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(71) Applicant: **Stalber S.r.l.**
54100 Massa (IT)

(72) Inventor: **Bernieri, Paolo**
54100 Massa (IT)

(74) Representative:
Faggioni, Giovanmaria, Dr. et al
Fumero-Studio Consulenza Brevetti
Franz-Joseph-Strasse 38
80801 München (DE)

(54) **Diamond type cutting tool, with low noise emission, for sawing stone materials, and machine using said tool**

(57) The invention relates to a cutting tool, in particular a diamond-tipped cutting tool for cutting stone materials, formed by a sheet steel support core (1) with a plurality of cutting elements (2), such as highly abrasive diamond segments which are fixed at intervals along its cutting edge. In order to achieve sound-damping of said tool, a series of substantially parallel incisions (3), arranged inclined with respect to the cutting edge at an angle of 20° to 40° is formed in a central zone of said sheet metal support core, the ends of each incision, which are formed in the manner of a curl (3a), being located above the ends of the incisions adjacent thereto. Moreover, filling segments (5) are arranged

between the diamond segments, said filling segments being fixed to the bottom edge of the blades in a manner similar to the said diamond segments, with the function of increasing the bearing contact area of the blades inside the cutting groove. The invention also relates to a frame-type cutting machine, the blade-carrying group of which has, associated with it, damping means suitable for preventing the generation and/or the propagation of acoustic vibrations, such as calibrated spacer strips and/or damping blocks which are made of resilient sound-absorbing material and arranged between each pair of blades and/or between the latter and the frame.

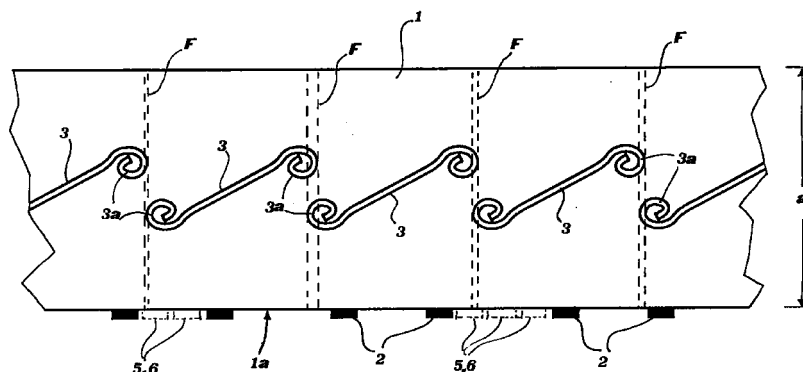


FIG.1

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EUROPEAN SEARCH REPORT

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-The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 August 2000	Examiner Rijks, M
CATEGORY OF CITED DOCUMENTS X: particularly relevant if taken alone Y: particularly relevant if combined with another document of the same category A: technological background O: non-written disclosure 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 L: document cited for other reasons -&: member of the same patent family, corresponding document	

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Place of search THE HAGUE		Date of completion of the search 3 August 2000	Examiner Rijks, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure 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 L : document cited for other reasons ----- & : member of the same patent family, corresponding document	

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Application Number
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-The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 3 August 2000	Examiner Rijks, M
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure 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 L : document cited for other reasons & : member of the same patent family, corresponding document			

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claim(s):
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid, namely claims:
- ☒ None of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims, namely claims:

1-22, 29



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**LACK OF UNITY OF INVENTION
SHEET B**

Application Number
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The Search Division considers that the present European patent application does not comply with the requirements of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims: 1-22,29

Diamond cutting tool provided with damping means able to prevent acoustic vibrations.

Machine for sawing stone materials having a rotary tool cutter provided with damping means able to prevent acoustic vibrations.

2. Claims: 22-28

Machine for sawing stone materials in the form of a frame comprising a blade-carrying group containing a plurality of diamond blades provided with damping means able to prevent acoustic vibrations.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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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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03-08-2000

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