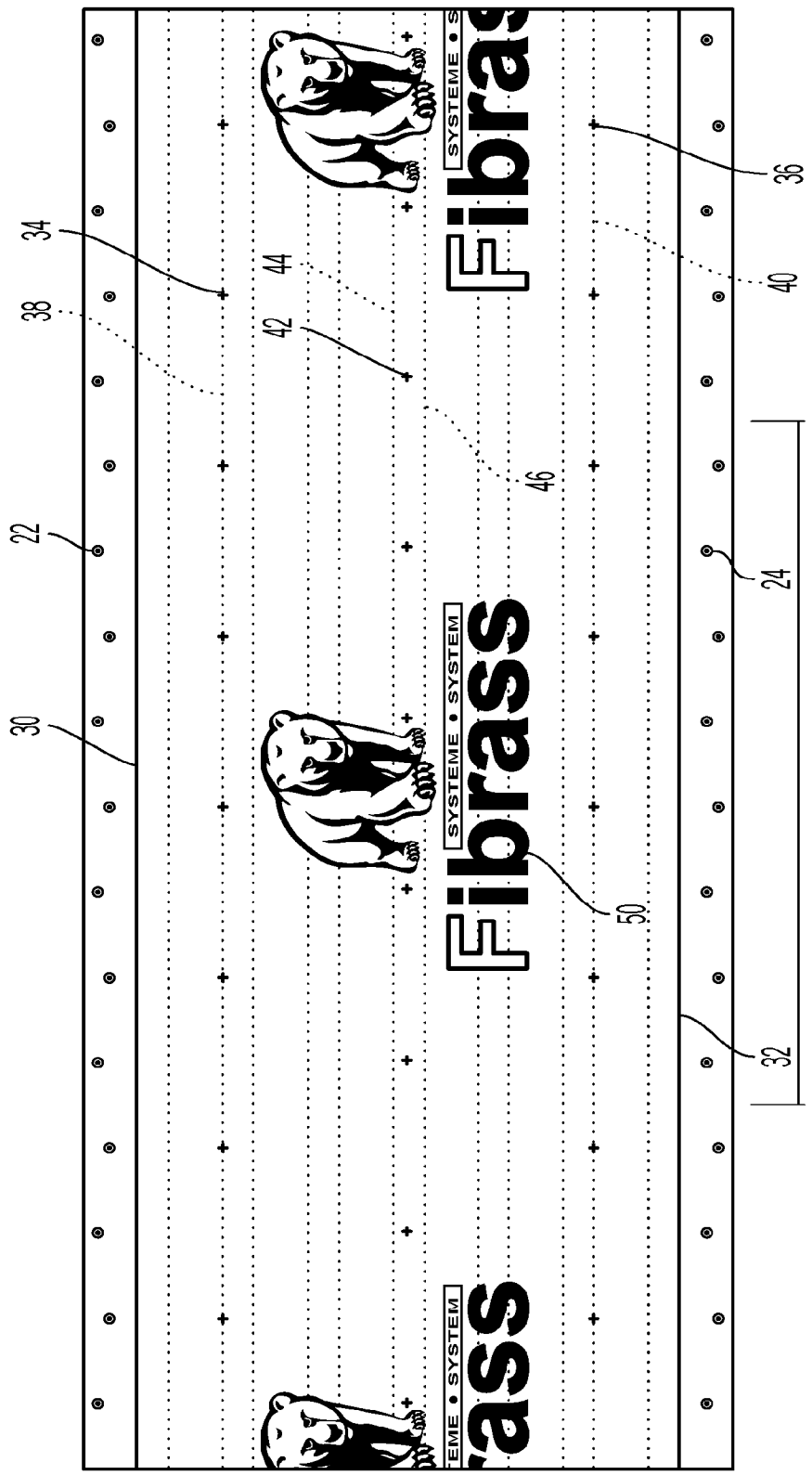

22
30
34
38
42
44
46
50
36
40
24
32
48" Cylinder Repeat
SYSTEME • SYSTEM
Fibrass

