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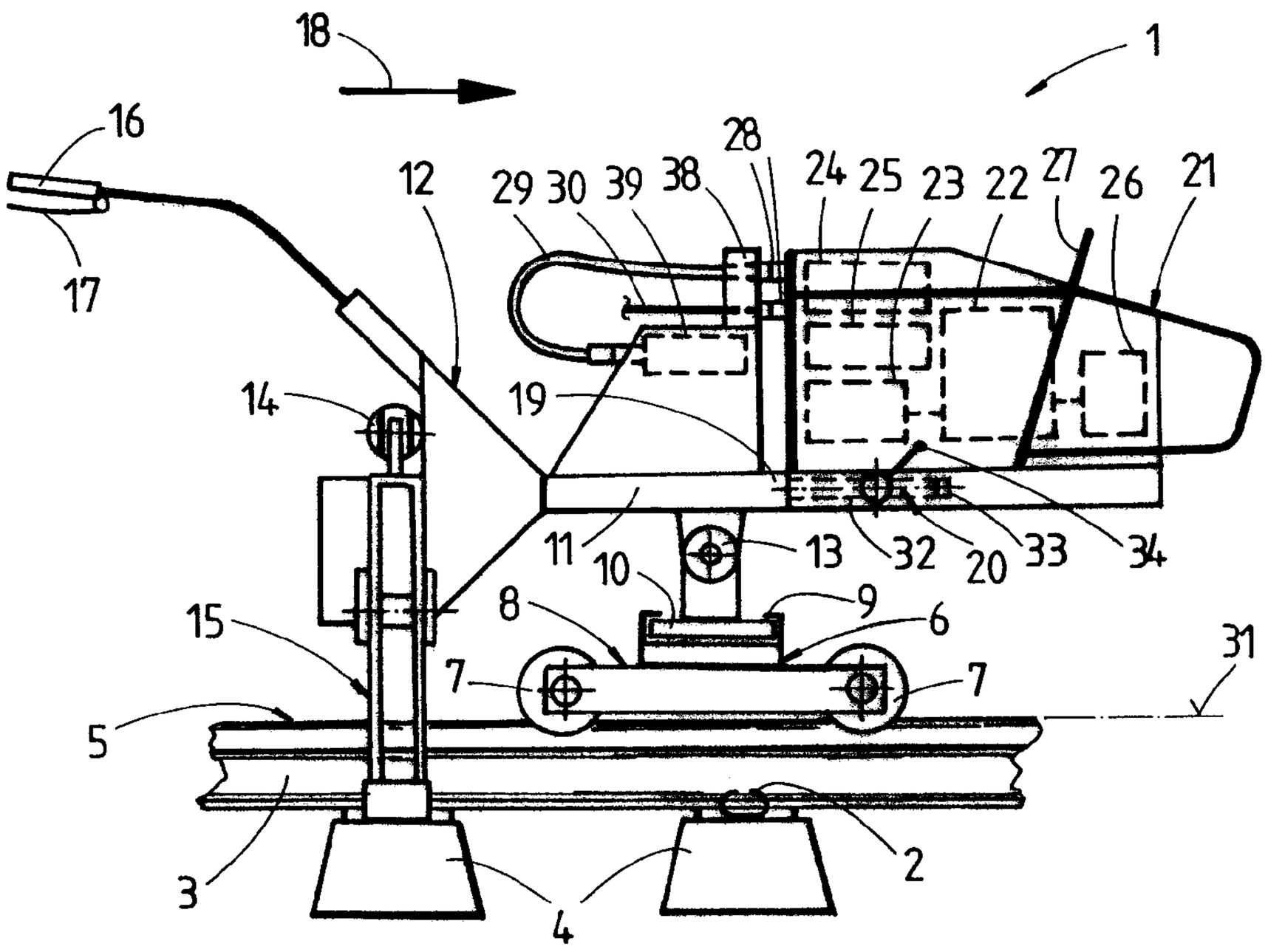
(54) Titre : MACHINE POUVANT ETRE POUSSEE A LA MAIN POUR L'ENTRETIEN DES RAILS
(54) Title: MANUALLY DISPLACEABLE MACHINE FOR MAINTAINING A TRACK



(57) Abrégé/Abstract:
A motor unit (21) of a machine (1) mobile manually on a track is equipped with hand grips (27) and connected by means of a detachable coupling (20) to a work unit (12). The motor unit (21) is composed of a motor (22), a hydraulic pump (23), a hydraulic tank (24), a cooler (25), and an electric generator (26). Arranged between the motor- and work unit (21, 12) are line couplings (28) for detachable connection of hydraulic lines (29), provided for actuation of working tools (15), and of a motor control line (30).

