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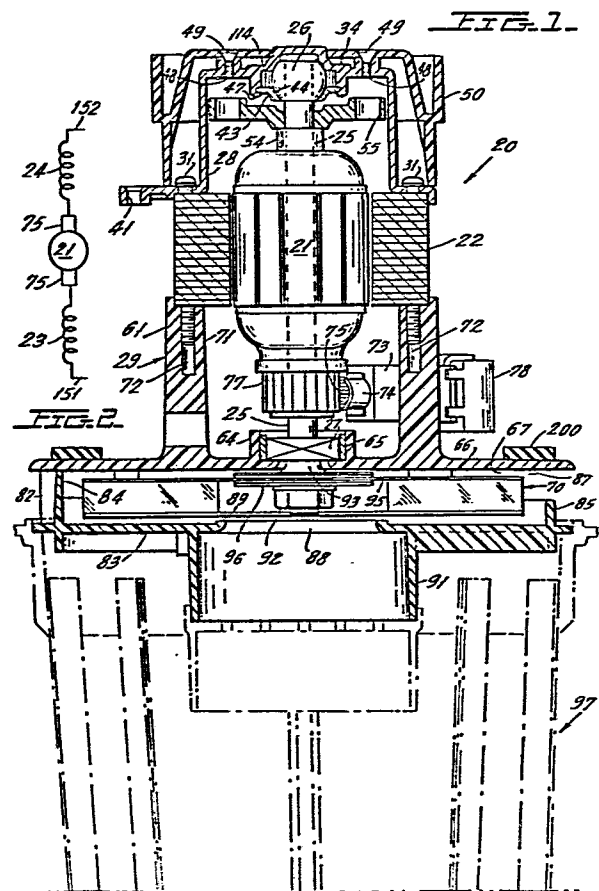
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Fan suction for vacuum cleaner.

A suction producing unit for a vacuum is constructed with a motor having an armature 21 on a vertical shaft 25 whose lower end is supported in a ball-type bearing unit 27 held in a tolerance ring 65. The upper end of the shaft is journaled in a bearing 26 that is held in a swivel support including a spring retainer ring 43. The latter is part of a subassembly which also includes the upper bearing 43 and an upper housing 28. The stator field piece 22 of the motor is clamped between the upper housing 28 and a lower housing 29 which supports the ball-type lower bearing unit 27. A pair of insulating sleeves 121, 123 on the lower end of the motor shaft 25 serve to properly space the armature 21, the lower bearing 27 and the fan blade 70. The latter 70 is mounted on the shaft 25 at its lower end by an insulating flanged cap nut 130 mounted on the lower threaded end (Figure 15) of the motor shaft 25.

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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 (Int. Cl. ³)
P, X	<p>FR-A-2 472 294 (VORWERK & CO.)</p> <p>*The whole document* & GB - A - 2 066 584</p>	1, 2, 3, 5	<p>A 47 L 5/22</p> <p>H 02 K 5/16</p> <p>H 02 K 5/15</p>
A	<p>FR-A-1 438 591 (SCOVILL MANUFACTURING COMP.)</p> <p>*Page 2, left-hand column; page 3, left-hand column, paragraph 3; figures 1, 3*</p>	1, 2, 3, 7, 8	
A	FR-A-2 175 551 (MOULINEX S.A.)		
A	DE-A-2 811 014 (SIEMENS AG)		
A	US-A-4 111 615 (WATANABE, J.)		TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
A	US-A-4 110 644 (RODDY, J.T.)		<p>A 47 L</p> <p>H 02 K</p>
A	US-A-4 109 978 (ERNST, R.G.)		
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 22-11-1982	Examiner MUNZER E.
<p>CATEGORY OF CITED DOCUMENTS</p> <p>X : particularly relevant if taken alone</p> <p>Y : particularly relevant if combined with another document of the same category</p> <p>A : technological background</p> <p>O : non-written disclosure</p> <p>P : intermediate document</p> <p>T : theory or principle underlying the invention</p> <p>E : earlier patent document, but published on, or after the filing date</p> <p>D : document cited in the application</p> <p>L : document cited for other reasons</p> <p>& : member of the same patent family, corresponding document</p>			