FIG. 2

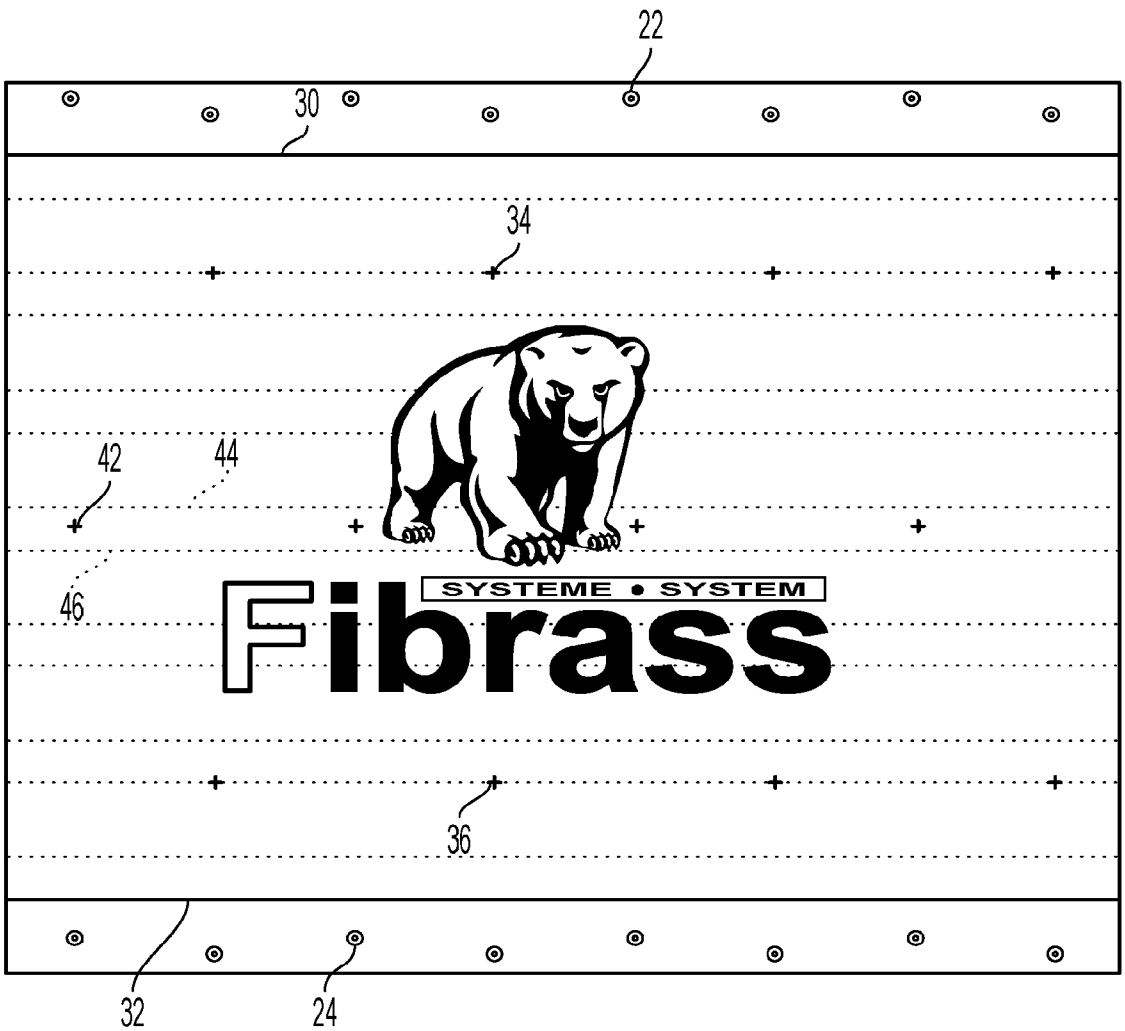


FIG. 3

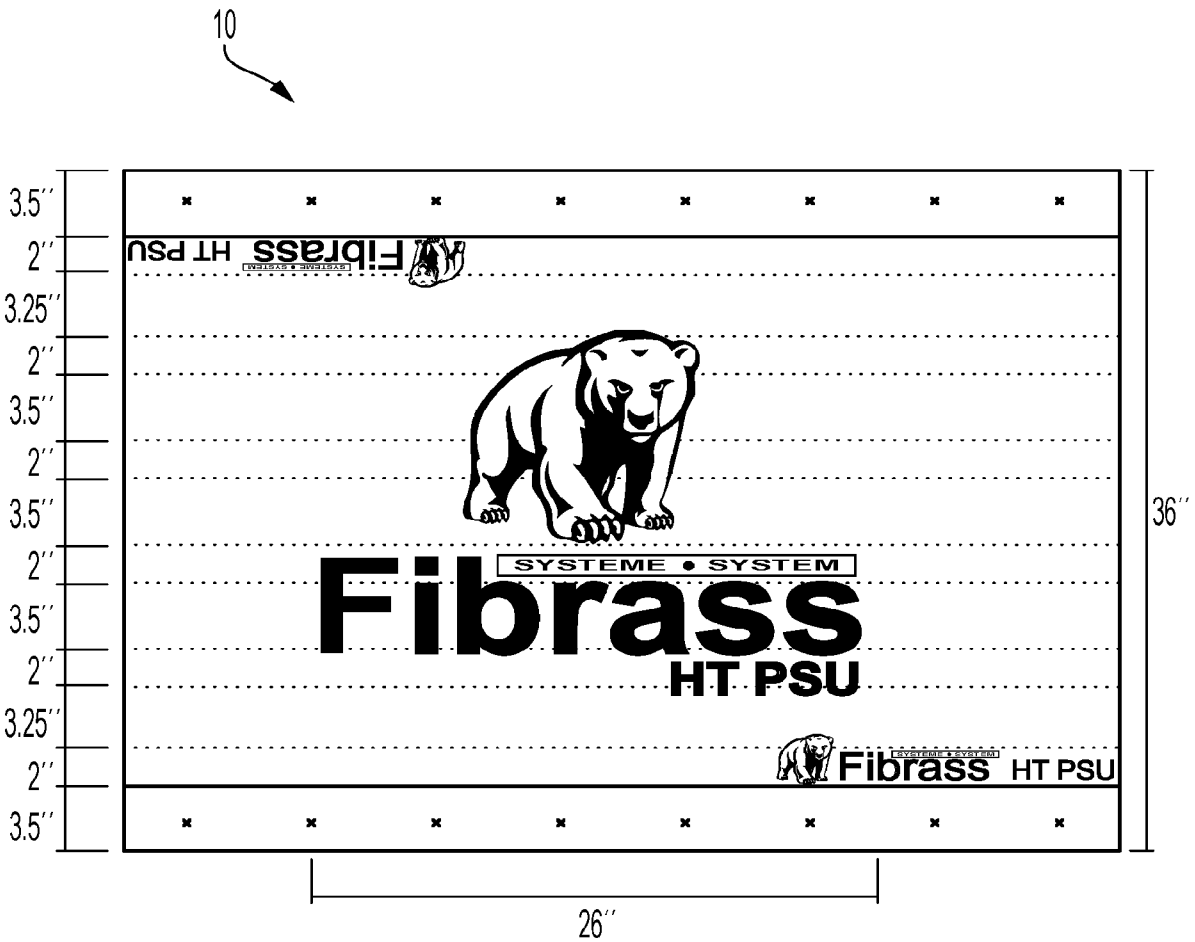

10
3.5''
2''
3.25''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.25''
2''
3.5''
36''
26''
SYSTEME • SYSTEM
Fibrass
HT PSU
Fibrass HT PSU