Abstract

A motor unit (21) of a machine (1) mobile manually on a track is equipped with hand grips (27) and connected by means of a detachable coupling (20) to a work unit (12). The motor unit (21) is composed of a motor (22), a hydraulic pump (23), a hydraulic tank (24), a cooler (25), and an electric generator (26). Arranged between the motor- and work unit (21, 12) are line couplings (28) for detachable connection of hydraulic lines (29), provided for actuation of working tools (15), and of a motor control line (30).

(Fig.1)

Manually Displaceable Machine for Maintaining a Track

SCOPE OF THE INVENTION

[01] The invention relates to a manually displaceable machine for track maintenance, consisting of a work unit having two hand grips and working tools designed to be actuated by drives, and a motor unit joined to the work unit and serving for energy supply, wherein the work- and motor unit is connected by means of an articulated connection to a chassis frame provided for riding on rails of a track and having flanged rollers.

BACKGROUND OF THE INVENTION

[02] A machine of this type is known from FR 2 659 674 or DE 20305569 U1, wherein the working tools are used for installing rail clips. During working operations, the machine is displaced on the track to the next sleeper by means of the hand grips. Since such machines are relatively heavy, the removal thereof from the track or the transferring to the track poses a physical burden on the operating personnel reaching the acceptable limits.

SUMMARY OF THE INVENTION

[03] It is the object of the present invention to provide a machine of the type mentioned at the beginning with which a simplified transfer into the working position or removal from the track is made possible.

[04] According to the invention, this object is achieved with a machine of the specified kind having one or more features described herein.

[05] Owing to these features, it is possible to transport the motor unit and the work unit separately and reconnect them to one another again very simply, as required, meaning a significant relief of physical strain for the operating personnel. In an advantageous manner, projecting parts of the coupling can be used as hand grips for transporting the work unit. Additionally, for versatile use, the motor unit can also be coupled as energy supply to different work units designed for various functions.

[05a] Accordingly, in one aspect the present invention resides in a manually displaceable machine for track maintenance, comprising a work unit having two handle grips and working tools designed to be actuated by drives, and a motor unit joined to the work unit and serving for energy supply, wherein the work unit and the motor unit are connected by means of an articulated connection to a chassis frame provided for riding on rails of a track and having flanged rollers, wherein, a) the motor unit is equipped with hand grips and connected to the work unit by means of a detachable coupling; b) the motor unit is composed of a motor, a hydraulic pump, a hydraulic tank, a cooler, and an electric generator; c) arranged between the motor unit and work unit are line couplings for detachable connection of hydraulic lines, provided for actuation of the working tools, and of a motor control line.

[06] Additional advantages of the invention become apparent from the following specification and the drawing description.

BRIEF DESCRIPTION OF THE DRAWINGS

[07] The invention will be described in more detail below with reference to an embodiment represented in the drawing in which Figs. 1 and 2 each

show a side view of a machine for track maintenance, Fig. 3 shows an enlarged detail view, and Fig. 4 shows a top view of the machine.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENTS

[08] A machine 1, shown in Fig. 1, is designed for installing rail clips 2 by means of which rails 3 and sleepers 4 of a track 5 are connected to one another. The machine 1 has a chassis frame 6 which is supported and able to roll on both rails 3 by means of a respective undercarriage 8 equipped with flange rollers 7. A transverse guide 9 extending in the transverse direction of the track connects the two undercarriages 8 to one another and serves for the transversely displaceable support of a carriage 10.

[09] Mounted on said carriage 10 is an assembly frame 11 of a work unit 12, said frame extending in the longitudinal direction of the track or rails and being designed to be rotatable or tiltable relative to the chassis frame 6 by means of an articulated connection 13 and to be positioned by means of the transverse guide 9 above one or the other rail 3 of the track 5, as desired (see Fig. 4).

