



(12) **EUROPEAN PATENT APPLICATION**

(88) Date of publication A3:  
**06.08.2014 Bulletin 2014/32**

(51) Int Cl.:  
**B61L 5/04** <sup>(2006.01)</sup>  
**E01B 7/22** <sup>(2006.01)</sup> **B61L 5/10** <sup>(2006.01)</sup>

(43) Date of publication A2:  
**06.03.2013 Bulletin 2013/10**

(21) Application number: **11179434.3**

(22) Date of filing: **30.08.2011**

(84) Designated Contracting States:  
**AL AT BE BG CH CY CZ DE DK EE ES FI FR GB  
GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO  
PL PT RO RS SE SI SK SM TR**  
Designated Extension States:  
**BA ME**

(71) Applicant: **ALSTOM Transport SA**  
**92300 Levallois-Perret (FR)**

(72) Inventors:  
• **Guglielmo, Davide**  
**40131 Bologna (IT)**  
• **Bittoni, Stefano**  
**40139 Bologna (IT)**

(74) Representative: **Karaghiosoff, Giorgio**  
**Alessandro**  
**Studio Karaghiosoff e Frizzi S.r.l.**  
**Via F. Baracca 1R 4° piano**  
**17100 Savona (IT)**

(54) **Railway switch**

(57) A switch machine (1) for railway and tramway switches or the like and a method of operating said switch machine, the switch machine comprising at least one switch point shifting actuator (2) which is configured to displace the points between two limit positions, and lock/

unlock means (30, 31) for locking/unlocking the points in one of said limit positions which can be set in a locking or unlocking state by the actuator, the switch machine further comprising means for adjusting the force exerted by the actuator (2).

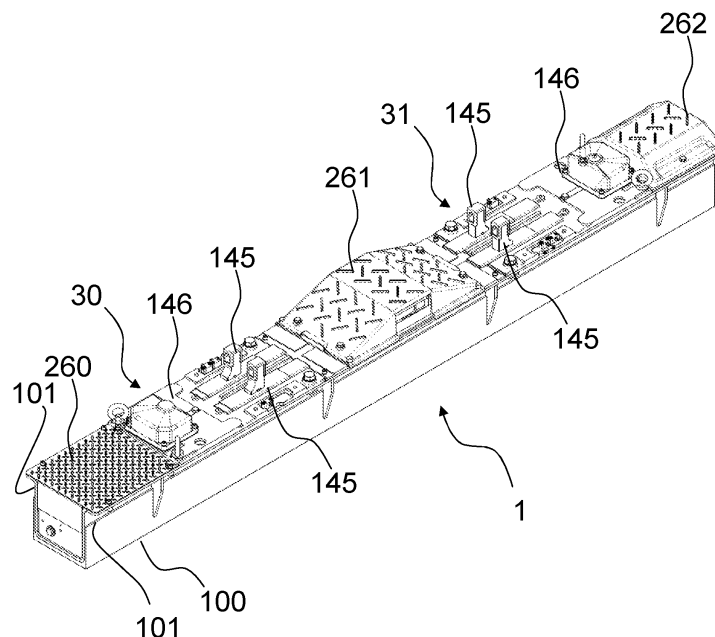


Fig. 1



## EUROPEAN SEARCH REPORT

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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 (IPC)         |
| A                                                                                                                                                                                                                                                      | WO 00/73119 A1 (HORVATH JOZSEF [HU]; HORVATH GABOR [HU])<br>7 December 2000 (2000-12-07)<br>* claim 1; figures 1-5 *                                                                          | 1,6-8,<br>10-12                                                                                                                                                                                                                                                              | INV.<br>B61L5/04<br>B61L5/10<br>E01B7/22        |
| A                                                                                                                                                                                                                                                      | WO 02/055361 A1 (VAE EISENBAHNSYSTEME GMBH [AT]; VAE AG [AT]; SCHNEDL KARL [AT])<br>18 July 2002 (2002-07-18)<br>* page 6, line 25 - page 7, line 11; figures 1-3 *<br>* page 8, lines 7-30 * | 1,6-8,<br>10-12                                                                                                                                                                                                                                                              |                                                 |
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| A                                                                                                                                                                                                                                                      |                                                                                                                                                                                               | 17,18                                                                                                                                                                                                                                                                        |                                                 |
| The present search report has been drawn up for all claims                                                                                                                                                                                             |                                                                                                                                                                                               |                                                                                                                                                                                                                                                                              |                                                 |
| Place of search<br>Munich                                                                                                                                                                                                                              |                                                                                                                                                                                               | Date of completion of the search<br>30 June 2014                                                                                                                                                                                                                             | Examiner<br>Fernandez, Eva                      |
| CATEGORY OF CITED DOCUMENTS<br>X : particularly relevant if taken alone<br>Y : particularly relevant if combined with another document of the same category<br>A : technological background<br>O : non-written disclosure<br>P : intermediate document |                                                                                                                                                                                               | T : theory or principle underlying the invention<br>E : earlier patent document, but published on, or after the filing date<br>D : document cited in the application<br>L : document cited for other reasons<br>& : 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 claims for which payment was due.

- ☒ Only part of the claims have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due and for those claims for which claims fees have been paid, namely claim(s):

16-22

- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for those claims for which no payment was due.

**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:

1-22

- ☐ 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:

- ☐ The present supplementary 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 (Rule 164 (1) EPC).



# **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: 1-14

The subject-matter of independent claim 1 concerns a switch machine for railway switches, comprising at least one actuator, lock and unlock means and means for adjusting the force exerted by the actuator.

Claims 2-11 are referred back to claim 1.

Claim 12 concerns the use of a switch device as defined by claim 1.

Claims 13 and 14 are referred back to claim 12.

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## 2. claims: 15-22

The subject-matter of independent claim 15 concerns a switch machine for railway switches, comprising a housing case for the operating units, the housing case having a covering consisting of non-specified materials.

Claims 16-22 are referred back to claim 15.

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## 3. claims: 23, 24

The subject-matter of independent claim 23 concerns a hollow tie for railway switches, the features of which, in particular the form and material, are not clearly specified. Claim 24 is referred back to claim 23, or to claim 15, if claim 24 is to be considered dependent on the latter.

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