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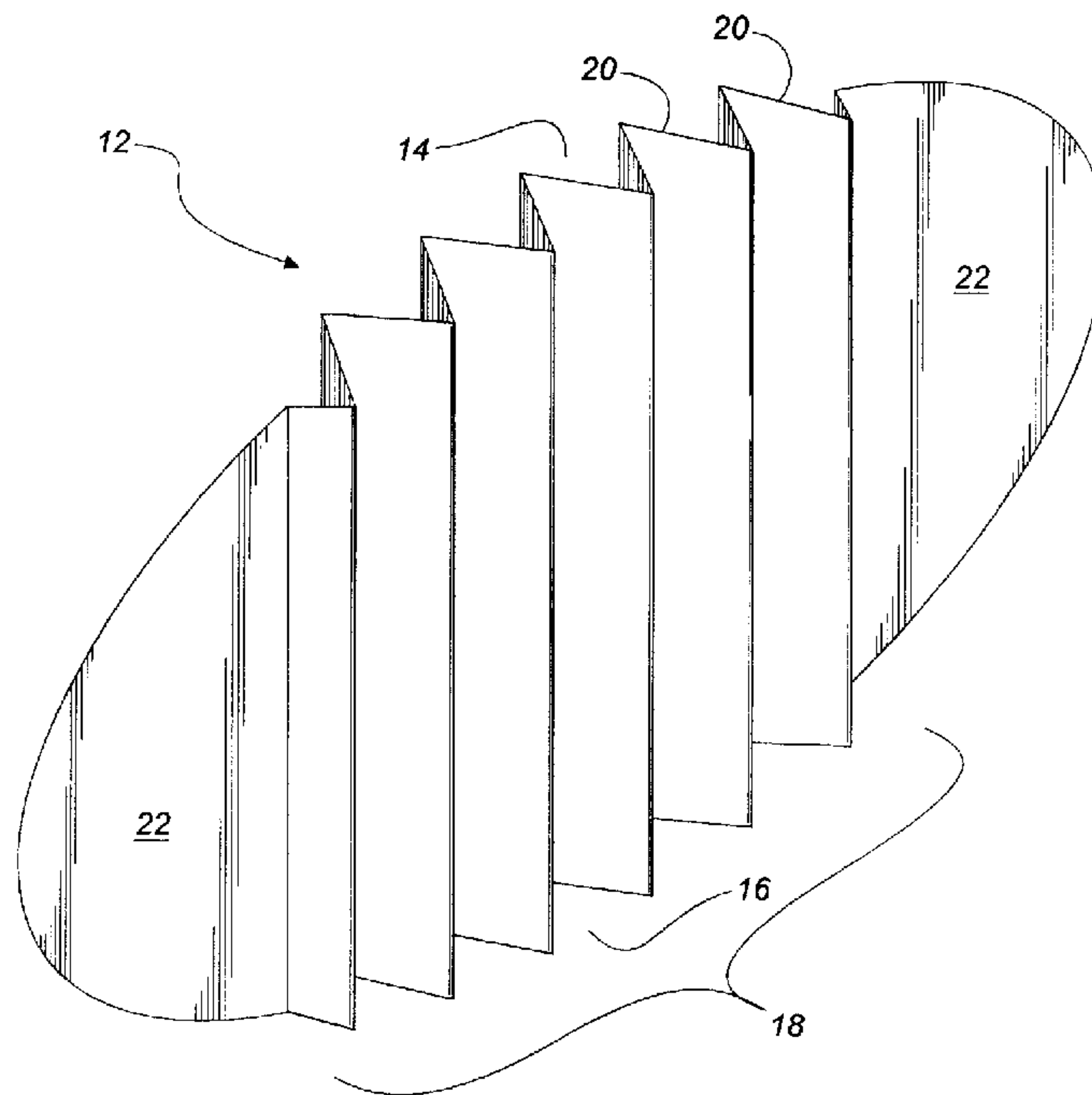
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(54) **METHODE POUR LA FIXATION DE CHICANES ONDULEES A  
L'INTERIEUR D'UN RESERVOIR**

(54) **METHOD OF SECURING CORRUGATED BAFFLES TO AN  
INTERIOR OF A TANK**



(57) A method of securing corrugated baffles to an interior of a tank in described. Firstly, provide a plurality of generally elliptical shaped baffles. Each baffle has a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side portions. Secondly, space the baffles transversely along the length of a metal skin out of which the tank is to be formed. Thirdly, roll the metal skin around the baffles and weld the top portion, the bottom portion and the semi-circular side portions of each of the baffles to the metal skin.