[10] The assembly frame 11 is connected at its one end, distanced from the articulated connection 13, to working tools 15 actuatable by drives 14 and to two hand grips 16 having control elements 17. A front end 19 – with regard to a displacement direction 18 of the machine 1 – of the work unit 12 is connected by means of a coupling 20 to a motor unit 21.

[11] The motor unit 21 is composed of a motor 22, a hydraulic pump 23, a hydraulic tank 24, a cooler 25, and an electric generator 26 with an alternator and can be transported by means of hand grips 27 (see Fig. 2). Arranged between the motor- and work unit (21, 12) are line couplings 28 for releasable connection of hydraulic lines 29, provided for actuation of the drives 14, and of a motor control line 30.

[12] The coupling 20 provided for connection of the motor- and work unit 21, 12 is formed, on the one hand, by two coupling pins 32, connected to the work unit 12 and extending parallel to one another and approximately parallel to a travelling plane 31 formed by the flanged rollers 7 or rails 3, and, on the other hand, by coupling sleeves 33

connected to the motor unit 21 and serving for housing the coupling pins 32, and also by a fixing device 34.

[13] As visible in Fig. 3, the motor unit 21 has a first frame 35 connected to the motor 22, and a second frame 36 connected to the coupling sleeves 33. The two frames 35, 36, positioned one above the other, are connected to one another solely by damping elements 37.

[14] The line couplings 28 are designed as a coupling block 38 connected, on the one hand, to the motor unit 21 and, on the other hand, to the work unit 12, for a coupling operation of the hydraulic- and motor control lines 29, 30 occurring automatically by pushing the motor unit 21 onto the coupling pins 32. A valve control 30 provided for controlling the working tools 15 is arranged on the work unit 12. Alternatively, instead of the automatic coupling, it would also be possible to carry out a coupling operation manually.

[15] For working operations of the machine 1, the chassis frame 6 is first placed upon the rails 3. Subsequently, the work unit 12 – by grabbing the hand grips 16, on the one hand, and the coupling pins 32, on the other hand – can be carried effortlessly and fixed onto the articulated connection 13. Finally, the motor unit 21 is gripped with the aid of the hand grips 27, pushed onto the coupling pins 32, and fixed by means of the fixing device 34. As a result of the pushing motion, the hydraulic- and motor control lines 29, 30 are coupled automatically, whereby the

machine 1 is fully assembled and operational. The removal of the machine 1 from the track 5 can likewise be accomplished in three parts in that first the motor unit 21 is pulled from the coupling pins 32. In further sequence, the work unit 12 is separated from the chassis frame 6 and transported away.

We claim:

1. A manually displaceable machine (1) for track maintenance, comprising a work unit (12) having two handle grips (16) and working tools (15) designed to be actuated by drives (14), and a motor unit (21) joined to the work unit (12) and serving for energy supply, wherein the work unit (12) and the motor unit (21) are connected by means of an articulated connection (13) to a chassis frame (6) provided for riding on rails (3) of a track (5) and having flanged rollers (7), wherein,

a) the motor unit (21) is equipped with hand grips (27) and connected to the work unit (12) by means of a detachable coupling (20);

b) the motor unit (21) is composed of a motor (22), a hydraulic pump (23), a hydraulic tank (24), a cooler (25), and an electric generator (26);

c) arranged between the motor unit (21) and work unit (12) are line couplings (28) for detachable connection of hydraulic lines (29), provided for actuation of the working tools (15), and of a motor control line (30).

2. A machine according to claim 1, characterized in that the detachable coupling (20) provided for connection of the motor unit (21) and the work unit (12) is formed by two coupling pins (32) connected to the work unit (12) and extending parallel to one another and approximately parallel to a travelling plane (31) formed by the flanged rollers (7), and by coupling sleeves (33) serving for housing said coupling pins (32) and connected to the motor unit (21), and by a fixing device (34).

