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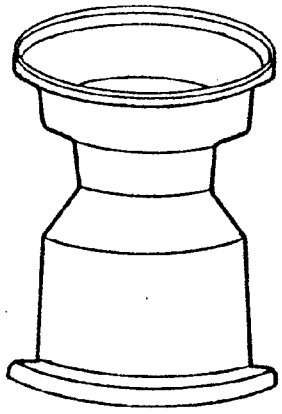
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(54) **Utilization of an extruded tubular section for manufacturing metal rims for vehicle wheels and products so obtained.**

(57) Shaped metal rims for vehicle wheels, particularly tire rims of aluminium alloy for wheels of motor vehicles, obtained by rolling an extruded tubular section.



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"Utilization of an extruded tubular section for manufacturing metal rims for vehicle wheels and products so obtained"

This invention relates to a product employed for manufacturing weldless metal rims for vehicle wheels, in particular tire rims of aluminium alloy for weldless wheels of motor vehicles, by means of a simplified process.

Background of the invention

As is known, the aluminium alloy tire rims for motor vehicle wheels are presently manufactured starting from a flat plate which is caused to assume the tire rim shape by means of the following operations : cutting from a plate the material cut down size necessary for the tire rim to be obtained; roller leveling said cut down size to assume the shape of an open flat (non-shaped) cylinder; welding the edges of the cylinder so obtained to obtain a not yet shaped tire rim; rolling said tire rim to impart the desired shape to it; final trimming : the resulting tire rim is ready for assembly by welding to the disc-wheel.

The process schematically described hereinabove is operatively complex due to the number of single operations involved and - chiefly - leads to the obtainment of tire rims with weld, such weld generally representing, as is known, a solution of continuity of the metal structures in general and of the tire rim in the particular case in question.

Summary of the invention

Thus, it is an object of the present invention to manufacture weldless metal tire rims, in particular aluminium alloy weldless tire rims for vehicle wheels, by means of a simplified process.

The abovesaid object and still other objects which will be apparent to those skilled in the art from the following description, is achieved - according to the present invention - by using, as a starting product, an extruded tubular section (i.e. weldless), such section being cut into a plurality of cut down sizes, which are then caused to assume the desired shape by means of a rolling process.

More particularly, said utilization of extruded tubular sections to obtain weldless rims is accomplished, according to the present invention, by a process which is schematically described hereinafter with reference to the figures of the annexed (only) table of drawing.

Brief description of the drawings

- Figure 1 shows the starting extruded pipe;
- figure 2 shows the pipe cut down sizes obtained from the starting pipe by means of cuts perpendicular to the axis of said pipe;
- figure 3 schematically shows the rolling operation which performs the shaping of a pipe cut down size;
- figure 4 shows a finished tire rim.

Detailed description of the invention

Referring to such figures, the manufacturing process consists therefore of the following steps :

a) cutting from an extruded metal pipe, perpendicularly to the axis thereof, cut down sizes having a length proportioned to the shaped surface of the tire rim to be obtained;

b) shaping, by means of rolling, the tire rim, which, without any further machinings, is ready for the successive assembling operations to the disc-wheel.

Particularly - but not exclusively - suited materials to be employed for manufacturing the abovesaid rims and tire rims starting from an extruded pipe are the aluminium alloys of the Al-Mg-Si type of the known Series AA 6000, or the Al-Zn-Mg-Cu alloys of the known Series AA 7000 or the Al-Mg alloys of the known Series AA 5000.

The invention as described hereinbefore and claimed hereinafter may be practised with technically equivalent elements, all falling however within the scope of the invention.

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"Utilization of an extruded tubular section for manufacturing metal rims for vehicle wheels and products so obtained"

Claims

1. Extruded tubular metal sections, characterized in that they are shaped by rolling and are utilized for weldless rims for vehicle wheels, in particular weldless tire rims for motor vehicle wheels.

