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(11) **EP 1 449 737 A1**

(12) **EUROPEAN PATENT APPLICATION**

(43) Date of publication:
25.08.2004 Bulletin 2004/35

(51) Int Cl.7: **B61H 13/36**

(21) Application number: **04000900.3**

(22) Date of filing: **16.01.2004**

(84) Designated Contracting States:
**AT BE BG CH CY CZ DE DK EE ES FI FR GB GR
HU IE IT LI LU MC NL PT RO SE SI SK TR**
Designated Extension States:
AL LT LV MK

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(30) Priority: **19.02.2003 SE 0300447**

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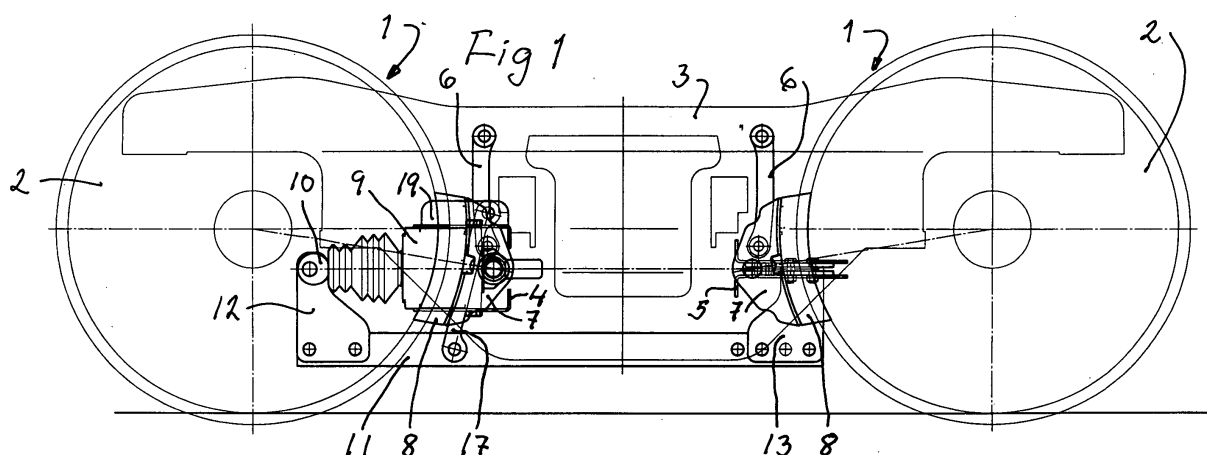
(54) **A bogie brake**

(57) A rail vehicle bogie comprises wheel sets (1) journaled in longitudinal side frames (3) connected by a transverse bolster. A bogie brake therefor comprises transverse brake beams (4, 5), each brake beam having at each end a brake block holder (7) and being suspended from the bolster by suspension links.

A transmission rod (11), extending in the longitudinal direction of the bogie,

is connected - by means of upwardly extending means (12, 13) - at one of its ends to a pull rod (10) of a pulling brake actuator (9) in the first brake beam (4), the pull rod (10) extending in the direction away from the second brake beam, and at the other end to the second brake beam (5) and

is suspended from the first brake beam (4) by means of a suspension lever arrangement (17-20).



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Description

Technical Field

[0001] The present invention relates to a bogie brake for a rail vehicle bogie, the bogie comprising wheel sets journalled in longitudinal side frames connected by a transverse bolster and the bogie brake comprising transverse brake beams, each brake beam having a brake block holder at each end and being suspended from the bolster by suspension links.

Background of the Invention

[0002] Bogie brakes of the above type are well known in the art, one example being shown in EP-B-1 097 075, where brake actuators are mounted on the first brake beam and act on the second brake beam by means of push rods extending through the transverse bolster, so that a brake force is applied on the wheel treads in the wheel sets, when compressed air is admitted to the brake actuators.