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UNITED STATES/CANADA

**ABSTRACT OF THE DISCLOSURE**

A method of securing corrugated baffles to an interior of a tank is described. Firstly, provide a plurality of generally elliptical shaped baffles. Each baffle has a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side portions. Secondly, space the baffles transversely along the length of a metal skin out of which the tank is to be formed. Thirdly, roll the metal skin around the baffles and weld the top portion, the bottom portion and the semi-circular side portions of each of the baffles to the metal skin.

**TITLE OF THE INVENTION:**

A method of securing corrugated baffles to an interior of a tank.

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**NAME(S) OF INVENTOR(S):**

Ronald Riopel

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**FIELD OF THE INVENTION**

The present invention relates to a method of securing corrugated baffles to an interior of a tank which is mounted onto a truck, trailer or rail car chassis.

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**BACKGROUND OF THE INVENTION**

Baffles are secured within the interior cavities of vehicle mounted tanks in order to retard wave-form liquid movement. In the absence of such baffles, liquid surges can adversely affect the stability of the vehicle.

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Corrugated baffles have superior wave dampening ability, as the liquid flow is directed back against itself in a counterflow which retards harmful liquid surges. However, there are numerous problems associated with corrugated baffles. One problem relates to fit. It is difficult to work in three dimensions and successfully achieve a fit within the tolerances required. Poor fit contributes to a second problem in the form of welding faults.

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**SUMMARY OF THE INVENTION**

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What is required is an improved method of securing

corrugated baffles to an interior of a vehicle mounted tank.

According to one aspect of the present invention there is provided a method of securing corrugated baffles to an interior  
5 of a tank. Firstly, provide a plurality of generally elliptical shaped baffles. Each baffle has a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side portions. Secondly, space the baffles  
10 transversely along the length of a metal skin out of which the tank is to be formed. Thirdly, roll the metal skin around the baffles and weld the top portion, the bottom portion and the semi-circular side portions of each of the baffles to the metal skin.

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The baffle, as described above, is easier to fit for the side portions are uncorrugated. The method, taken as a whole, allows better access and enables a better quality of welding job to be performed.

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Although beneficial results may be obtained through the use of the method, as described above, a further problem encountered with some installations relates to cracking along the floor. A tank that is mounted onto a trailer is subjected  
25 to longitudinal flexing along the lower or "belly" region which leads to cracking. The baffle is less prone to cracking along the bottom, however, when the baffle is set upon reinforcing pads which serve to buffer the baffle from the effects of longitudinal flexing.

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According to another aspect of the present invention there is provided a tank which includes a metal skin defining an interior. A plurality of generally elliptical shaped baffles are secured transversely in spaced relation within the interior  
35 of the tank. Each baffle has a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side

portions.

For the reasons that are stated above, it is preferred that a reinforcing pad be disposed between the metal skin and the bottom of the corrugated central portion of each of the baffles.

#### **BRIEF DESCRIPTION OF THE DRAWINGS**

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

**FIGURE 1** is a perspective view of a baffle constructed in accordance with the teachings of the present invention.

**FIGURE 2** is a front elevation view of the baffle illustrated in **FIGURE 1**.

**FIGURE 3** is a top plan view of the baffle illustrated in **FIGURE 1**, to which reinforcing pads have been secured.

20 **FIGURE 4** is a top plan view of a plurality of the baffles as illustrated in **FIGURE 3**, secured to a metal skin out of which a tank is to be formed.

**FIGURE 5** is an end elevation view of the metal skin illustrated in **FIGURE 4** formed around the baffles.

25 **FIGURE 6** is a side elevation view in section of a tank constructed in accordance with the teachings of the present method.

