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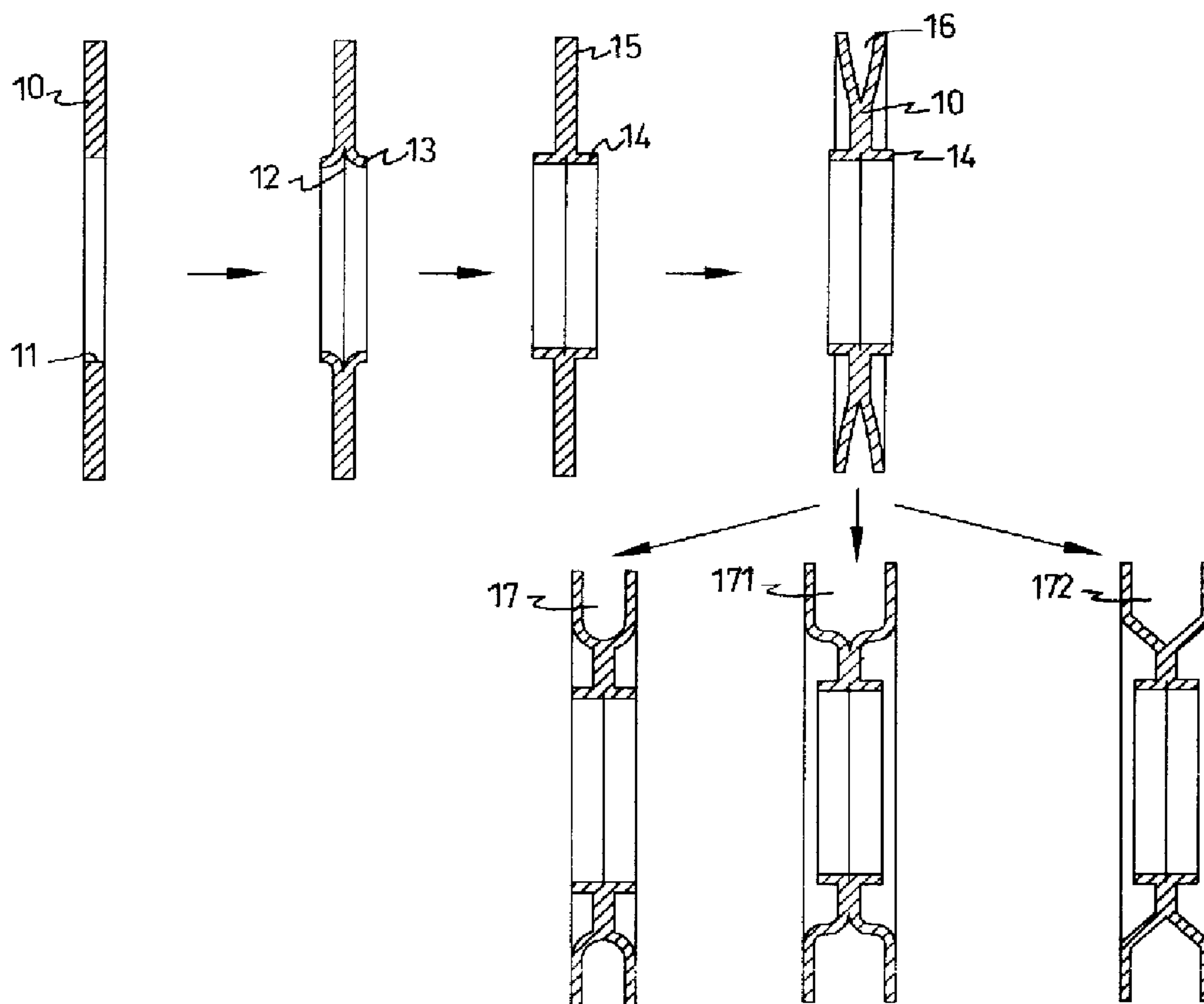
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(54) Titre : METHODE DE FABRICATION DE JANTES EN ACIER

(54) Title: METHOD FOR MANUFACTURING A STEEL RIM



(57) Abrégé/Abstract:

A method for manufacturing a steel rim is disclosed. The method comprises using a single circular steel plate with a circular central hole defined therein, radially cutting the inner face defining the central hole, flattening the cut inner face, radially cutting the outer face of the plate and forming the cut outer face into different shapes to accommodate different tires.