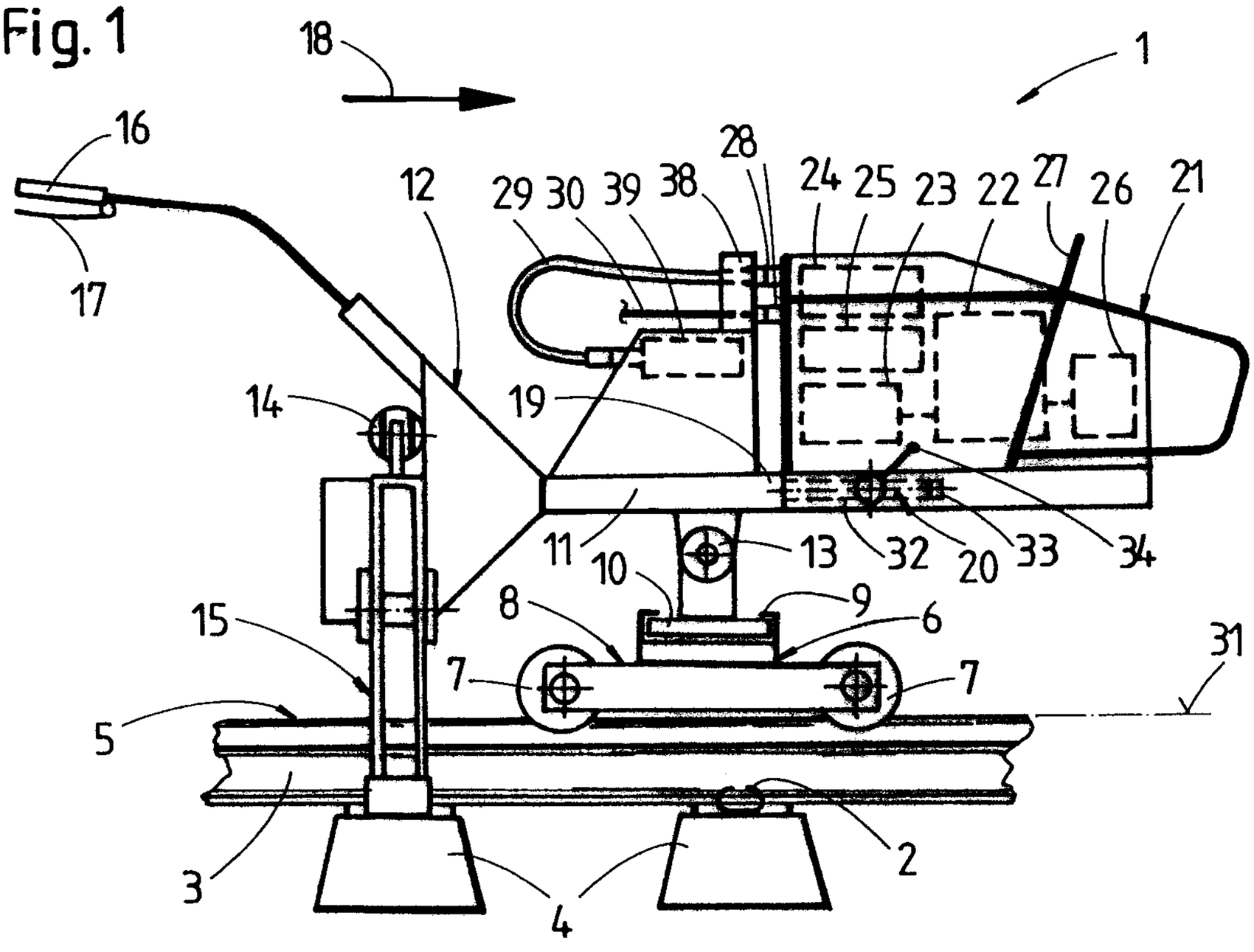
3. A machine according to claim 2, characterized in that the motor unit (21) has a first frame (35) connected to the motor (22), and a second frame (36)

connected to the coupling sleeves (33), wherein the first and second frames (35, 36) are connected to one another by damping elements (37).

4. A machine according to claim 2 or claim 3, characterized in that the line couplings (28) comprise a coupling block (38) connected to the motor unit (21) and to the work unit (12), for an automatic coupling operation of the hydraulic lines (29) and motor control lines (30) by pushing the motor unit (21) onto the coupling pins (32).

5. A machine according to any one of claims 1 to 4, characterized in that a valve control (30) provided for controlling the working tools (15) is arranged on the work unit (12).