#### 30 **DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT**

A method of securing corrugated baffles to an interior of a tank will now be described with reference to **FIGURES 1** through **6**.

35 Firstly, provide a plurality of generally elliptical shaped baffles 12. Referring to **FIGURES 1** and **2**, each baffle



12 has a top 14, a bottom 16, a corrugated central portion 18 with a plurality of corrugations 20 extending between top 14 and bottom 16 and uncorrugated generally semi-circular side portions 22. Secondly, referring to **FIGURE 3**, weld a  
5 reinforcing pad 24 along bottom 16 of corrugated central portion 18 of each of baffles 12. Thirdly, referring to **FIGURE 4**, space baffles 12 transversely along a length of a metal skin 26 out of which a tank is to be formed. Fourthly, referring to **FIGURE 5**, roll metal skin 26 around baffles 12 and weld  
10 reinforcing pad 24, together with top 14 and semi-circular side portions 22 of each of baffles 12 to metal skin 26. **FIGURE 6** illustrates a tank 10 that results from the teachings of the method. Metal skin 26 defines an interior cavity 28. The plurality of generally elliptical shaped baffles 12 are secured  
15 transversely in spaced relation within interior 28 of tank 10. Reinforcing pads 24 are disposed between metal skin 26 and bottom 16 of corrugated central portion 18 of each of baffles 12.

20 It will be apparent to one skilled in the art that baffle 12, as described above, is easier to fit in view of the fact that side portions 22 are uncorrugated. It will also be apparent to one skilled in that art that baffle 12, installed as described above, is less prone to cracking along bottom 16  
25 as reinforcing pads 24 serve to buffer baffle 12 from the effects of longitudinal flexing of tank 10. It will also be apparent to one skilled in the art that the generally elliptical baffle can be either circular or oval in shape. It will finally be apparent to one skilled in the art that  
30 modifications may be made to the illustrated embodiment without departing from the spirit and scope of the invention as hereinafter defined in the Claims.

**THE EMBODIMENTS OF THE INVENTION IN WHICH AN EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE DEFINED AS FOLLOWS:**

1. A method of securing corrugated baffles to an interior of a tank, comprising the following steps:

firstly, providing a plurality of generally elliptical shaped baffles, each baffle having a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side portions;

secondly, spacing the baffles transversely along the length of a metal skin out of which the tank is to be formed; and

thirdly, rolling the metal skin around the baffles and welding the top portion, the bottom portion and the semi-circular side portions of each of the baffles to the metal skin to complete the tank.

2. A method of securing corrugated baffles to an interior of a tank, comprising the following steps:

firstly, providing a plurality of generally elliptical shaped baffles, each baffle having a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side portions;

secondly, welding a reinforcing pad along the bottom of the corrugated central portion of each of the baffles;

thirdly, spacing the baffles transversely along the length of a metal skin out of which the tank is to be formed; and

fourthly, rolling the metal skin around the baffles and welding the reinforcing pad, the top portion and the semi-circular side portions of each of the baffles to the metal skin to complete the tank.



3. A tank, comprising:

a metal skin defining an interior;

a plurality of generally elliptical shaped baffles secured transversely in spaced relation within the interior of the tank, each baffle having a top, a bottom, a corrugated central portion with corrugations extending between the top and the bottom and uncorrugated generally semi-circular side portions.

4. The tank as defined in Claim 3 wherein a reinforcing pad is disposed between the metal skin and the bottom of the corrugated central portion of each of the baffles.

