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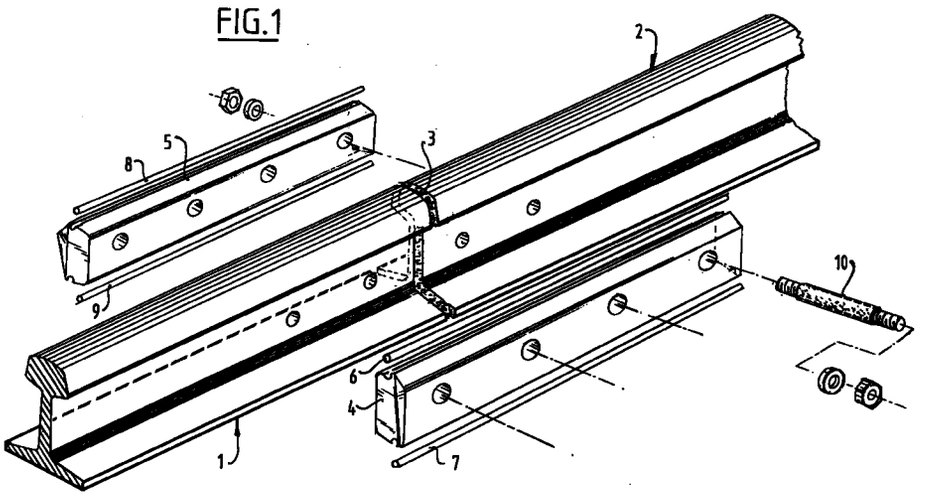
(54) Method to connect the faces of rail bars.

(57) Rail bars (1,2) are mutually connected with the end faces by connecting to the rail bar (1,2) a connecting plate (4,5) extending over the lengthwise direction of both rail bars (1,2) for connecting by means of suitable means, for instance nut-bolt connections (10). The space between the rail bars and the connecting plates is filled with a curing adhesive (11,12). In this way a high-quality connection is obtained in a short time, for instance in the limited hours that a rail network is not in use. According to the invention the quality of the connection is less dependent on the quality of the personnel carrying out the work than in methods according to the prior art.

FIG.1



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Description

The invention relates to a method for mutually connecting with the end faces rail bars lying mutually in line and to a rail bar connection obtained in accordance with the method according to the invention.

It is desirable in practice to have available a rapidly performed method for mutually connecting rail bars with the end faces. Due to the more intensive use of the rail network increasingly less time is available for connecting rail bars. The opportunity herefor is often only available for a few hours during which the rail network is not in use, for instance at night. There is moreover a need for a qualitatively high-grade connection wherein the quality of the obtained connection depends as little as possible on the manner in which the method is performed by the personnel involved.

In order to satisfy these requirements a method is provided according to the invention which is characterized by placing on either side against the rail bars a connecting plate extending in lengthwise direction over both rail bars for connecting, this with interposing of a sealing member, clampingly connecting the connecting plates to the rail bar by transversely directed nut-bolt connecting members and introducing a curing adhesive into the space between the rail bars and the connecting plates.

The adhesive is preferably injected, thereby ensuring that all spaces between for instance bolt and bolt holes, between the end faces mutually and in the interspaces between the connecting plates and the rail are filled. The arranging of adhesive prior to placing of the connecting plates and coupling of the connecting plates by means of nut-bolt connections is greatly dependent on the quality and care of the personnel carrying out the work. Injection of the adhesive reduces this dependence on the quality of work of personnel.

The invention will be elucidated with reference to the drawings of an embodiment. In the drawings:

figure 1 shows a perspective view with exploded parts of a connection of two rail bars according to the invention,
figure 2 shows a section of the connecting construction according to figure 1,
figure 3 shows a perspective view of the auxiliary implement for use in performing the method according to the invention, and
figure 4 is a cross sectional view of a second embodiment of the invention.

