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SUPPLEMENTARY EUROPEAN SEARCH REPORT

Application Number
EP 14 77 0671

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
X	US 5 052 630 A (HINSEY MICHAEL E [US] ET AL) 1 October 1991 (1991-10-01) * column 3, line 29 - column 5, line 4 * * column 6, line 66 - column 7, line 17; figures *	1-3,5,6, 9,11-13	INV. B02C18/18 B02C18/14
Y	US 3 473 742 A (MONTGOMERY WILLIAM T S) 21 October 1969 (1969-10-21)	4	
A	* column 6, lines 49-58; figure 5 *	1-3,5,6, 9,11,12	
Y	US 5 213 273 A (LINNERZ WILHELM [DE]) 25 May 1993 (1993-05-25)	4	
A	* column 4, line 40 - column 5, line 3; figure 1 *	1,5,6,9, 13	
Y	US 2010/252670 A1 (KITAGUCHI ATSUSHI [JP]) 7 October 2010 (2010-10-07)	4	
A	* paragraphs [0112] - [0114]; figure 3 *	1,3,6	

TECHNICAL FIELDS SEARCHED (IPC)

B02C

The supplementary search report has been based on the last set of claims valid and available at the start of the search.

Place of search	Date of completion of the search	Examiner
Munich	17 October 2016	Flodström, Benny

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

EPO FORM 1503 03.82 (P04N04)

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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing claims for which payment was due.

☐ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due 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 those claims for which no payment was due.

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 (supplementary) 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 (supplementary) 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 (supplementary) European search report has been drawn up for those parts of the European patent application which relate to the first mentioned in the claims, namely claims:

1-6, 9, 11-13

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LACK OF UNITY OF INVENTION
SHEET B

Application Number
EP 14 77 0671

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: 1-6, 9, 11-13

A material reducing machine comprising potential special technical features relating to (a) the leading edge of the cutting bit (32) of each short cutting tool (30,32) describing an arc as the rotor assembly (23) is rotated with respect to the frame;(b) each of the shear blocks having an outer surface that is curved to describe an arc that is generally parallel to the arc described by the leading edge of the cutting bit (32) of the short cutting tool (30,32) with which it is aligned.

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2. claim: 7

A material reducing machine comprising potential special technical features relating to (a) a shear block (444;544;644) having a trailing surface (476;576;676) having a radius with respect to the axis of rotation (28) of the rotor assembly (23);(b) the leading edge of the cutting bit (32) of the short cutting tool (30,32) aligned with the shear block describing an arc of rotation as the rotor assembly (23) is rotated about its axis of rotation, which arc of rotation is within the range of 0.90-0.995 of the radius of the trailing surface of the shear block.

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3. claim: 8

A material reducing machine comprising potential special technical features relating to (a) a shear block (444;544;644) having a trailing surface (476;576;676) having a radius with respect to the axis of rotation (28) of the rotor assembly (23);(b) the leading edge of the cutting bit (36) of a long cutting tool (34,36) that is adjacent to the shear block describing an arc of rotation as the rotor assembly is rotated about its axis of rotation, which arc of rotation is greater than 1.05 of the radius of the trailing surface of the shear block.

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4. claim: 10

A material reducing machine comprising potential special technical features relating to (a) the back plate (642) of the breaker assembly including apertures (643) through which material may pass;(b) an output conveyor for removing reduced material that is located below the rotor assembly;(c) a deflector plate that is located below the breaker assembly and is arranged so that material passing through the apertures (643) in the back plate (642) will

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:

strike the deflector plate before falling onto the output conveyor.

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5. claim: 14

material reducing machine comprising potential special technical features relating to that(a) each of the breaker blocks (46) is mounted on the back plate (42);(b) each of the breaker blocks (46) has a leading surface that gradually increases to a point of maximum outward projection back plate (42) and a trailing surface that gradually decreases from the point of maximum outward projection;(c) the radius of the arc of rotation described by the leading edges of the cutting bits (32) of the short cutting tools (30,32) is less than 0.90 of the radius of the trailing surface of each of the breaker blocks (46);(d) the radius of the arc of rotation described by the leading edges of the cutting bits (36) of the long cutting tools (34,36) is within the range of 0.90 - 0.995 of the radius of the trailing surface of each of the breaker blocks (46).

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6. claim: 15

A material reducing machine comprising potential special technical features relating to (a) an anvil (153; 645);(b) wherein each of the breaker blocks (6(46) is attached to the anvil (645);(c) wherein each of the breaker blocks (646) has a leading surface (647) that forms an angle that is within the range of 30°-75°, when measured from a horizontal plane that includes the axis of rotation (628) of the rotor assembly (623).

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 14 77 0671

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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17-10-2016

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5052630 A	01-10-1991	NONE	
US 3473742 A	21-10-1969	NONE	
US 5213273 A	25-05-1993	NONE	
US 2010252670 A1	07-10-2010	CN 101903107 A	01-12-2010
		EP 2281635 A1	09-02-2011
		JP 5363467 B2	11-12-2013
		US 2010252670 A1	07-10-2010
		WO 2009136521 A1	12-11-2009