[0003] In certain bogie designs it is, however, impossible for the push rods to extend through the transverse bolster, and it is accordingly necessary to find another solution to the problem of transmitting the brake force between the two brake beams of the bogie brake.

The Invention

[0004] This problem is according to the invention solved in that a transmission rod, extending in the longitudinal direction of the bogie,

by means of upwardly extending means is connected at one of its ends to a pull rod of a pulling brake actuator in the first brake beam, the pull rod extending in the direction away from the second brake beam, and at the other end to the second brake beam and

is suspended from the first brake beam by means of a suspension lever arrangement.

[0005] In this solution the transmission rod accordingly extends below the bolster instead of therethrough.

[0006] In a practical embodiment the transmission rod is provided at each end with a vertically extending transmission flange arrangement for connection to the pull rod and the second brake beam, respectively.

[0007] The transmission flange arrangement for the second brake beam may preferably be pivotably connected around an axis perpendicular to the brake beam for allowing movements of the second brake beam in its plane (relative to the first brake beam).

[0008] In a practical embodiment the transmission flange arrangement may include link plates pivotably connected to and between plate profiles of the second brake beam by means of a pivot pin.

[0009] The active length of the transmission rod may have to be adjusted in accordance with the wear of the wheels in the wheel sets. This may be accomplished in

that the position along the transmission rod of at least one of the transmission flange arrangements is adjustable.

[0010] In a practical embodiment suspension levers are pivotably attached to the transmission rod at their lower ends and to mounting flanges on the upper side of the first brake beam.

The Drawings

[0011] The invention will be described in further detail below under reference to the accompanying drawings, in which

Fig 1 is a side view of a bogie brake according to the invention in a rail vehicle bogie,

Fig 2 is a top view of the bogie brake of Fig 1,

Fig 3 is a sectional view to a slightly larger scale along the line III-III in Fig 2, and

Fig 4 is an enlargement of the right portion of Fig 3.

Detailed Description of a Preferred Embodiment

[0012] A rail vehicle bogie for two wheel sets 1 with wheels 2 has two side frames 3, in which the wheel sets are journalled and which are connected by a transverse bolster (not shown), to which an underframe (not shown) of the vehicle is journalled.

[0013] A bogie brake for this bogie primarily consists of two brake beams 4 and 5, which are suspended from the bolster (not shown) by means of suspension links 6. Each brake beam 4 and 5 is at each end provided with a brake block holder 7 to be provided with a replaceable brake block 8 for braking engagement with the respective tread of the wheels 2.

[0014] As appears in Fig 1, each brake beam 4 and 5 is mainly composed of two L-shaped plate profiles, connected to each other in a way not further described.

[0015] In the case of the first brake beam 4 (to the left in Figs 1-3) the two shorter legs of the L:s are directed towards each other, and a pulling brake actuator or brake unit 9 is centrally mounted between the two plate profiles of the first brake beam 4. The brake unit 9 is provided with a pull rod 10 extending to the left in Figs 1-3.

[0016] In the case of the second brake beam 5 (to the right in Figs 1-4) the two shorter legs of the L:s are directed away from each other, so that the two plate profiles of the beam 5 are relatively close to each other.

[0017] The two brake beams 4 and 5 are connected by means of a transmission arrangement shown most clearly in Fig 3 and - in its right portion - in Fig 4.

[0018] The main element of the transmission arrangement is a transmission rod 11 to extend in the longitudinal direction of the bogie below its bolster (not shown).

[0019] To the left in Figs 1-3 the transmission rod 11 has an upwardly extending, fixed transmission flange arrangement 12 to be pivotally connected at its upper

end to the pull rod 10 of the brake unit 9 by means of a pin 10'.

[0020] To the right in Figs 1-4 the transmission rod 11 has an upwardly extending transmission flange arrangement 13, removably attached to the rod 11 by means of pins 13'. By the provision of several holes in the rod 11, it is possible to adjust the position of the transmission flange arrangement 13 after the decreasing diameters of the wheels 2 at wear.

