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(54) **Improvement in a copying distributor spool in hydraulic circuits for controlling hammer motion in punching machines**

(57) Improvement in a spool of a copying distributor in a hydraulic circuit (3) for controlling the motion of a cylinder for a hammer (4) in a punching machine, including a pressurized fluid source (24a) in communication with said hydraulic circuit (3), a distributor body (5) which is connected to said hydraulic circuit through pipe fittings and is formed with pressurised-fluid supply lights (6, 33) and discharge light (7) communicating with said pipe fittings, at least one valve means (9) arranged in said hydraulic circuit to control the said distributor body (5), a spool (1) slidably mounted in said body (5) and arranged cyclically to open and close the said lights (6, 33, 7), one operating end (11) of said spool (1) extending outside said distributor body (5) through a calibrated aperture (12) and being arranged to abut against a reference member (13) designed to move rigid with said hammer (4). The improvement provides for a recess (14) formed in said operating end (11) and having one end (15) thereof blind and its other end (16) open, a pin (17) slidably mounted in said open end (16) and arranged to be displaced therein by pressurised fluid flows controlled by said valve means (9), and at least one duct (18) formed in said distributor body (5) and arranged to feed pressurised fluid from said fluid source (24a) to said recess (14).

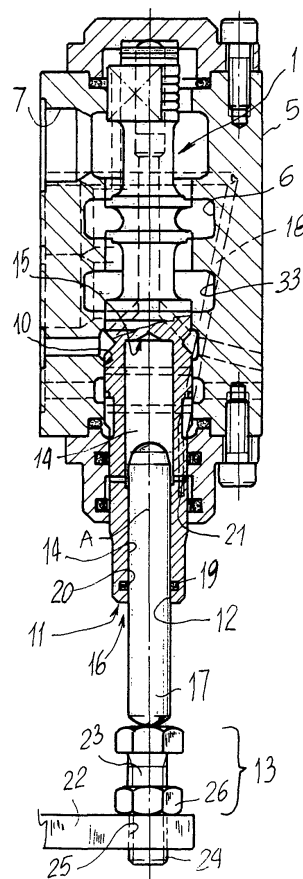


FIG. 5

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# EUROPEAN SEARCH REPORT

Application Number  
EP 02 02 4492

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
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			TECHNICAL FIELDS SEARCHED (IPC)
			F15B B21D B30B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 23 February 2006	Examiner Busto, M
<p>CATEGORY OF CITED DOCUMENTS</p> <p>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</p> <p>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 ..... &amp; : member of the same patent family, corresponding document</p>			

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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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