METHOD FOR MANUFACTURING A STEEL RIM**ABSTRACT OF THE DISCLOSURE**

A method for manufacturing a steel rim is disclosed. The method comprises using a single circular steel plate with a circular central hole defined therein, radially cutting the inner face defining the central hole, flattening the cut inner face, radially cutting the outer face of the plate and forming the cut outer face into different shapes to accommodate different tires.

Fig. 2

METHOD FOR MANUFACTURING A STEEL RIM

BACKGROUND OF THE INVENTION

1. Field of the Invention

The present invention relates to a method for producing a steel rim, and more particularly to a method for manufacturing a steel rim which is made of a single steel plate.

2. Description of Related Art

All tires have to have rims so as to hold the tires in position. Normally, one conventional rim is made by casting aluminum. This kind of rim is usually designed for high class vehicles. Another conventional rim structure is shown in Fig. 3. This kind of rim (20) is made by molding and has a tire (21) mounted outside of the rim (20). Still, another rim structure is shown in Fig. 4. It is noted that the rim (30) is made by connecting two steel plates (31, 32) together and has a centrally defined hole (33) through which an axle (not shown) is able to be fixed therein. Each of the steel plates (31, 32) are made by press molding and then connecting them with bolts and nuts. Therefore, a groove (34) is defined between the two steel plates (31,32), such that a tire is able to be positioned in place.

The cost for the rim shown in Fig. 3 is expensive, however the rim shown in Fig. 4 is cheap. Accordingly, the combined rim (30) is most popular throughout the world and usually is applied to strollers or regular vehicles.

Because the rim (30) is made from several different elements, the groove (34) cannot always be formed with an airtight seal, a tubeless tire is not able to be applied thereon. Furthermore, the strength of the rim (30) will be weakened because the components become loose after a period of time of experiencing regular shocks and vibration.

1 The present invention provides a method for manufacturing a
2 steel rim to mitigate or obviate the above mentioned problems.

3 **SUMMARY OF THE INVENTION**

4 The main object of the present invention is to provide a method for
5 manufacturing a steel rim, which is made of a single steel plate so that
6 the rim can be used with a normal tire with an inner tube or a tubeless
7 tire.

8 Other objects, advantages and novel features of the invention will
9 become more apparent from the following detailed description when
10 taken in conjunction with the accompanying drawings.

11 **BRIEF DESCRIPTION OF THE DRAWINGS**

12 Fig. 1 is a sequence diagram for manufacturing a steel rim in
13 accordance with the present invention;

14 Fig. 2 is a schematic view showing the stages of manufacturing the
15 steel rim in accordance with the present invention;

16 Fig. 3 is a cross sectional view showing a structure of a
17 conventional rim; and

18 Fig. 4 is a cross sectional view showing a structure of another
19 conventional rim.

20 **DETAILED DESCRIPTION OF PREFERRED EMBODIMENT**

21 Referring to Fig. 1, the first step in the manufacturing procedure of
22 a steel rim is to form a circular steel plate with a circular central hole
23 defined therein. The inner face defining the central hole is cut radially,
24 and the cut inner face is spread and flattened. Thereafter, the outer face
25 of the rim is cut radially to form a V-shaped opening, which is further
26 spread and shaped into various shapes for different purposes or types
27 of tires. For a better understanding of the invention, Fig. 2 is used to
28 accompany the detailed description.

1 A circular steel plate (10) with a circular central hole (11) is used
2 to form the steel rim with the method in accordance with the present
3 invention. The inner face defining the central hole (11) is first cut
4 radially to define a radial slit (12) therein. After the slit (12) is defined,
5 two adjacent legs (13) are accordingly formed and orientated in
6 different directions. The legs (13) are flattened to extend perpendicular
7 to the plane of the plate (10) to form the bearing surface (14) for the
8 axle (not shown). Thereafter, the outer face of the plate (10) is cut
9 radially to form a V-shaped opening (15). The V-shaped opening (15)
10 is then formed to the desired substantially U-shaped slot (17, 171) or
11 V-shaped slot (172) as shown.