[0021] At its upper portion, the transmission flange arrangement has link plates 14 connected to the remainder of the arrangement 13 by screw connections 15 or the like. The link plates 14 are pivotably connected to and between the plate profiles of the brake beam 5 by means of a pivot pin 16, so that pivotable movements between the brake beam 5 and the transmission flange arrangement 13 are possible.

[0022] At their lower ends, suspension levers 17 are pivotably connected to the transmission rod 11 by means of a connection rod 18 and at their upper ends to mounting flanges 19 on the upper plate profile of the brake beam 4 at either side of the brake unit 9 by means of connection pins 20. By this arrangement the pull rod 10 will be substantially relieved from the load of the transmission rod 11 and the transmission flange arrangement 12.

[0023] The position of the suspension levers 17 is chosen so as to minimize the moment influence on the transmission rod 11 of the vertical forces.

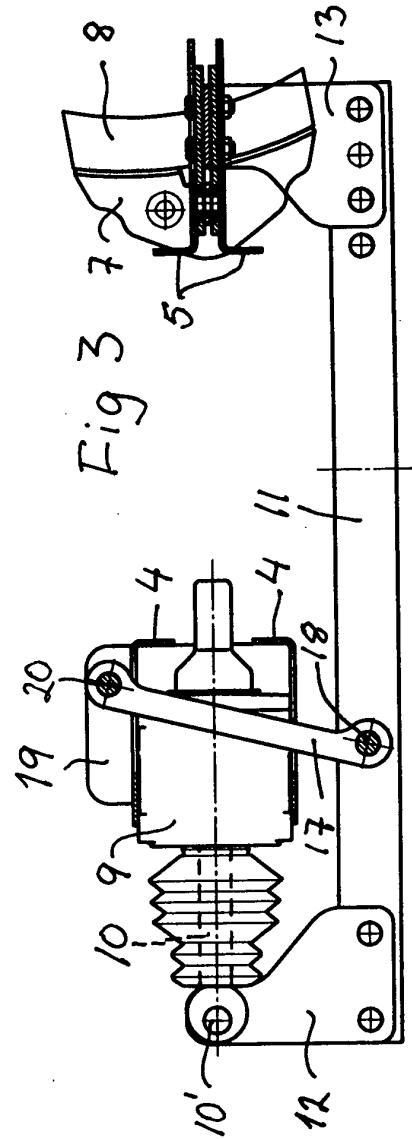
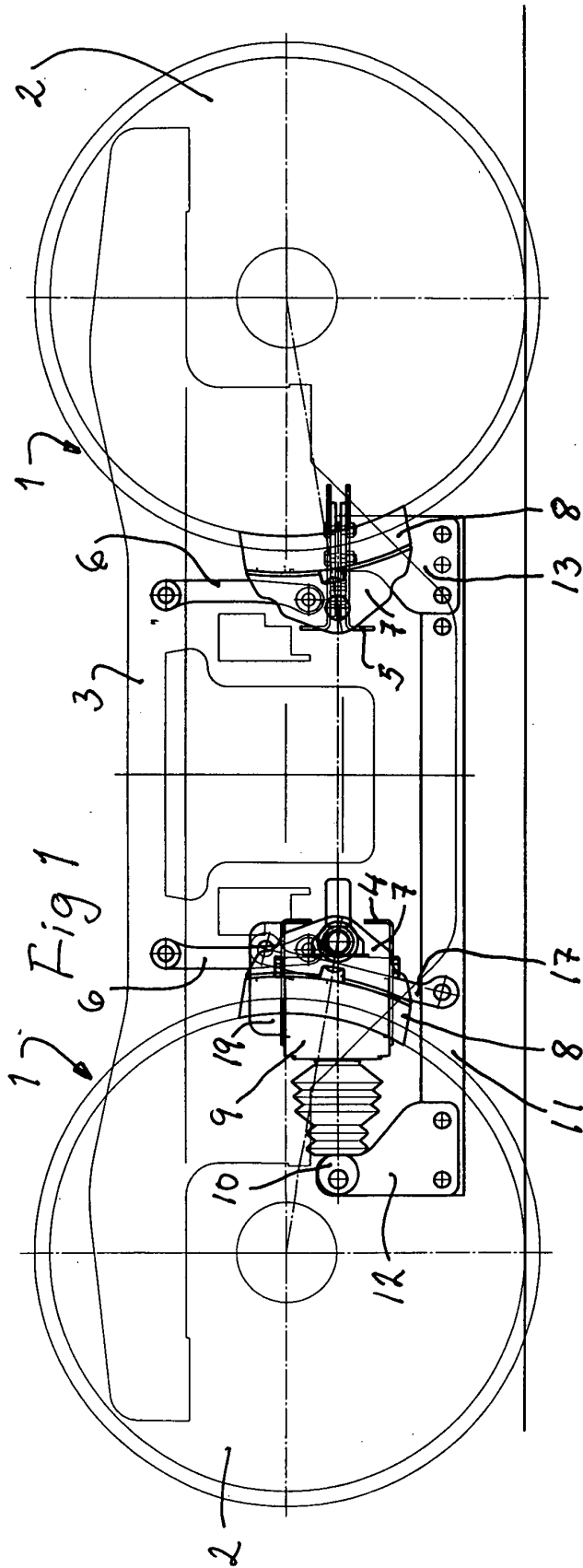
[0024] At the admission of compressed air to the brake unit 9 a pulling brake force will be exerted in the pull rod 10 and transmitted in the transmission rod 11, so that the two brake beams 4 and 5 are brought apart and a brake force is applied to the treads of the four wheels 2 by the brake blocks 8.