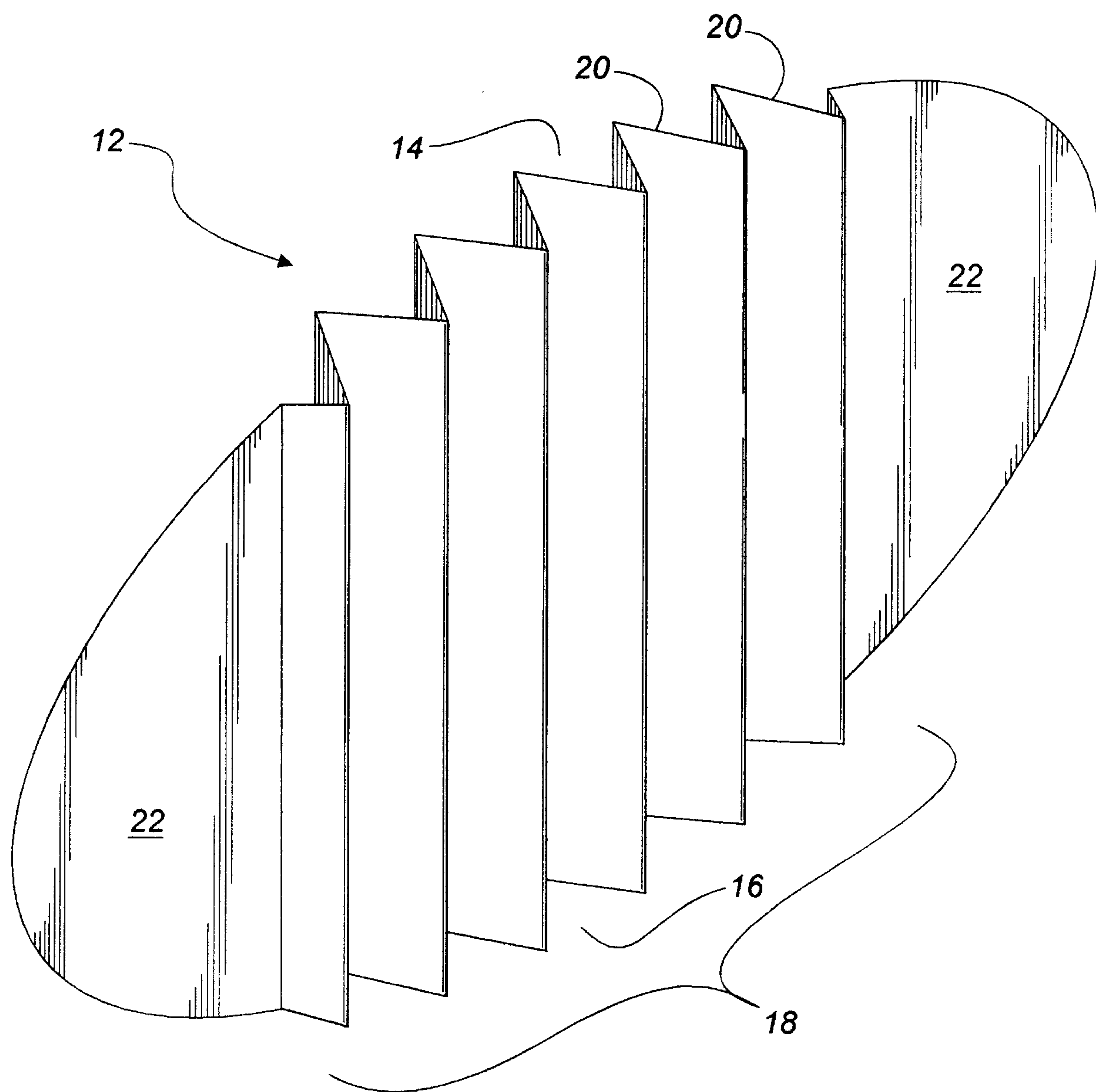
