US006565252B2

(12) **United States Patent**
Dillinger et al.

(10) **Patent No.: US 6,565,252 B2**
(45) **Date of Patent: May 20, 2003**

(54) **APPARATUS FOR AUTOMATED FINISHING OF INTERIOR SURFACES**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/760,223**

(22) Filed: **Jan. 12, 2001**

(65) **Prior Publication Data**

US 2002/0093876 A1 Jul. 18, 2002

(51) **Int. Cl.**[7] **B28C 5/08**
(52) **U.S. Cl.** **366/13**; 366/64
(58) **Field of Search** 366/13, 64, 42, 366/46, 48, 51, 53, 54, 55, 56, 62, 38, 27, 28, 194, 319, 321, 349

(56) **References Cited**

U.S. PATENT DOCUMENTS

2,131,681	A	*	9/1938	Ball	366/51
2,633,340	A	*	3/1953	Zagray et al.	366/51
2,741,220	A		4/1956	Belisle	118/405
2,815,142	A		12/1957	Ames	216/25
2,828,112	A	*	3/1958	Kammer	366/194
2,880,976	A	*	4/1959	True	366/13
3,011,414	A	*	12/1961	Stein	366/53
3,017,164	A	*	1/1962	Ayers et al.	366/13
3,043,571	A	*	7/1962	Swarthout	366/46
3,137,482	A	*	6/1964	Hackley	366/13
3,203,631	A	*	8/1965	Jutila	366/194
3,260,638	A		7/1966	Hoveland	156/575
3,576,091	A		4/1971	Shull, Jr.	52/309
3,707,427	A		12/1972	Erickson	
3,807,706	A	*	4/1974	Kugle et al.	366/51
3,880,701	A		4/1975	Moree	156/526
3,938,786	A	*	2/1976	Bernold	366/13
4,105,490	A		8/1978	Lass	156/526
4,147,331	A	*	4/1979	Kopecky	366/46
4,208,239	A		6/1980	Lass	156/575
4,309,238	A		1/1982	Hauk	156/575
4,311,274	A	*	1/1982	Neal	
4,469,342	A		9/1984	Millard	280/148
4,587,886	A		5/1986	Masuda	91/415
4,642,158	A		2/1987	Stinel	156/497
4,652,331	A		3/1987	Plasencia	156/526
4,689,107	A		8/1987	Entwistle	156/465
4,707,202	A		11/1987	Sweeny	156/71
4,775,442	A		10/1988	Januska	156/575
4,828,647	A		5/1989	Eccleston	156/526
4,941,132	A	*	7/1990	Horn et al.	
5,013,389	A		5/1991	Retti	156/526
5,137,366	A	*	8/1992	Hill et al.	
5,230,608	A		7/1993	Januska	
5,242,495	A		9/1993	Hammond	118/43
5,352,035	A	*	10/1994	Macaulay et al.	366/321
5,727,876	A	*	3/1998	Tynan	
5,902,451	A		5/1999	O'Mara et al.	
6,053,365	A		4/2000	O'Mara et al.	

OTHER PUBLICATIONS

U.S. patent application Ser. No. 09/760,225 filed Jan. 12, 2000.

* cited by examiner

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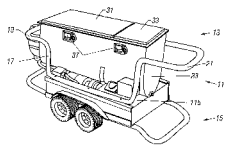
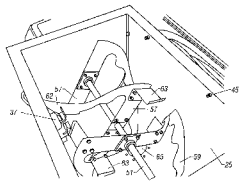
(57) **ABSTRACT**

An automated interior finishing apparatus has an upper section for mixing material, and a lower section for conveying the material. The upper section has a mixing compartment and a separate washing/storage compartment. Each compartment has a hinged lid that forms an air-tight seal. The mixing compartment has a shaft with an auger for mixing compound with water. The lower section has a motor for driving a progressive cavity pump, which receives mixed material from the mixing compartment. The pump delivers a smooth and uniform supply of material through an external supply hose. The apparatus is used as one component of an overall automated interior finishing system and method for completing surface finishes. For example, one end of the supply hose is connected to the outlet end of the pump for delivering mixed material to a hand tool at the opposite end, such as a flat taper.

35 Claims, 17 Drawing Sheets