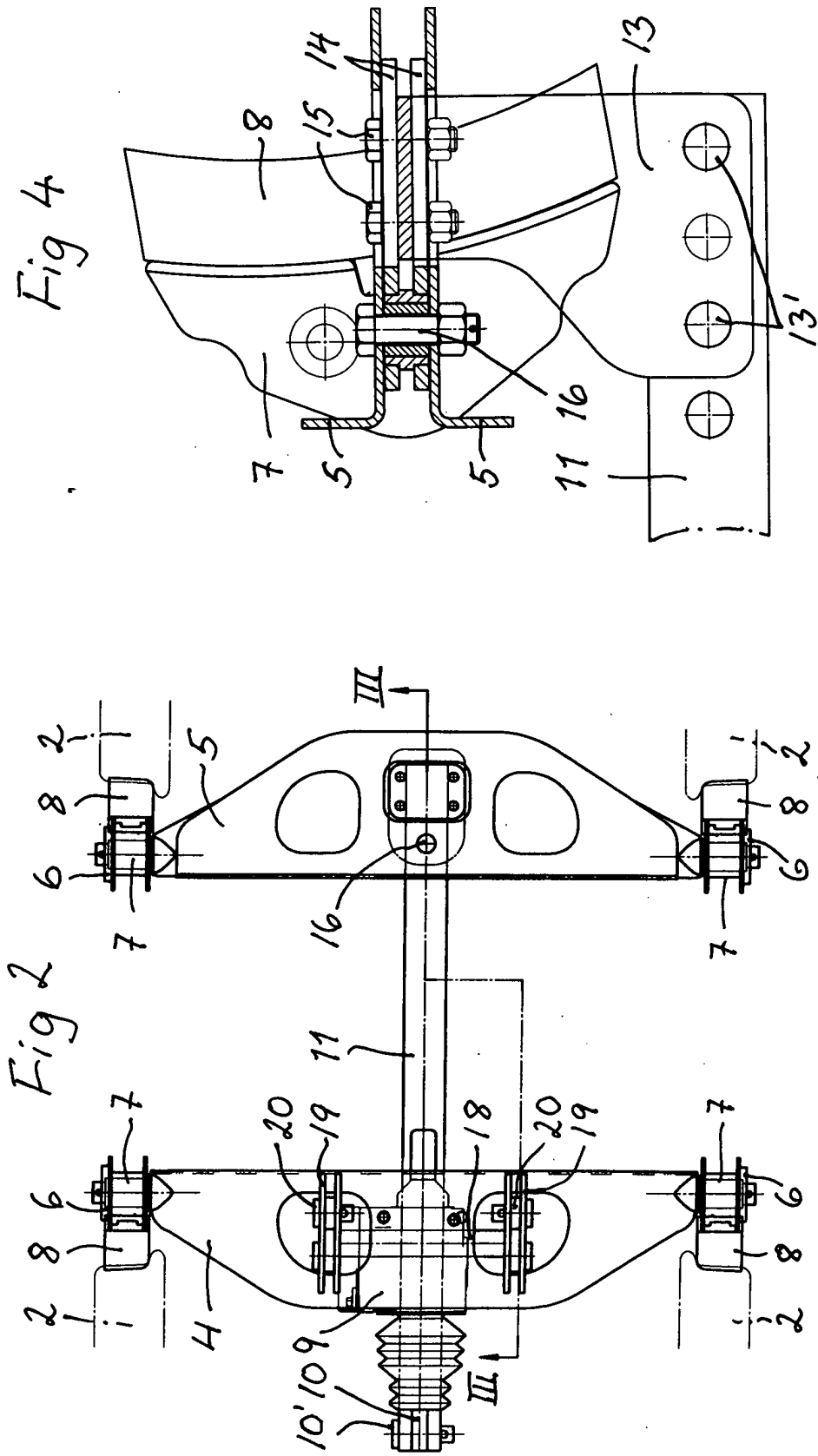
transmission rod (11) at each end is provided with an upwardly extending transmission flange arrangement (12, 13) for connection to the pull rod (10) and the second brake beam (5), respectively.

