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(54) Spring coiling machine with improved cut-off means.

(57) A cyclically operable spring coiling machine includes a pair of feed rolls for intermittently advancing wire (22) longitudinally to a coiling station (20) at an upper portion of a vertical front frame of the machine. A coiling arbor (32) and a coiling tool at the station cooperatively form leading end portions of the wire to a coil spring configuration and an improved cut-off means (36) severs the coiled leading end portions of wire to provide individual coil springs. The improved cut-off means includes a pair of tool holders (40,42) on opposite sides of the coiling arbor movable toward and away from the arbor and wire coiled thereabout and generally in opposition to each other. The holders are employed selectively depending on the hand of the spring being coiled and are respectively mounted on pivot shafts extending rearwardly through the front frame of the machine and geared together at rear end portions. A continuously rotating horizontal shaft (56) forming a part of the coiling machine drive mechanism has a front end portion projecting through the vertical front frame of the machine. An eccentric (58) on the front end portion of the shaft drives an oscillable arm (60) which in turn has a pivotal connection with a lowermost tool holder (40) through an adjustment means (66,68). The adjustment means comprises complementary threaded members (66) operable to adjust the movement of the tool holders and thus to vary throw of a cut-off tool thereon toward and away from the coiling arbor.

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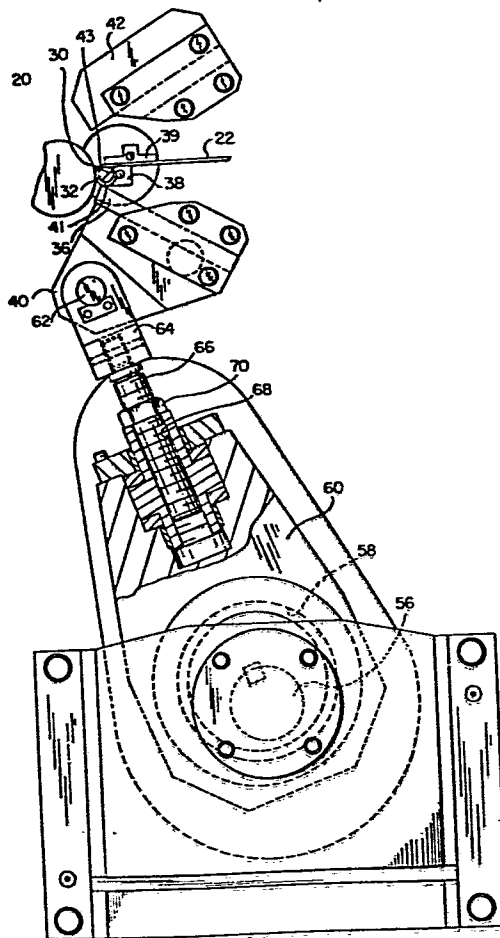


FIG. 3



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# EUROPEAN SEARCH REPORT

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DOCUMENTS CONSIDERED TO BE RELEVANT			CLASSIFICATION OF THE APPLICATION (Int. Cl. 3)
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	
D,A	<u>US - A - 2 119 002</u> (BERGEVIN et al.) --		B 21 F 3/04
X	<u>US - A - 3 009 505</u> (FRANKS, JR.) * claims 1, 2; columns 4, 5; fig. 1, 6, reference numbers 112, 114 * --	1-3, 5	
A	<u>DE - C - 1 104 480</u> (HELI-COIL CORP.) * column 4 * --		
A	<u>DE - A1 - 2 527 862</u> (TORIN CORP.) * claims 1 to 4; fig. 2 * --		
A	<u>DE - A1 - 2 826 875</u> (WAFIOS MASCHINENFABRIK) ----		B 21 F 3/00 B 21 F 35/00
			TECHNICAL FIELDS SEARCHED (Int.Cl. 3)
			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 L: document cited for other reasons
X The present search report has been drawn up for all claims			&: member of the same patent family, corresponding document
Place of search Berlin		Date of completion of the search 12-05-1982	Examiner SCHLAITZ