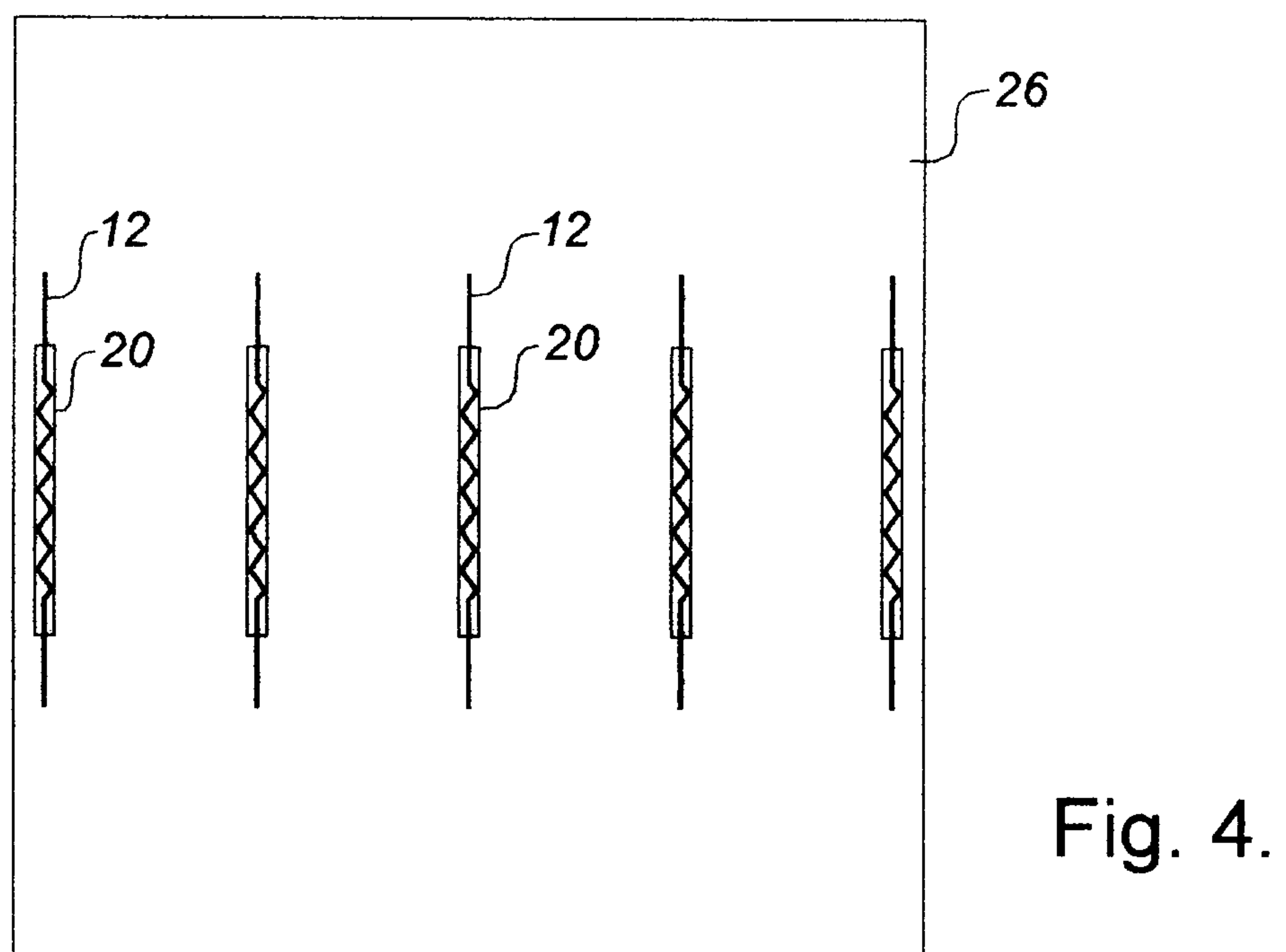
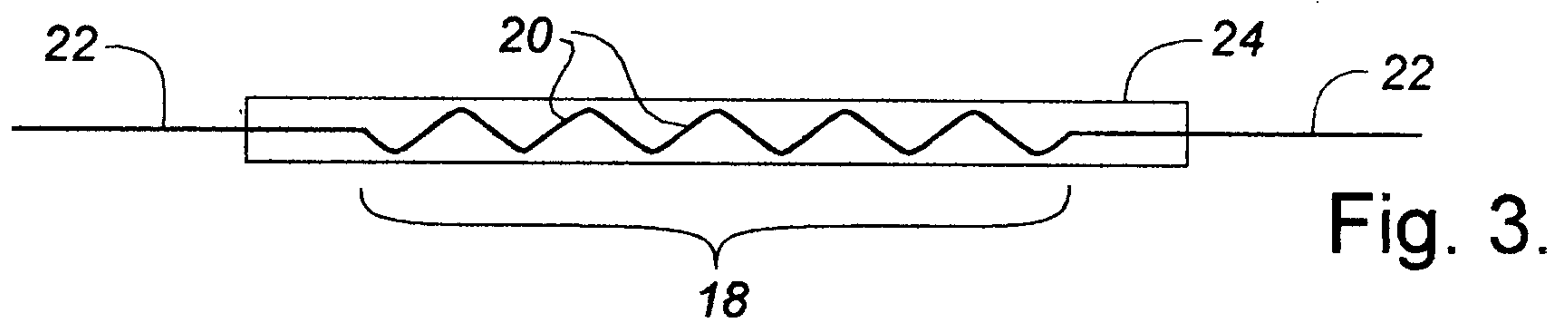
