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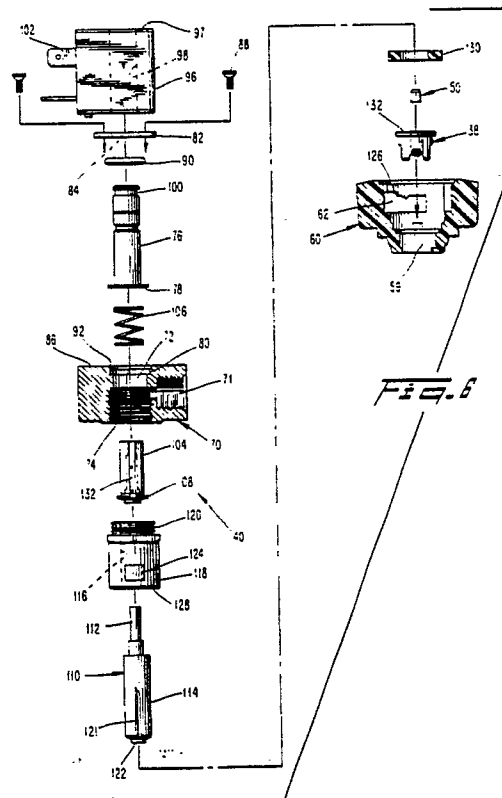
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(54) **Spray dampener valve assembly and control system.**

(57) A sprayer assembly (32) for a printing press dampener roll (16) comprises a plurality of sprayers (18), each including a nozzle section (38) and a valve section (40). The nozzle section (38) includes a nozzle housing (42) having a nozzle element (46) at its front end defining a spray outlet (54), and a valve seat (50) inserted into its rear end. The valve section (40) includes a plunger (104) reciprocally mounted in a solenoid (96), and a valve stem (110) mounted frictionally in a front end of the plunger (104) for engaging the valve seat (50). The valve stem (110) can be replaced by removing the valve section (40) and pulling the stem (110) out of the plunger (104). The sprayers (18) are controlled to emit fluid in pulses. During low press speeds, fluid output is adjusted by varying the interval between pulses (P). During high speed operation, fluid output is adjusted by varying the pulse time (t). Furthermore, the outermost nozzles (N1, N8) of a spray bar (440) are operated by dedicated control channels to permit better spray patterns.





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.4)
X	DE-A-2044423 (IBEMA SOBOTTA U. REHME G.M.B.H. & CO KG.) * page 8, line 15 - page 9, line 22; claims 1-5; figure 1 *	1-3	B41F7/30 B41F33/00
Y	---	4-8	
Y	US-A-4708058 (SMITH RPM CORPORATION) * column 7, lines 9 - 32; figure 14 *	4-6	
Y	* column 6, lines 32 - 43; figures 1, 2 *	7, 8	
X	* column 4, line 53 - column 5, line 34 *	9-21	
	* column 11, line 40 - column 15, line 4 *		

X	FR-A-1604741 (SCHLUCKEBIER W.) * the whole document *	9, 10, 13-17, 19-21	
Y		11, 12, 18, 22	

Y	DE-A-2031960 (MASCHINENFABRIK AUGSBURG-NÜRNBERG A.G.) * the whole document *	11, 12, 18	
	---		TECHNICAL FIELDS SEARCHED (Int. Cl.4)
D,Y	US-A-4649818 (RYCO GRAPHIC MANUFACTURING, INC.) * column 4, line 21 - column 6, line 14; figure 1 * * column 18, line 45 - column 20, line 6; figures 7a, 7b *	22	B41F B05B F16K

A	DE-A-3608124 (VEB KOMBINAT POLYGRAPH) * page 4, line 13 - page 5, line 12; figure 1 *	1, 2	

A	EP-A-104787 (GREATBATCH ENTERPRISES, INC.) * page 10, line 18 - page 11, line 23; figure 2 *	1, 2	

The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 04 SEPTEMBER 1990	Examiner THIBAUT E. E. G. C.
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 I : document cited for other reasons ----- & : member of the same patent family, corresponding document	



CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid, namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

X LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-8: Liquid sprayer assembly.
2. Claims 9-22: Control system and method for operating a spray dampening system.

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