12 Because only a single steel plate (10) is used to manufacture the
13 rim, better accuracy of the size is achieved. Because the slot (17, 171,
14 172) defined in the outer face of the plate (10) is formed from the
15 single steel plate (10), when a tire or a tubeless tire is used, the U-
16 shaped or V-shaped slot (17, 171, 172) is inherently air tight. Balanced
17 rotation of the rim can also be expected due to the single piece
18 structure that can be balanced before beginning the process in
19 accordance with the present invention.

20 It is to be understood, however, that even though numerous
21 characteristics and advantages of the present invention have been set
22 forth in the foregoing description, together with details of the structure
23 and function of the invention, the disclosure is illustrative only, and
24 changes may be made in detail, especially in matters of shape, size,
25 and arrangement of parts within the principles of the invention to the
26 full extent indicated by the broad general meaning of the terms in
27 which the appended claims are expressed.

1 **THE EMBODIMENT OF THE INVENTION IN WHICH AN**
2 **EXCLUSIVE PROPERTY OR PRIVILEGE IS CLAIMED ARE**
3 **DEFINED AS FOLLOES:**

- 4 1. A method for manufacturing a steel rim comprising the
5 following steps:
6 forming a circular steel plate (10) with a circular central hole (11)
7 defined therein;
8 radially cutting the inner face defining the central hole (11) to
9 define a slit (12) and two legs (13) formed to extend in different
10 directions;
11 flattening the two legs (13);
12 radially cutting the outer face of the plate (10) into a V-shaped
13 opening (15); and
14 forming the V-shaped opening into different shapes to
15 accommodate tires.

