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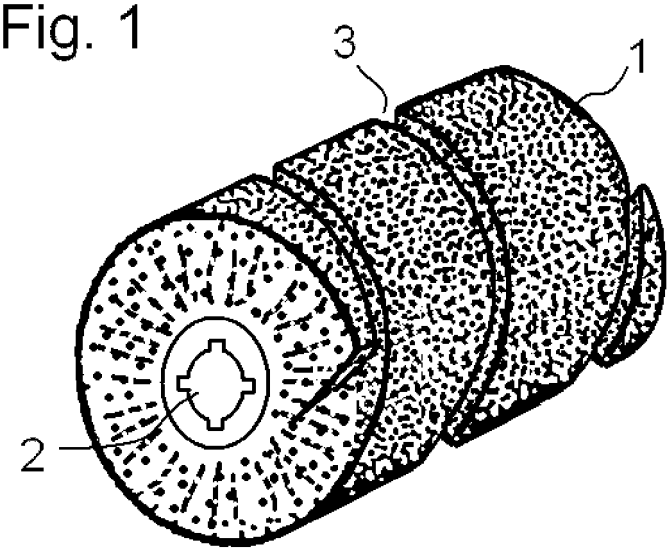
(54) **Roller for polishing metal surfaces**

(57) The invention relates to a roller for polishing metal surfaces comprising an abrasive cylindrical body (1), which has a channel (3) arranged in a helical manner from one end to the other, and which is axially provided with a groove through which it is coupled in a rotating tool driving the roller with a rotational movement, describing strips which move lengthwise and laterally so that when it is applied on the surface to be treated, it performs an in-depth cleaning and a slight polish which allows bringing out the shine of the metal of the surface to be cleaned, preventing the formation of bands in the metal.

Fig. 1



EP 2 251 144 A1

Description

Object of the Invention

[0001] As indicated by its title, the present invention relates to a roller for polishing metal surfaces, of the type of those comprising an abrasive cylindrical body including a central core through which it is coupled in a rotating tool capable of driving the roller with a rotational movement, such that when it is applied on the surface to be treated it performs an in-depth cleaning and a slight polish which allows bringing out the shine of the metal.

Background of the Invention

[0002] Metals, particularly those used in construction such as anodized aluminium, stainless steel, etc., are difficult to clean, especially when due to contact with cement, plaster or other products, the latter have left marks caused by the etching on the metal. Sanding rollers made of an abrasive material which are assembled in a small rotary machine of the type used by professionals or at domestic level are currently known. These rollers perform a cleaning and polish on the planar metal surface based on performing several passes with said roller in a longitudinal direction.

[0003] The problem of this type of roller is observed in cleaning metal lumber or other elongated metal parts in which the passes of the roller leave longitudinal marks which are difficult to subsequently remove.

Description of the Invention

[0004] The roller object of this model has a helical channel in the abrasive body, which channel runs with an inclination of between 5° and 30° with respect to the tangent to said roller. This channel runs over several turns from one end of the roller to the other, such that the strips of abrasive material defined between said channel describe, when the latter rotates, a longitudinal and lateral movement with respect to the surface to be cleaned, such that the formation of lines and bands in the metal is prevented, whether it is brass, stainless steel, aluminium, etc.

Description of the Drawings

[0005] To complement the description which is being made and for the purpose of aiding to better understand the features of the invention, a set of drawings is attached to this specification, in which the following has been depicted with an illustrative and non-limiting character:

Figure 1 shows a perspective view of the abrasive roller object of this model.
Figure 2 depicts a side elevational view of the same roller.

Preferred Embodiment of the Invention

[0006] As can be observed in the mentioned figures, the roller object of this model has an abrasive cylindrical body (1) which is assembled on an axial core (2) having a central longitudinal hole in which there is coupled a tool with a rotating head, which imparts to this body (1) the rotating movement necessary for it to perform an in-depth cleaning and polish necessary for removing stains and imperfections in the metal when it is passed over the surface to be treated.

[0007] According to a very important feature of the invention, the abrasive cylindrical body (1) has a channel (3), running in a helical manner from one end to the other, with an angle of inclination comprised between 5 and 30°. When the cylinder rotates, it causes the bands of abrasive material existing between two consecutive channels to perform a lengthwise but also a lateral movement to prevent the formation of longitudinal lines, like conventional rollers, and achieving a more uniform polish.