2. Extruded tubular metal sections for the uses according to claim 1, characterized in that they are manufactured from an aluminium alloy, preferably selected from an Al-Mg-Si alloy of the Series AA 6000, an Al-Zn-Mg-Cu alloy of the Series AA 7000 and an Al-Mg alloy of the Series AA 5000.

3. Weldless rims for vehicle wheels, particularly weldless tire rims for motor vehicle wheels, characterized in that they consist of extruded tubular metal sections, shaped by rolling.

4. Weldless rims according to claim 3, characterized in that they are manufactured from an aluminium alloy preferably selected from an Al-Mg-Si alloy of the Series AA 6000, an Al-Zn-Mg-Cu alloy of the Series AA 7000 and an Al-Mg alloy of the Series AA 5000.

5. A process for manufacturing weldless shaped metal rims for vehicle wheels, particularly aluminium

alloy tire rims for motor vehicle wheels, characterized in that it consists in utilizing,as a starting product, an extruded tubular section, which is then divided into a plurality of cut down sizes, to which the desired shape is successively imparted by means of a rolling process.

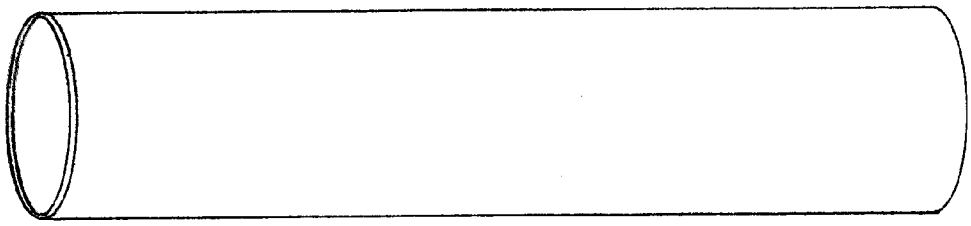


Fig.1

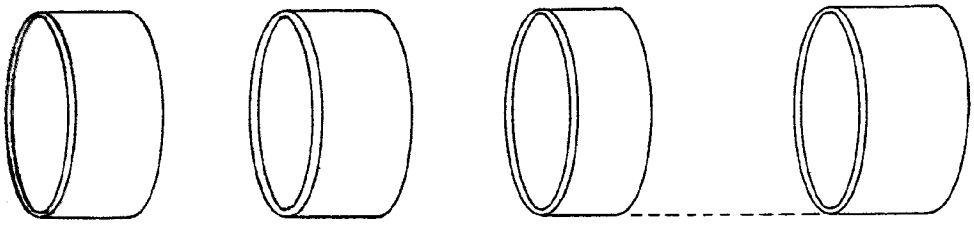


Fig.2

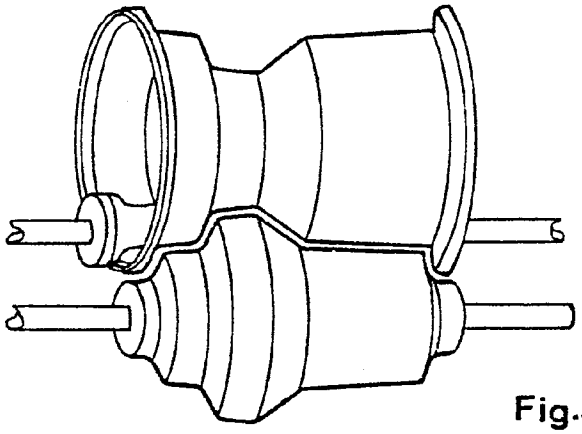


Fig.3

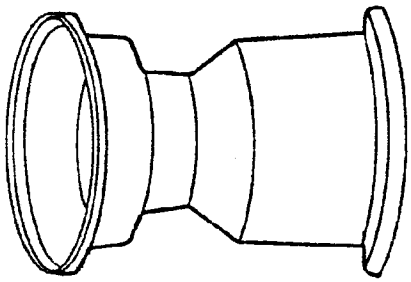


Fig.4