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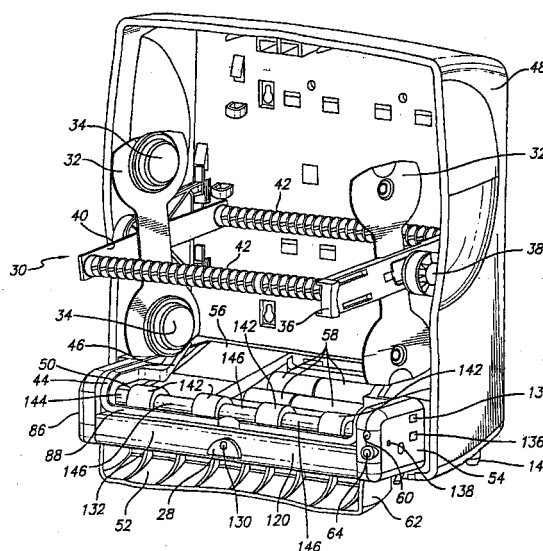
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### (54) Paper towel dispenser

(57) Apparatus for dispensing paper from rolls which feeds continuously, roll to roll, and does not require extra procedure to bring stub roll into position. The apparatus has means for holding and positioning at least first and second rolls of paper with respect to each other; means for dispensing paper from the first roll; means for dispensing paper from the first and second rolls simultaneously when the first roll reduces to a predetermined diameter of paper, means for positioning the depleted first roll for replacement without the necessity of removing the second roll; and, means for dispensing from the second and replacement rolls simultaneously when the second roll reduces to a predetermined diameter of paper. The apparatus also has a capacity-change-based proximity sensor comprising a circuit according to a balanced bridge principle where detection is based on detecting a phase difference, which depends upon the amount of detected capacitance difference or change. The proximity detector senses when a hand is placed near the dispenser, and thereupon dispenses a set amount of towel. It does not keep dispensing the towel. The hand must be withdrawn and placed in proximity to the sensor again. The proximity sensor incorporates "static" and noise-immunity circuitry. The dispenser incorporates means for dissipating static charges to a local ground.

FIG. 3



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# EUROPEAN SEARCH REPORT

Application Number  
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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 6 069 354 A (BUDANSKY YURY ET AL) 30 May 2000 (2000-05-30) * column 6, line 8 - line 31 * * column 7, line 20 - column 8, line 6 * * figures *	1-15	A47K10/36 H03K17/955
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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H03K A47K
The present search report has been drawn up for all claims			
Place of search <b>THE HAGUE</b>		Date of completion of the search <b>29 August 2003</b>	Examiner <b>D/L PINTA BALLE., L</b>
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**ANNEX TO THE EUROPEAN SEARCH REPORT  
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29-08-2003

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For more details about this annex : see Official Journal of the European Patent Office, No. 12/82