[0008] Having sufficiently described the nature of the invention, as well as a preferred embodiment, it is stated for the relevant purposes that the materials, shape, size and arrangement of the described elements can be modified, provided that this does not involve an alteration of the essential features of the invention which are claimed below:

Claims

1. A roller for polishing metal surfaces, comprising an abrasive cylindrical body (1), which is assembled on a central core (2), provided with an axial groove through which it is coupled in a rotating tool driving the roller with a rotational movement, so that when it is applied on the surface to be treated it performs an in-depth cleaning and a slight polish which allows bringing out the shine of the metal, **characterized in that** said abrasive body (1) has a channel (3) arranged in a helical manner from one end to the other, which upon rotating describes several strips which move lengthwise and laterally on the surface to be cleaned, preventing the formation of bands in the metal.

2. The roller for polishing metal surfaces according to the previous claim, **characterized in that** the helical channel (3) has an inclination comprised between 5° and 30° with respect to the tangent perpendicular to the axis of said roller.

Fig. 1

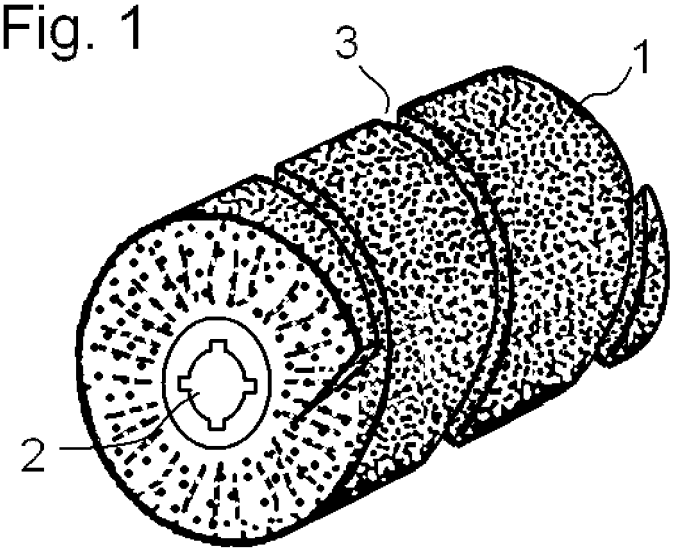
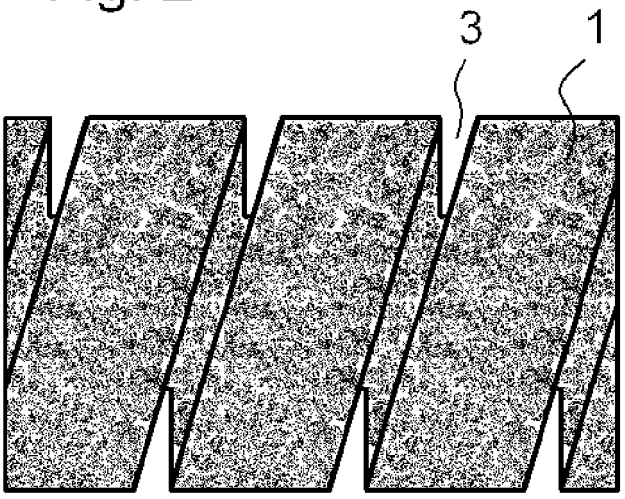


Fig. 2



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EUROPEAN SEARCH REPORT

Application Number
EP 09 38 2217

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	EP 0 896 860 A2 (KOPP WERKZEUGMASCH GMBH [DE]) 17 February 1999 (1999-02-17) * paragraphs [0021] - [0029]; figure 1 *	1,2	INV. B24D5/10 B24D13/18
Y	US 2008/289462 A1 (MATSUNAGA DOUGLAS [US] ET AL) 27 November 2008 (2008-11-27) * figures 3-5 *	1,2	
A	GB 120 800 A (PAIGE WILLIAM ROBERT) 28 November 1918 (1918-11-28) * the whole document *	1,2	

TECHNICAL FIELDS SEARCHED (IPC)

B24D

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
Munich	27 May 2010	Koller, Stefan

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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A : technological background
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P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
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1

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ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 09 38 2217

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
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27-05-2010

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82