Fig. 1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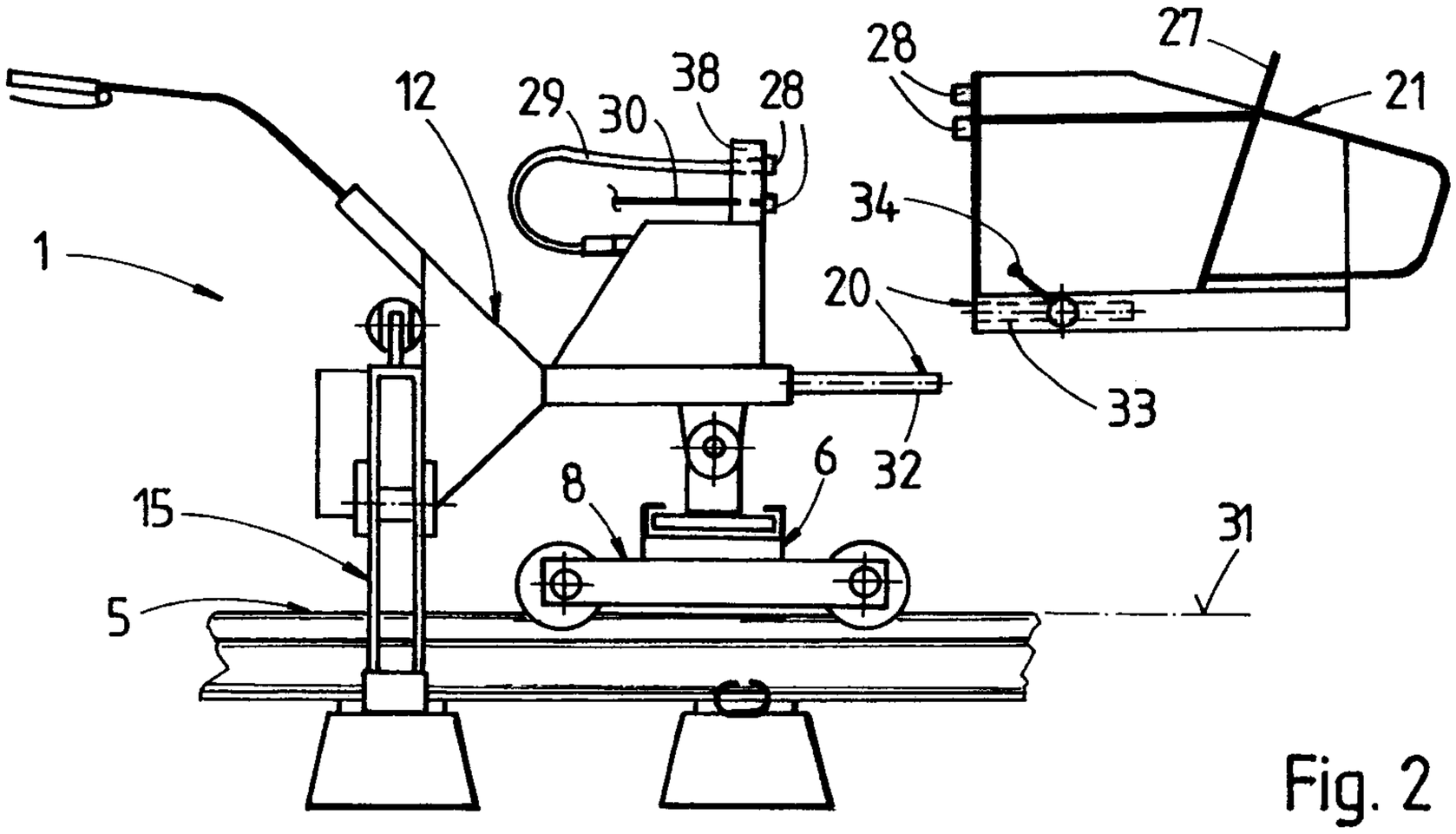
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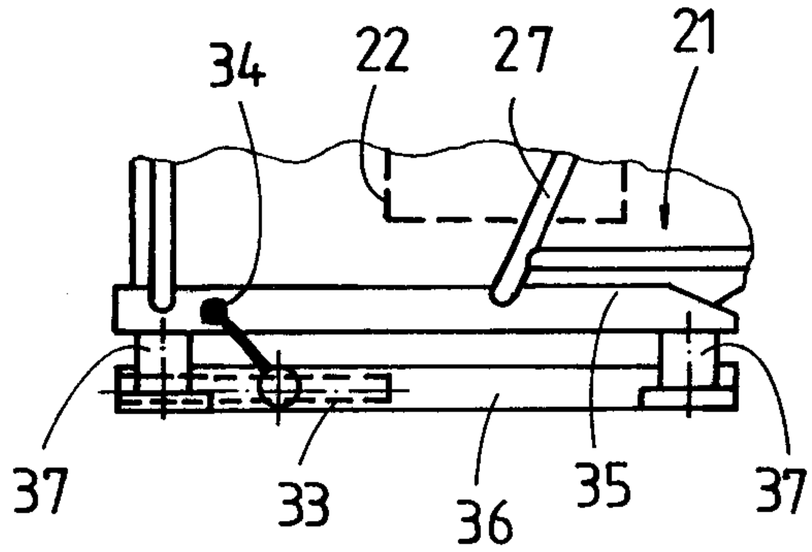
Fig. 2