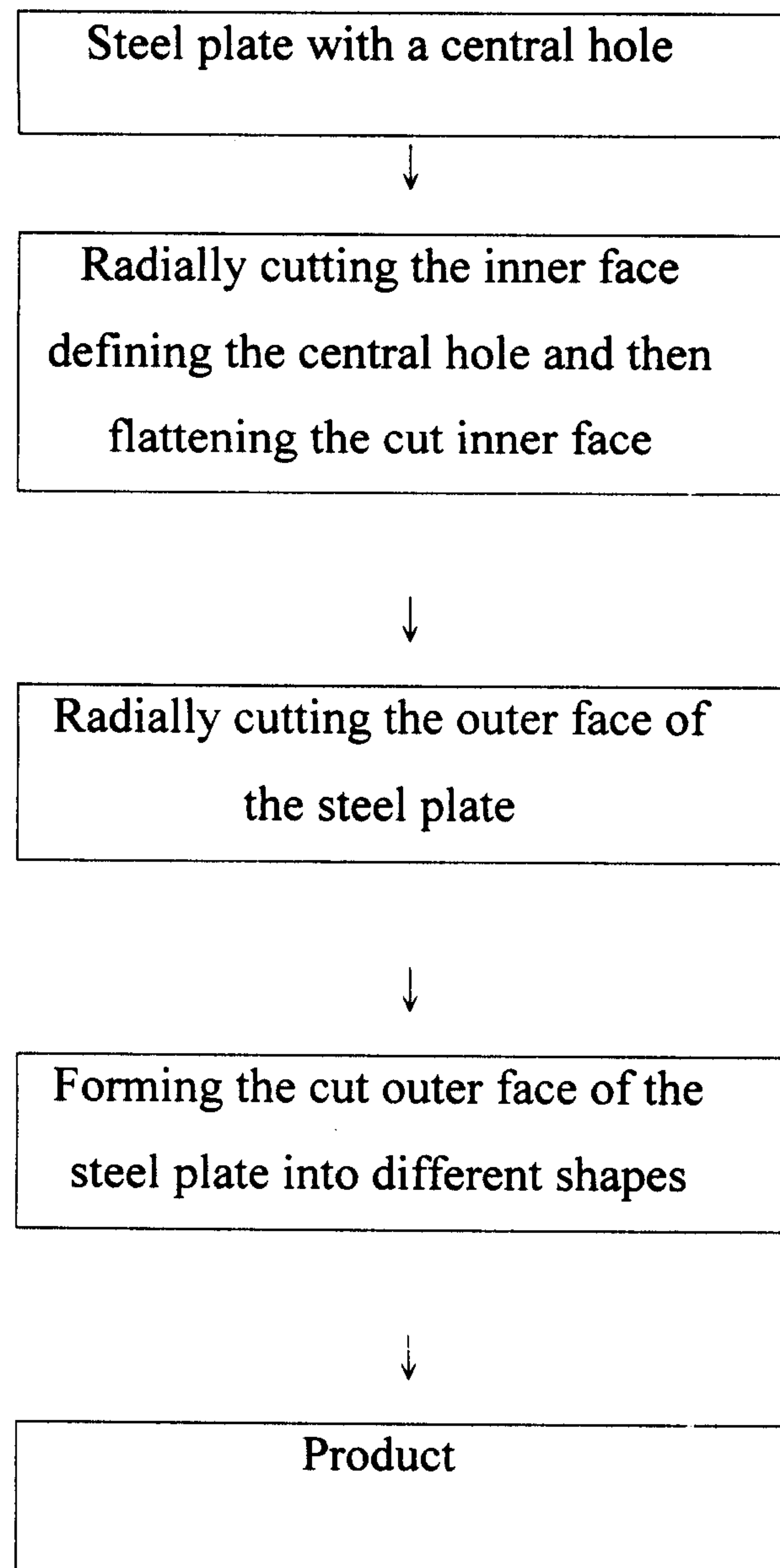


FIG. 1

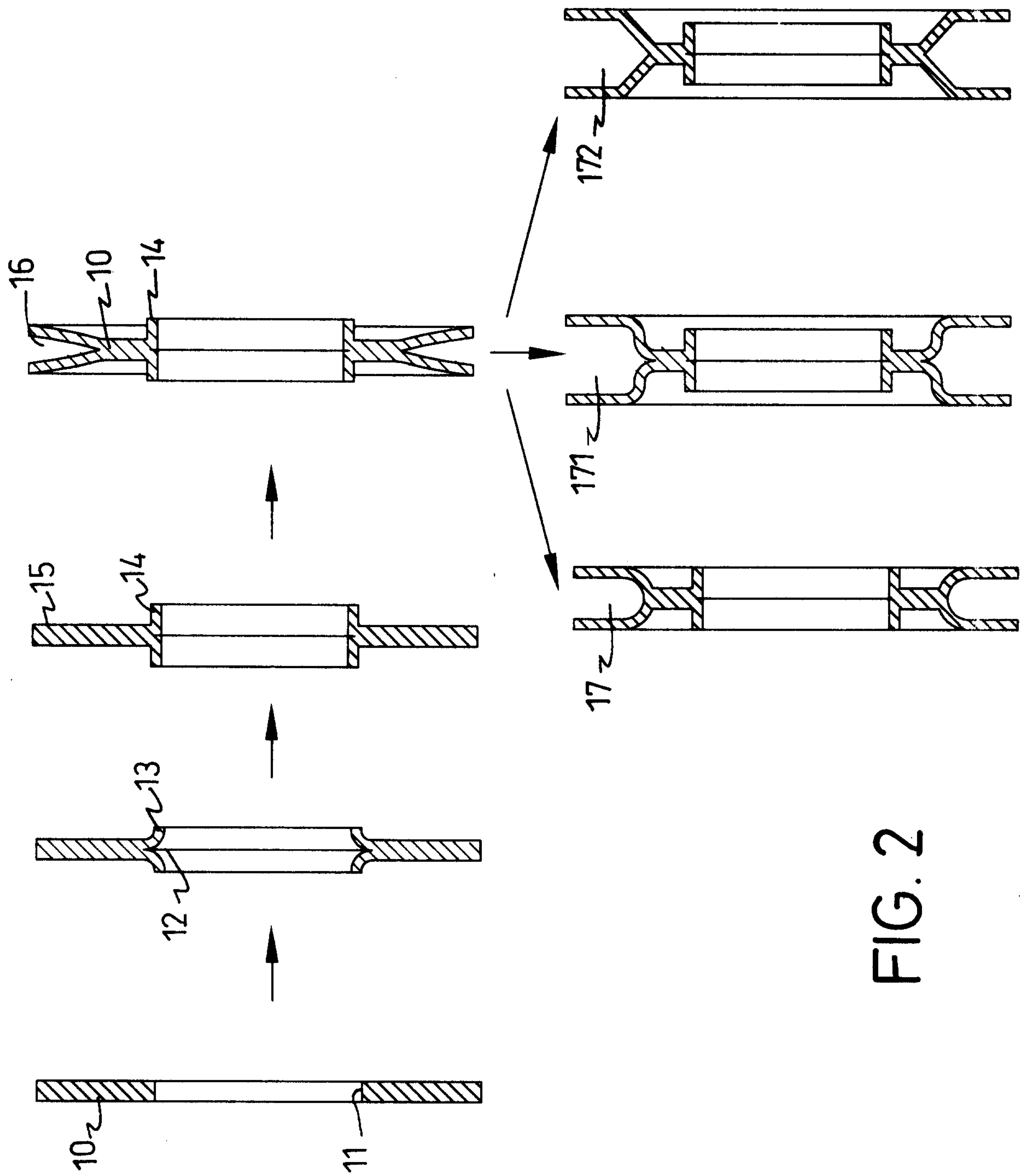