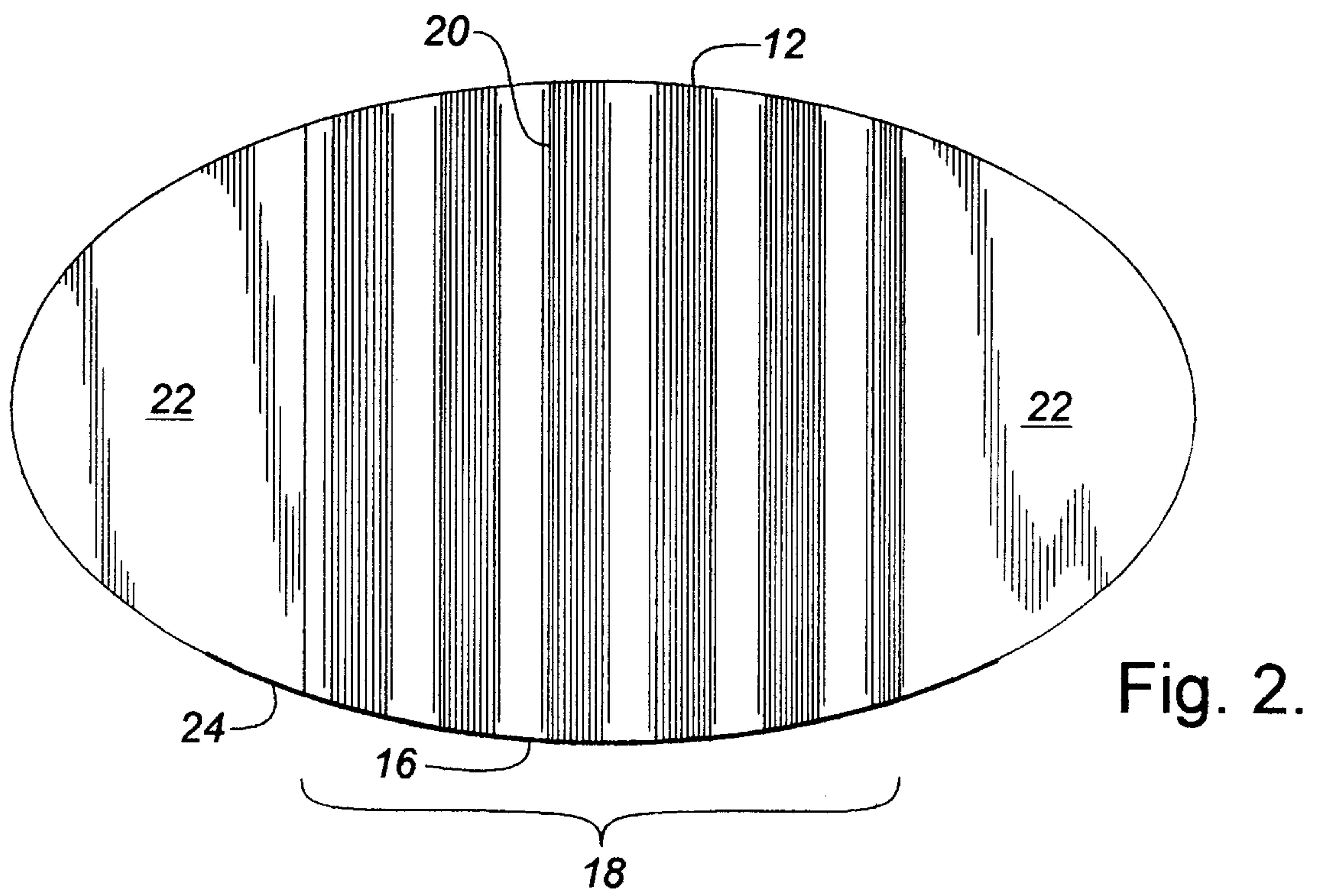