According to the invention two rail bars 1, 2 are placed with the end faces against each other with interposing of a profile piece 3 of for instance plastic. Connecting plates 4, 5 are placed in overlapping manner on the side of the rail bars 1, 2 for connecting. Sealing rods 6, 7 and 8, 9 of flexible plastic are received clampingly between connecting plates 4, 5 and both rail bars 1, 2 at the top and bottom respectively in figure 1. The connecting plates 4, 5 for instance, and therein the flexible sealing rods 6, 7 and 8, 9, are then clamped fixedly by nut-bolt connections 10. The remaining interspace between connecting plates 4, 5 and rail bars 1, 2 is filled by injecting an adhesive 11, 12 (figure 2). The adhesive 11, 12 then cures.

The sealing members may also take a form other than a rod form. Flexible strip-like elements of plastic can likewise be applied.

During performing of the method use can be made of the auxiliary implement according to figure 3. The auxiliary implement has two parts 20, 21 connected hingedly to each other. A covering of flexible material, for instance plastic, is arranged on the inside of the parts 20, 21. The auxiliary implement is placed round the end faces of the rail bars for connecting and subsequently closed and locked by means of locking means 22. The auxiliary implement serves as mould in order to prevent leakage of the injected adhesive between the end faces. After curing, the auxiliary implement is removed.

According to figure 4 the sealing members are formed by a flexible profile part 23.

Claims

1. Method for mutually connecting rail bars with the end faces, **characterized by**

   - placing on either side against the rail bars a connecting plate extending in lengthwise direction over both rail bars for connecting, this with interposing of a sealing member,
   - clampingly connecting the connecting plates to the rail bar by transversely directed nut-bolt connecting members, and
   - introducing a curing adhesive into the space between the rail bars and the connecting plates.

2. Method as claimed in claim 1, **characterized in that** prior to mutual connection of the rail bars a profile plate is arranged between the end faces of the rail bars for connecting.

3. Method as claimed in claim 2, **characterized in that** the profile plate is of plastic.

4. Method as claimed in claim 1, **characterized in that** the sealing member is a rod of a flexible plastic.

5. Method as claimed in one or more of the foregoing claims, **characterized in that** the adhesive is injected via an injection opening in at least one of the connecting plates.

6. Rail bar connection consisting of connecting plates placed on either side against rail bars located mutually in line with interposing of sealing members, nut-

bolt connecting means clampingly connecting to the rail bars the connecting plates located on either side of the rail bars and curing adhesive injected into the space between the respective connecting plates and the rail bars.

7. Auxiliary implement for use in the method as claimed in one or more of the foregoing claims, **characterized by** mould parts hingedly connected to each other and placeable in close-fitting manner round the end faces of the rail bars for connecting, and means for releasably connecting the mould parts.