FIG. 2

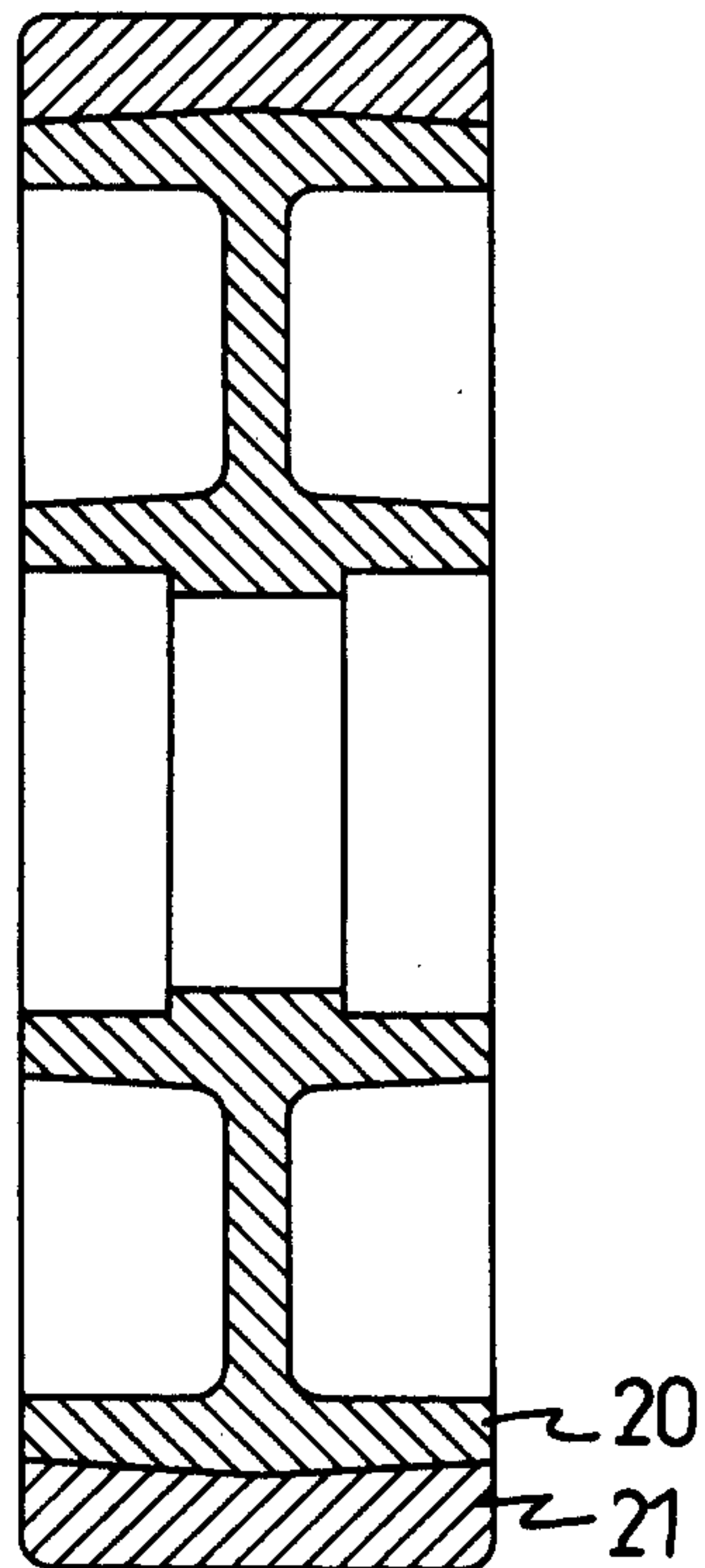


FIG. 3