Fig. 1.



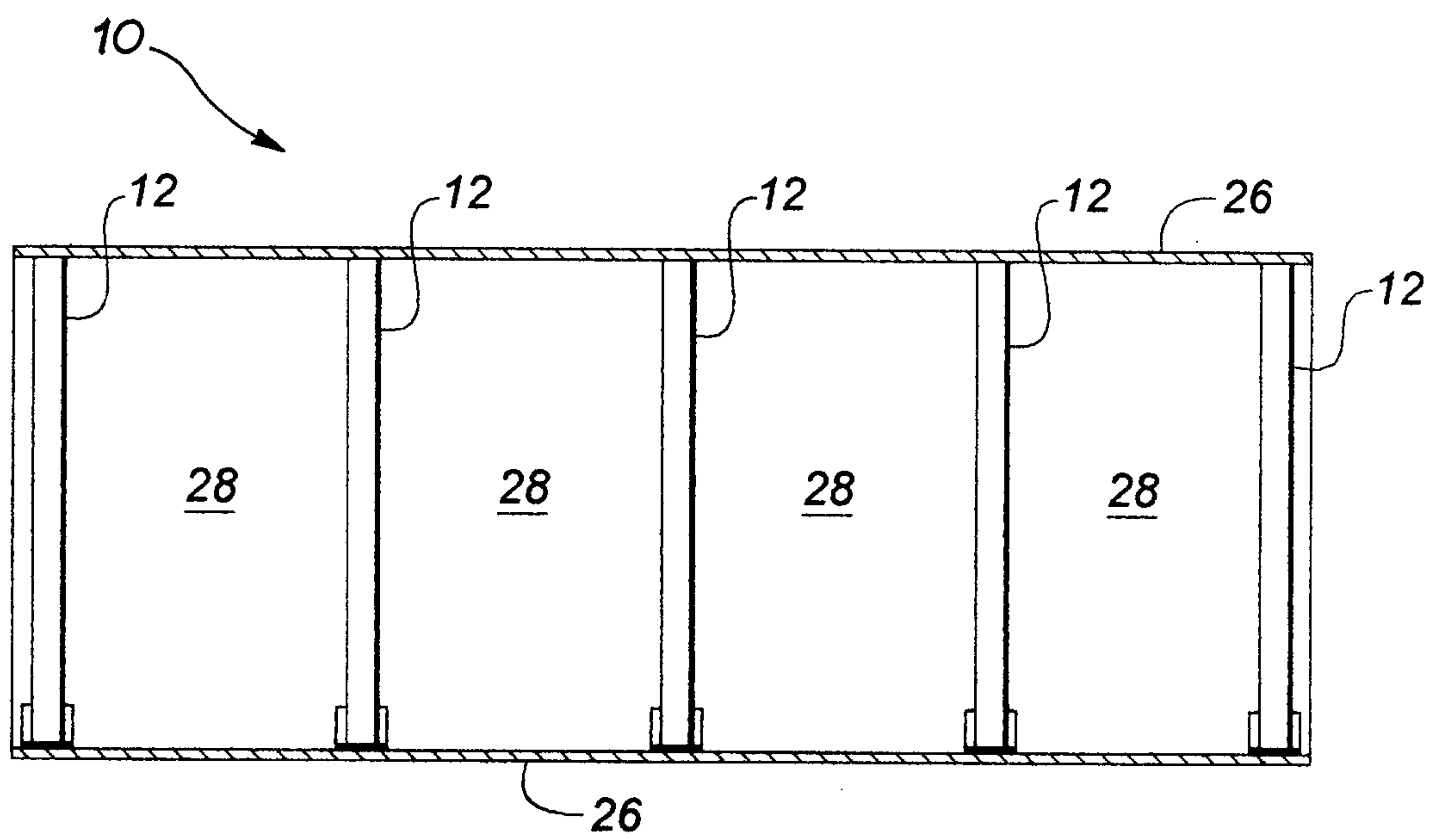
