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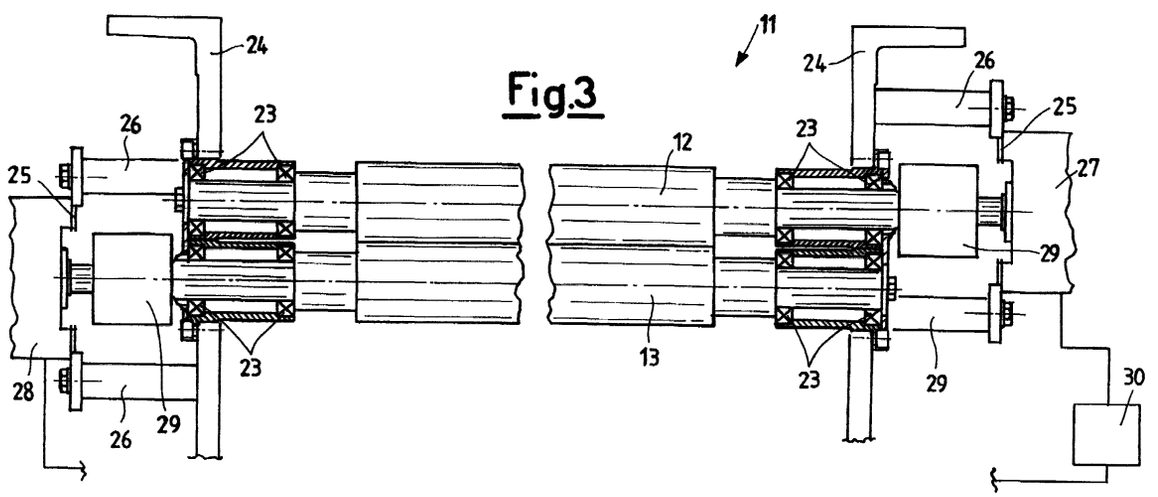
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(54) Feeding calender in welding machines for plastic materials

(57) An instantaneously controlled feeding calender in welding machines for plastic materials, comprising an upper feeding cylinder (12) and a lower feeding cylinder (13) superimposed on each other and mounted on parallel axles, between which a plastic or thermoplastic film (14) is fed so as to form a bag or similar, a welding group downstream of the cylinders (12, 13) comprising an upper welding arm (15) and a lower welding arm (16), and a collecting area (18, 20, 21, 22) for finished bags (19), where each cylinder (12, 13) is equipped with an independent motor (27, 28).

Fig.3



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EUROPEAN SEARCH REPORT

Application Number
EP 99 20 4427

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.7)
A	US 5 358 592 A (FUKUYAMA YOSHIAKI) 25 October 1994 (1994-10-25) * column 4, line 26 - line 29 * * column 5, line 51 - column 6, line 21; figures * * column 5, line 21 - line 24 *	1	B65H20/02 B31B19/10
A	DE 31 38 540 A (MAN ROLAND DRUCKMASCHINEN) 14 April 1983 (1983-04-14) * the whole document *	1	
A	US 2 971 416 A (WALTER VON STOESSER) 14 February 1961 (1961-02-14) * column 2, line 57 - line 59; figures *	1	
A	US 3 902 954 A (LOTTO RONALD L) 2 September 1975 (1975-09-02) * column 6, line 7 - line 16; figures *	1	
A	EP 0 759 358 A (FMC CORP) 26 February 1997 (1997-02-26)		

TECHNICAL FIELDS SEARCHED (Int.Cl.7)

B65H
B31B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	15 October 2001	Haaken, W

CATEGORY OF CITED DOCUMENTS

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15-10-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US 5358592 A	25-10-1994	NONE	
DE 3138540 A	14-04-1983	DE 3138540 A1	14-04-1983
		JP 58069639 A	25-04-1983
		US 4458893 A	10-07-1984
US 2971416 A	14-02-1961	NONE	
US 3902954 A	02-09-1975	BE 789622 A1	01-02-1973
		CA 987151 A1	13-04-1976
		CA 985544 A2	16-03-1976
		DE 2245198 A1	24-05-1973
		DE 2265432 B1	18-12-1980
		DE 2265534 B2	21-05-1981
		DE 7233942 U1	19-03-1987
		ES 406376 A1	16-01-1976
		ES 435705 A1	16-12-1976
		GB 1384570 A	19-02-1975
		IT 965399 B	31-01-1974
		US 3813998 A	04-06-1974
		US 4101363 A	18-07-1978
		US 4105489 A	08-08-1978
EP 0759358 A	26-02-1997	AU 718388 B2	13-04-2000
		AU 6422696 A	27-02-1997
		BR 9603516 A	19-05-1998
		CA 2183924 A1	23-02-1997
		EP 0759358 A2	26-02-1997
		JP 2829723 B2	02-12-1998
		JP 9117974 A	06-05-1997
		US 5695106 A	09-12-1997

EPO FORM P0459

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