3. A bogie brake according to claim 2, wherein the transmission flange arrangement (13) for the second brake beam (5) is pivotably connected around an axis perpendicular to the brake beam (5).
4. A bogie brake according to claim 3, wherein the transmission flange arrangement (13) includes link plates (14) pivotably connected to and between plate profiles of the second brake beam (5) by means of a pivot pin (16).
5. A bogie brake according to claim 2, wherein the position along the transmission rod (11) of at least one of the transmission flange arrangements (12, 13) is adjustable.
6. A bogie brake according to claim 1, wherein suspension levers (17) are pivotably attached to the transmission rod (11) at their lower ends and to mounting flanges (19) on the upper side of the first brake beam (4)

Claims

1. A bogie brake for a rail vehicle bogie, the bogie comprising wheel sets (1) journalled in longitudinal side frames (3) connected by a transverse bolster and the bogie brake comprising transverse brake beams (4, 5), each brake beam having at each end a brake block holder (7) and being suspended from the bolster by suspension links (6),
characterized in that a transmission rod (11), extending in the longitudinal direction of the bogie,
by means of upwardly extending means (12, 13) is connected at one of its ends to a pull rod (10) of a pulling brake actuator (9) in the first brake beam (4), the pull rod (10) extending in the direction away from the second brake beam, and at the other end to the second brake beam (5) and
is suspended from the first brake beam (4) by means of a suspension lever arrangement (17-20).
2. A bogie brake according to claim 1, wherein the







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Application Number
EP 04 00 0900

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			TECHNICAL FIELDS SEARCHED (Int.Cl.7)
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The present search report has been drawn up for all claims			
Place of search		Date of completion of the search	Examiner
THE HAGUE		10 February 2004	Schroeder, R
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EPO FORM 1503 03/82 (P04C01)

**ANNEX TO THE EUROPEAN SEARCH REPORT
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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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