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(54) **POWER TOOL WITH COMPACT MOTOR AND TRANSMISSION ASSEMBLIES**

(57) A power tool includes a motor assembly coupled to a transmission assembly to drive an output device. The motor assembly includes a stator assembly coupled to a rotor that rotates about a central axis of the power tool, with a plurality of magnets received in magnet pock-

ets defined in the rotor. At least a portion of a motor bearing, and at least a portion of a cam carrier bearing of the transmission mechanism, are received within a motor envelope defined by the motor assembly.

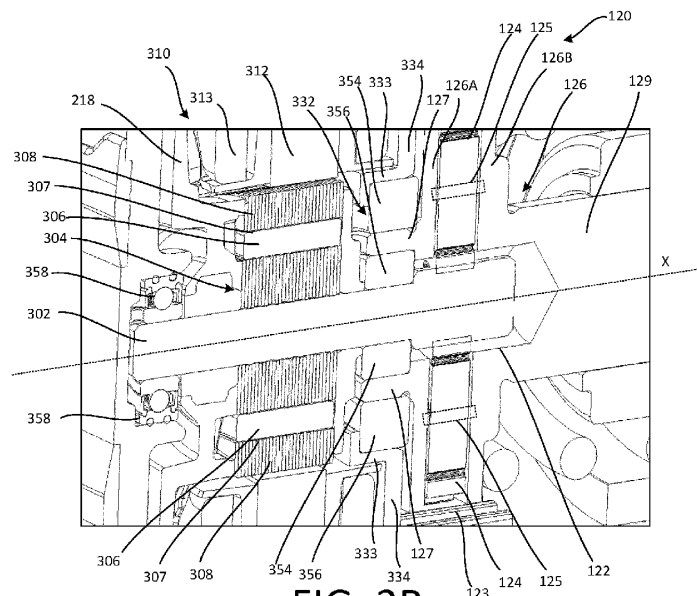


FIG. 3B

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EUROPEAN SEARCH REPORT

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EP 23 21 6279

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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	EP 3 845 342 A1 (BLACK & DECKER INC [US]) 7 July 2021 (2021-07-07) * paragraph [0092] - paragraph [0103] * -----	1-5	INV. B25F5/00 B25F5/02
			TECHNICAL FIELDS SEARCHED (IPC)
			B25F
-The present search report has been drawn up for all claims			
Place of search The Hague		Date of completion of the search 13 August 2024	Examiner Joosting, Thetmar
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 claims for which payment was due.

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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):

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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.

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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:

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see sheet B

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All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.

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As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.

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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:

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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:

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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

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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:

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1. claims: 1-5

1.1 figure 3A:

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1.2 The rotor bearing and the cam carrier bearing are axially aligned to reduce the length of the tool further. "wherein at least a portion of the second bearing is radially aligned with at least a portion of the first bearing."

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2. claims: 6-9

1.1 figure 4A:

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1.2 The cam carrier bearing is positioned to the left of the rotor bearing. The rotor bearing shifts to the right, into the space of the gear and reduced further the length of the tool "a first bearing configured to support the front end portion of the rotor shaft, the first bearing in a bearing pocket defined in a cam shaft at least partially axially forward of the gear carried by the carrier;"

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3. claims: 10-15

1.1 figure 5A:

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1.2 The fan bearing is positioned to the left of the cam carrier bearing, in front of the motor assembly. Both bearings are mounted on annular rearward projection of the transmission assembly (being pushed into the space of the motor assembly).

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"a fan coupled to a front axial end of the rotor; a first bearing mounted on the annular rearward projection within a first bearing pocket and configured to support the fan; and a second bearing mounted on the annular rearward projection within a second bearing pocket and configured to support the cam carrier, the second bearing

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25 pocket being positioned axially forward of the first bearing pocket"

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

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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.

13 - 08 - 2024

10	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
15	EP 3845342 A1	07-07-2021	EP 3845342 A1	07-07-2021
			US 2021194319 A1	24-06-2021
			US 2023353015 A1	02-11-2023
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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82