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10170301.5 / 2 277 402

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(54) **ARTICLE OF FOOTWEAR HAVING AN UNDULATING SOLE**

(57) An article of footwear is provided which comprises an upper, a plate connected to the upper, and an undulating sole having a top surface connected to the plate and a bottom surface, the sole comprising a plurality of

spaced apart peaks defining a plurality of gaps in the top surface and a plurality of spaced apart troughs defining a plurality of gaps in the bottom surface.

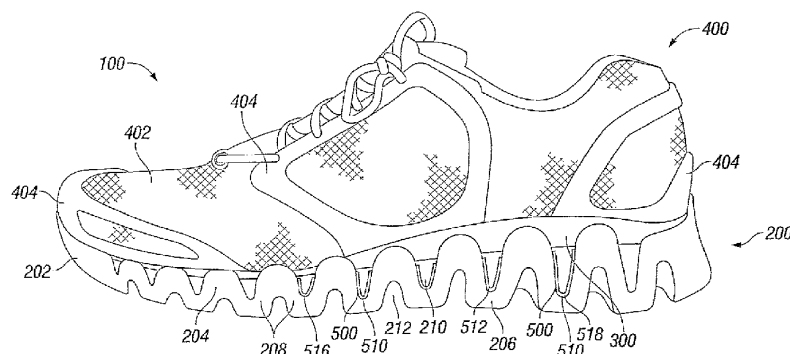


FIG. 24



EUROPEAN SEARCH REPORT

Application Number

EP 21 18 5399

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
A	US 2004/000075 A1 (AUGER PERRY [US] ET AL) 1 January 2004 (2004-01-01) * paragraphs [20], [40]; figures 1-3 * -----	1-5	INV. A43B13/12 A43B13/18 A43B13/14 A43B13/22
X	US 6 314 664 B1 (KITA KENJIRO [JP] ET AL) 13 November 2001 (2001-11-13) * column 5, lines 50-53; column 7, lines 32-37; claim 1; figure 5B, 5C, 9A, 9B * -----	1-5	
X	EP 0 990 397 A1 (MIZUNO KK [JP]) 5 April 2000 (2000-04-05) * claim 1; figures 1-2 * -----	1-5	
			TECHNICAL FIELDS SEARCHED (IPC)
			A43B
3 The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 14 September 2021	Examiner Vesin, Stéphane
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	



Application Number

EP 21 18 5399

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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 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:

1–5

☐ The present supplementary 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 (Rule 164 (1) EPC).

**LACK OF UNITY OF INVENTION
SHEET B**

Application Number

EP 21 18 5399

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: 1-5

A sole comprising a midsole and wherein the midsole is substantially sinusoidal along at least a portion of the length of the midsole, and wherein the midsole extends along a width of the midsole

2. claims: 6-10

A sole comprising a midsole, wherein the midsole undulates to define a plurality of spaced apart gaps in the top surface and a plurality of spaced apart gaps in the bottom surface.

3. claims: 11-14

An article of footwear comprising a foam sole disposed below the upper such that a gap is disposed between the sole and the upper; and wherein the sole is substantially sinusoidal along the length of the sole, and wherein the sole extends along a width of the sole.

4. claim: 15

A method of manufacturing a sole for an article of footwear, the method comprising the steps of molding an undulating foam midsole in a mold; removing the foam midsole from the mold; placing the foam midsole on a form having a plurality of spaced apart ridges; and cooling the foam midsole.

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

EP 21 18 5399

5 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 The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

14-09-2021

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