Fig. 3



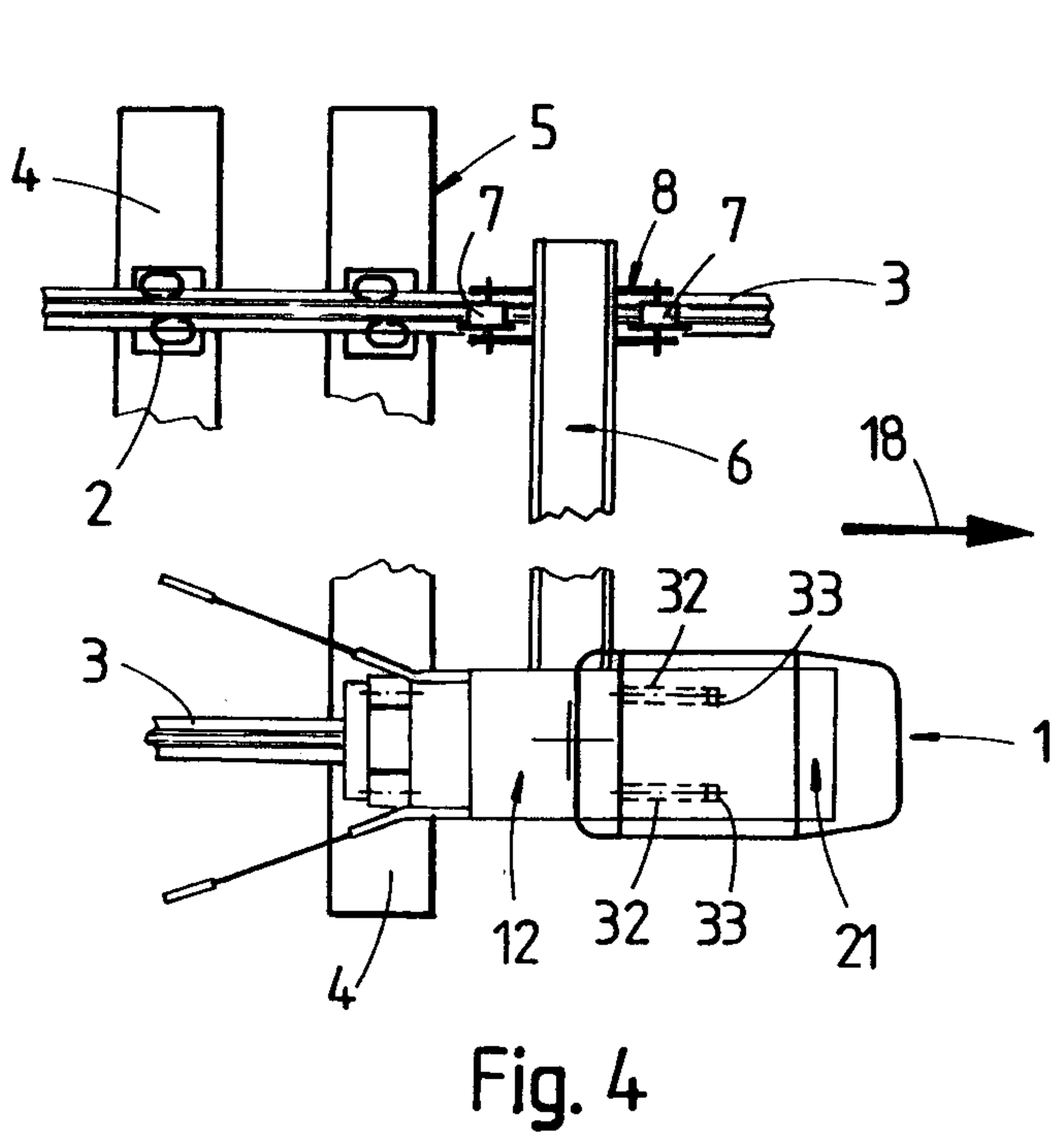
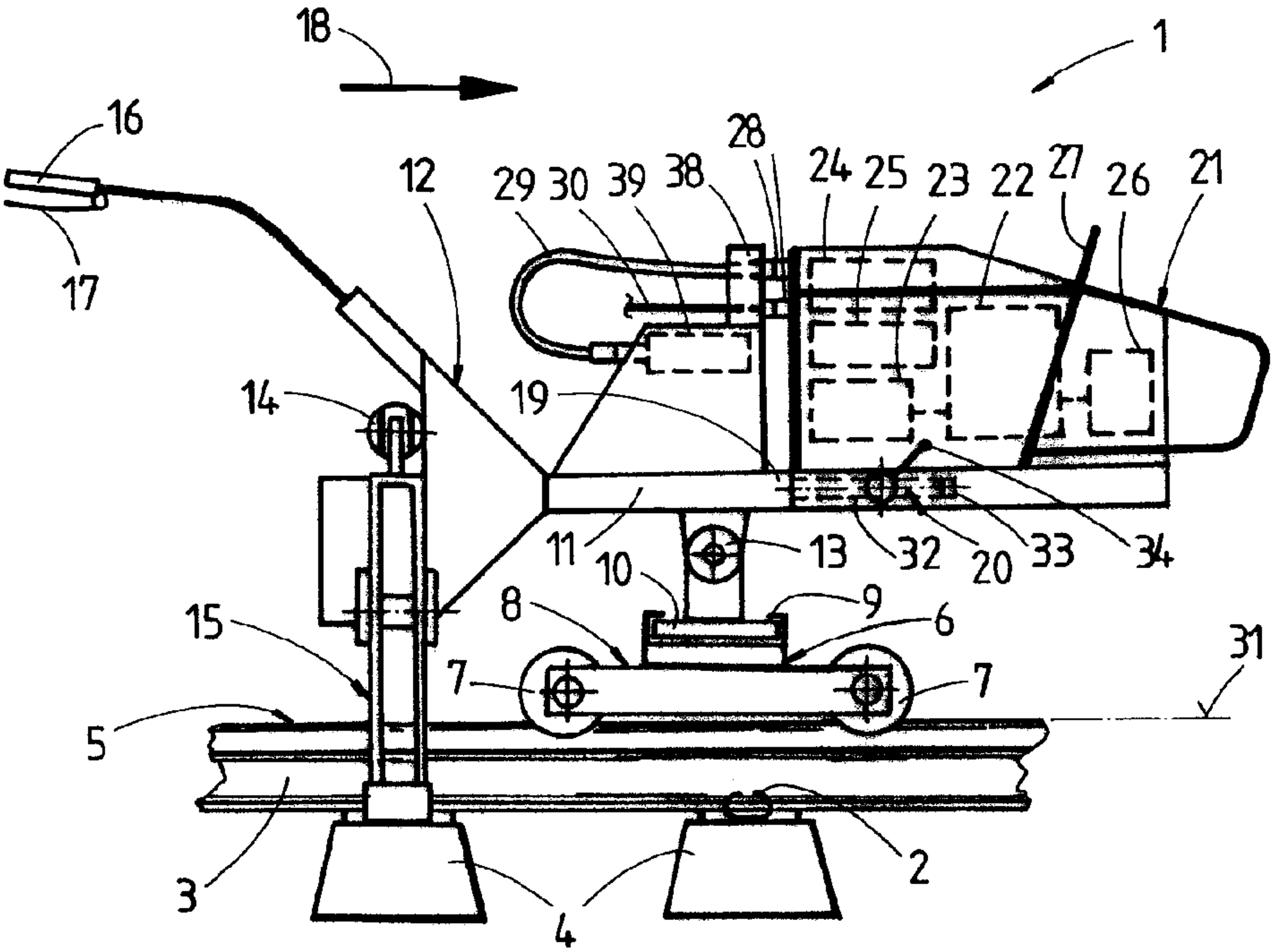


Fig. 4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