FIG. 4

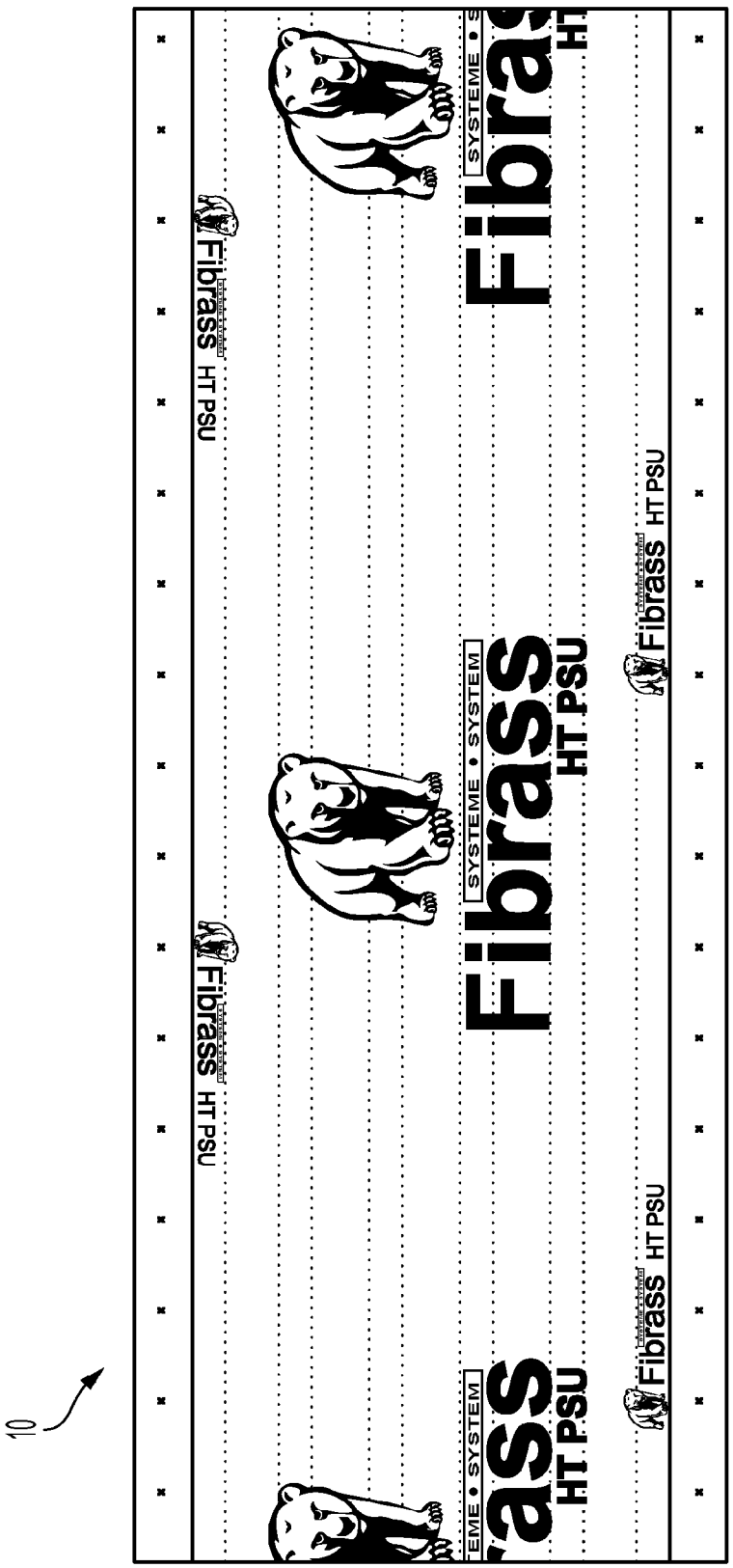


FIG. 5

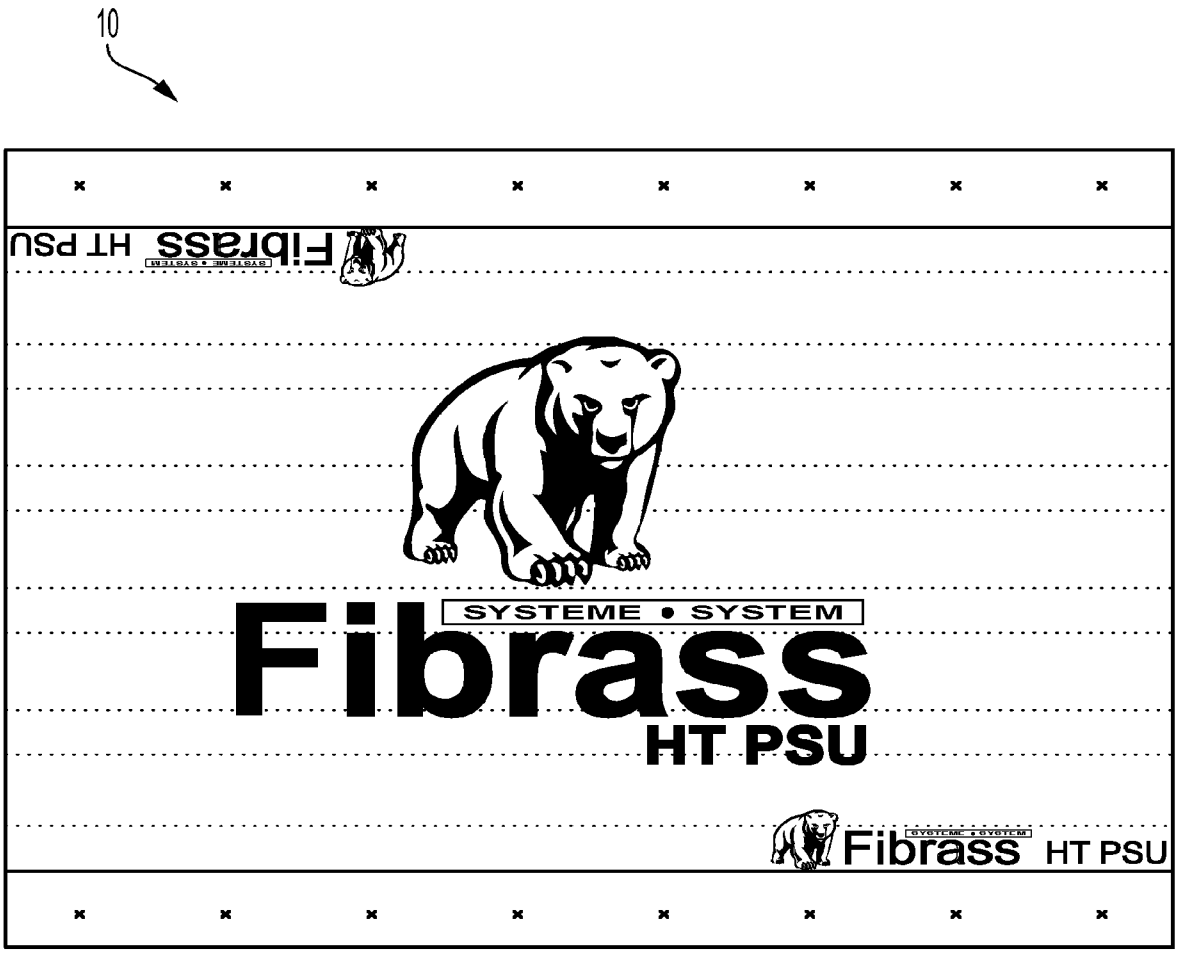