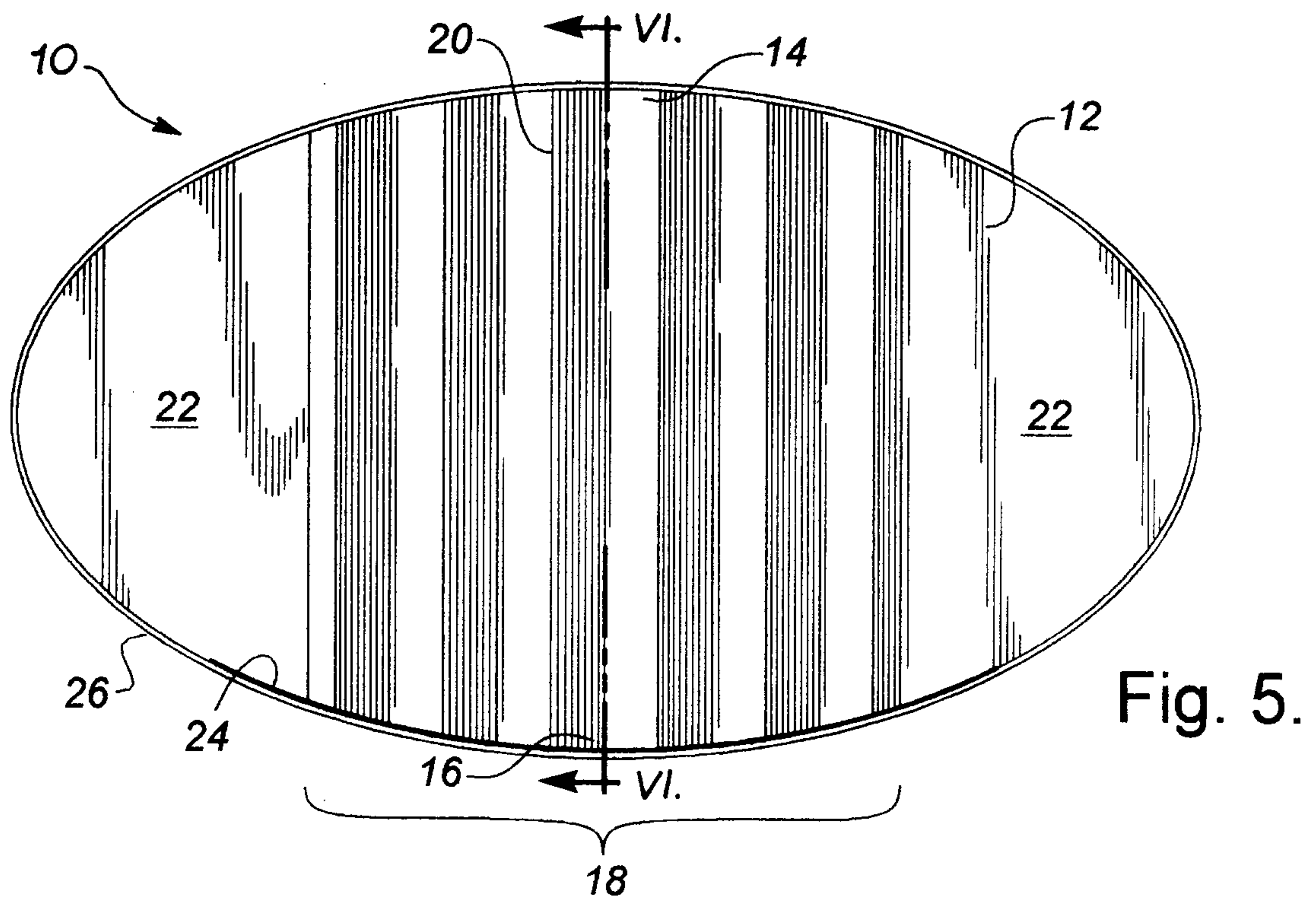


Fig. 6.