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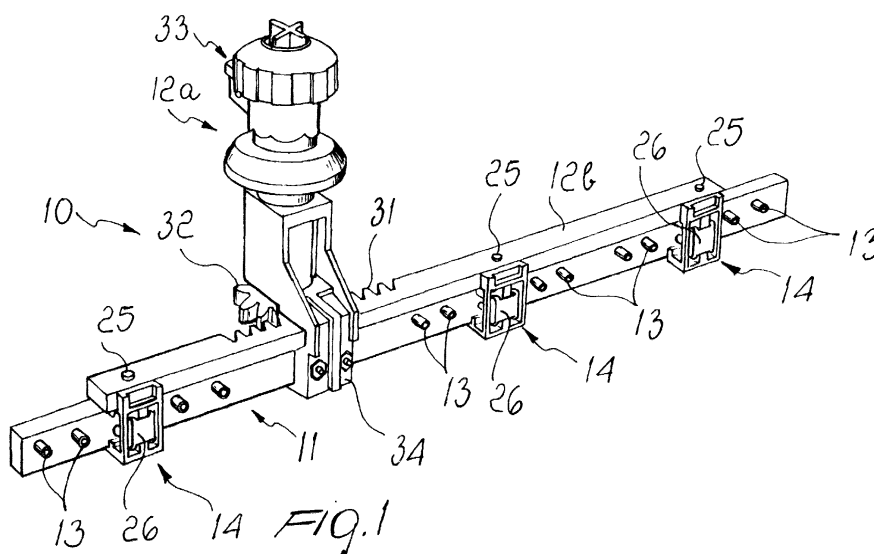
(30) Priority: **06.10.1998 IT PD980094 U**

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(54) **Tap changer for electric transformers**

(57) A tap changer (10) particularly for electric transformers, comprising a rod-like body (11) which rigidly supports fixed pin-like contacts (13) arranged at right angles and in series along the rod-like body, the rod-like body constituting a sliding guide for a sliding block (12b) associated with actuation means which can be actuated by the user, the sliding block having at least one support (14) for a corresponding pair of skid-like movable contacts which are slideable on the fixed contacts (13) in mutually opposite positions and are adapted to interfere

with two of the fixed contacts (13) alternately and in succession; the at least one support (14) comprises a base (16) from which two mutually parallel walls (17) for sliding on the rod-like body protrude, the base being shaped so as to form seats for the two movable contacts, each one of the movable contacts being shaped so as to form at least one anchoring tab which is shaped complementarily to a corresponding guide for retaining the base, a spring (23) being provided which is shaped so as to have two pairs of arms which force the movable contacts (15) toward each other.



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EUROPEAN SEARCH REPORT

Application Number
EP 99 11 6761

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	FR 1 562 235 A (GERARDIN MAURICE; PELATAN JEAN) 4 April 1969 (1969-04-04) * the whole document *	1-8	H01H9/00 H01H1/36 H01H3/40
A	FR 2 142 219 A (GERARDIN MAURICE; PELATAN JEAN) 26 January 1973 (1973-01-26) * the whole document *	1-8	
A	FR 2 401 498 A (REINHAUSEN KG MASCHF) 23 March 1979 (1979-03-23) * the whole document *	1-8	
			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
			H01H
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 28 February 2001	Examiner DESMET, W
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 & : member of the same patent family, corresponding document			

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CLAIMS INCURRING FEES

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

- ☐ Only part of the claims 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 claim(s):
- ☐ 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.

LACK OF UNITY OF INVENTION

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

see sheet B

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ As all searchable claims could be searched without effort justifying an additional fee, the Search Division did not invite payment of any additional fee.
- ☐ 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 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 invention first mentioned in the claims, namely claims:

claims searched: 1-8



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**LACK OF UNITY OF INVENTION
SHEET B**

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

1. Claims: 1-8

Movable contacts, support and spring with two pairs of arms which force the movable contacts toward each other.

2. Claims: 9-16

Actuating means comprising a longitudinal rack coupled to a pinion which is fixed to a composite knob.

**ANNEX TO THE EUROPEAN SEARCH REPORT
ON EUROPEAN PATENT APPLICATION NO.**

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This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report.
The members are as contained in the European Patent Office EDP file on
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28-02-2001

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
FR 1562235 A	04-04-1969	NONE	
FR 2142219 A	26-01-1973	NONE	
FR 2401498 A	23-03-1979	DE 2738144 A	01-03-1979
		GB 2003326 A,B	07-03-1979
		JP 54043529 A	06-04-1979