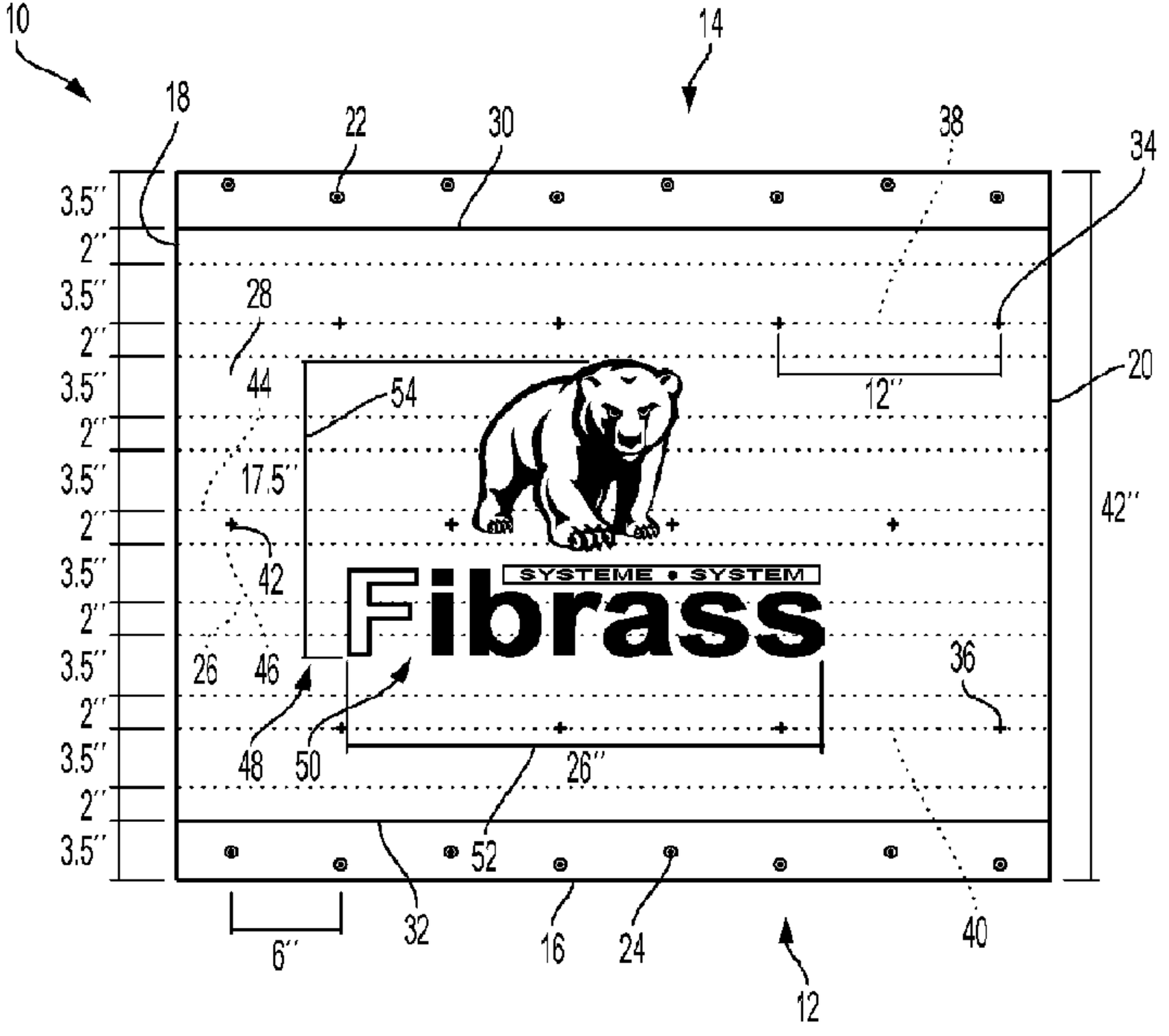


FIG. 6


10
14
18
22
30
38
34
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
2''
3.5''
28
44
54
17.5''
42
26
46
48
50
12''
20
42''
SYSTEME • SYSTEM
Fibrass
36
26''
52
6''
32
16
24
40
12