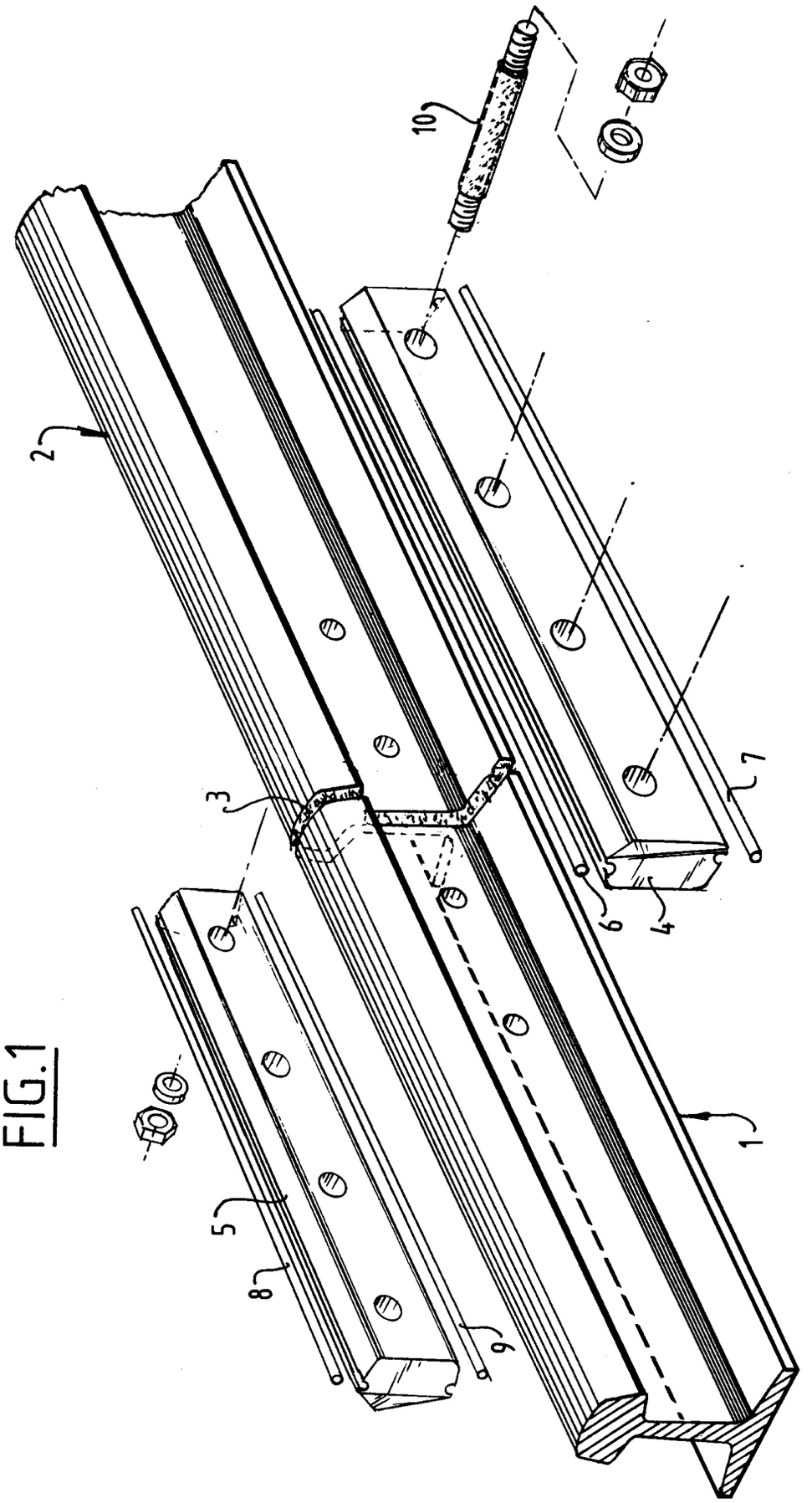


FIG.1

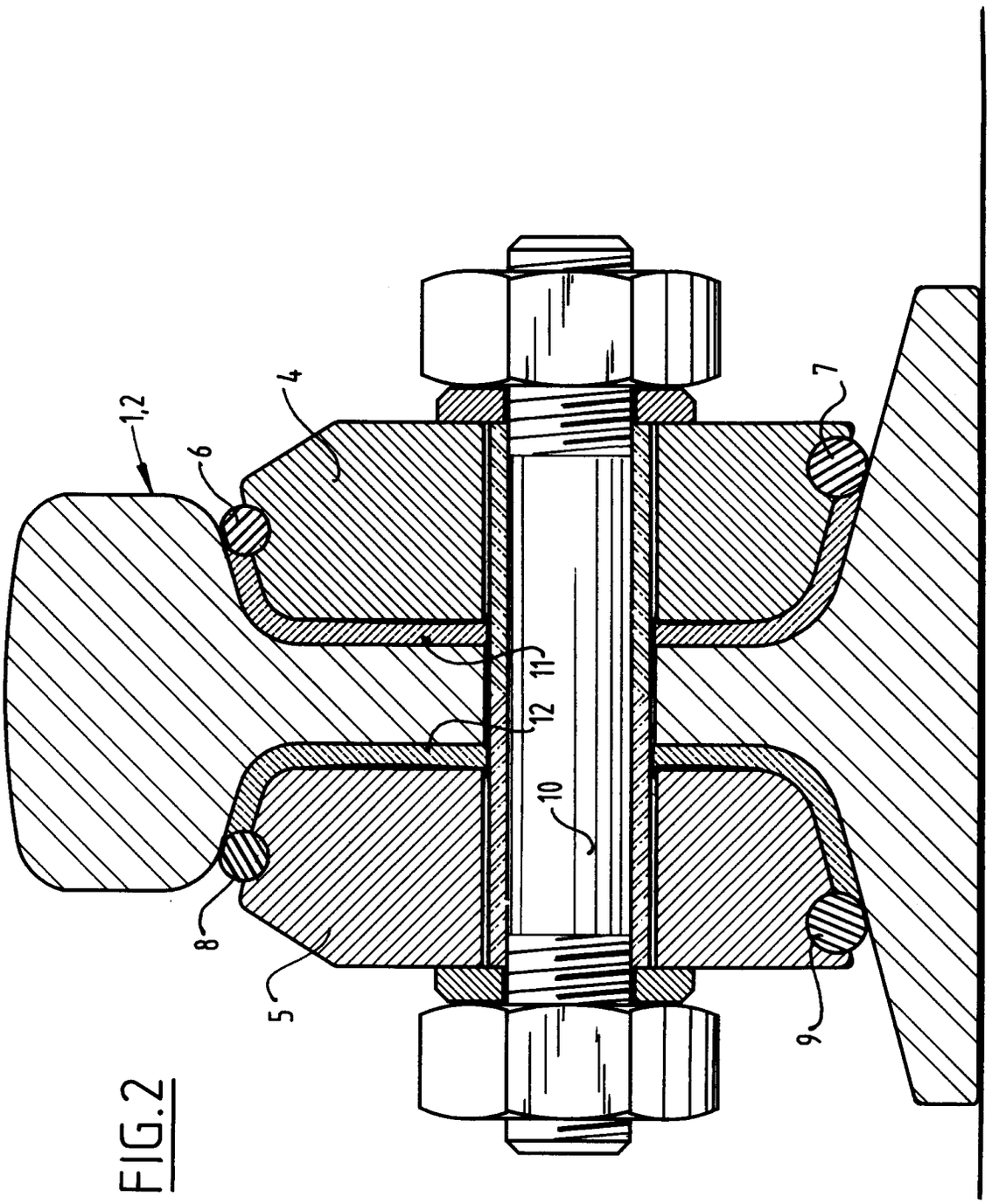


FIG.2

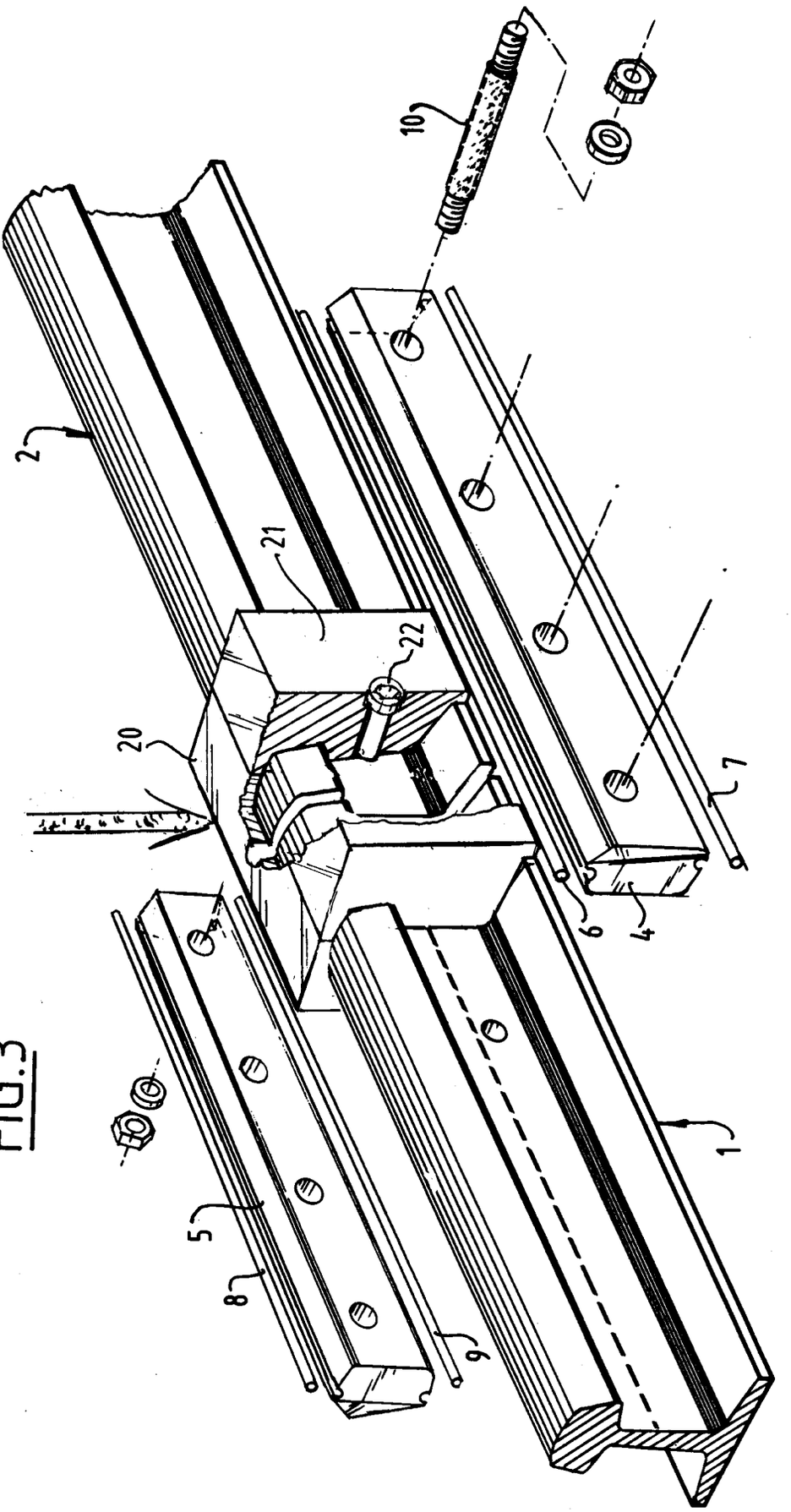
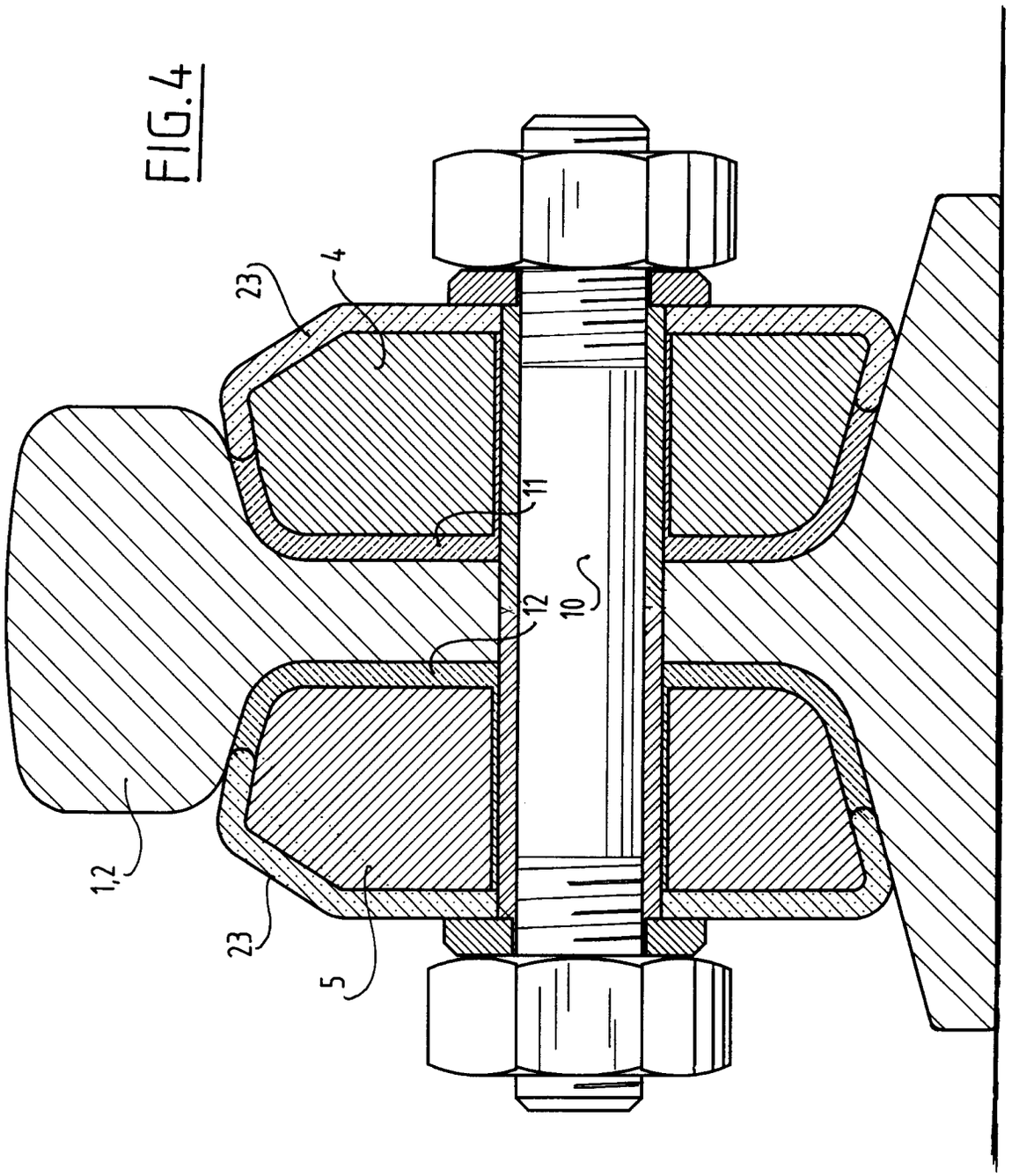


FIG.3

FIG.4



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EUROPEAN SEARCH REPORT

Application Number
EP 96 20 1342

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.6)
X Y A	DE-B-12 41 473 (FRANZ CLOUTH RHEINISCHE GUMMIWARENFABRIK AG.) 1 July 1967 * column 3, line 48 - column 6, line 39; figures * ---	1 2,4,7 5,6	E01B11/04
Y A	AU-A-2 775 171 (PORTEC INC.) 19 October 1972 * claims; figures * ---	2 3	
Y A	DE-A-19 54 738 (EDILON N.V.) 16 July 1970 * page 3, line 18 - page 4, line 23; claim 1; figures * ---	4 1,7	
Y	US-A-3 113 359 (BURKE) 10 December 1963 * figures 1-3 * -----	7	

TECHNICAL FIELDS SEARCHED (Int.Cl.6)

E01B

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	16 October 1996	Blommaert, S

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
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