PRIOR ART

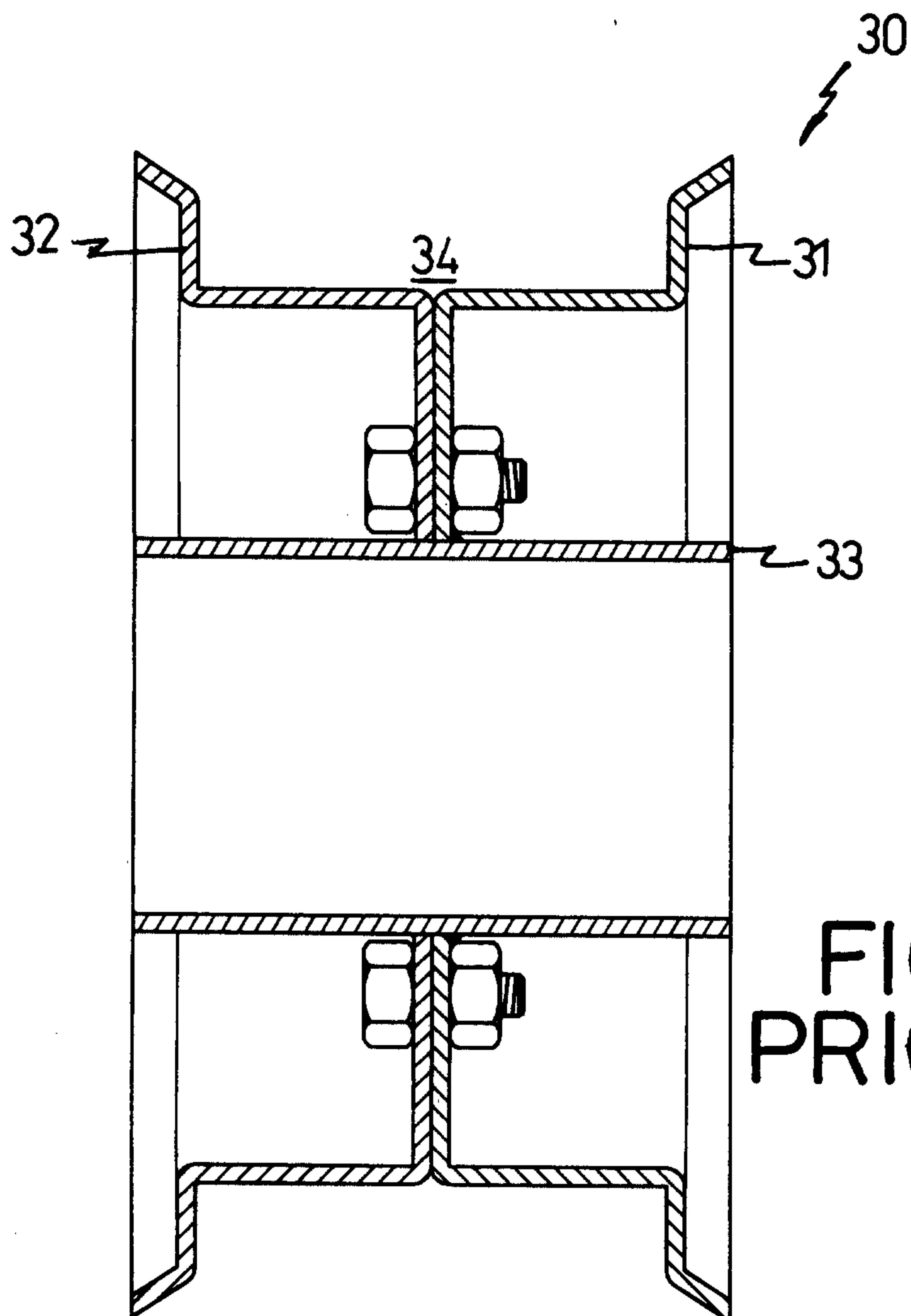


FIG. 4
PRIOR ART

