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(54) Benævnelse: **MASKINE, DER KAN FORSKYDES MANUELT, TIL VEDLIGEHOLDELSE AF SPOR**

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DESCRIPTION

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

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.

From WO 2006/031168 A1, a simple machine is known which is composed of a motor- and a work unit without assembly- and chassis frame.

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.

According to the invention, this object is achieved with a machine of the specified kind by way of the features cited in the characterizing part of the main claim.

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.

Additional advantages of the invention become apparent from the dependent claims and the drawing description.

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.

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 flanged 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.

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).

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.

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.

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.

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.

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.

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.

Patentkrav

1. Maskine (1), der kan bevæges manuelt, til vedligeholdelse af spor, bestående af en arbejdsenhed (12), der er forsynet med to håndgreb (16), såvel som arbejdsværktøjer (15), der kan påvirkes af drev (14), og en motorenhed (21), der er sluttet til denne og tjener til energiforsyning, hvor arbejds- og motorenheden (12, 21) gennem en aggregatramme (11) til arbejdsenheden (12) ved hjælp af en ledforbindelse (13) er forbundet med en chassisramme (6), der er beregnet til anbringelse på skinner (3) på et spor (5) og er forsynet med sporkransruller (7),
kendetegnet ved følgende træk:
a) motorenheden (21) er udstyret med håndgreb (27) og gennem en løsbar kobling (20) forbundet med aggregatrammen (11) til arbejdsenheden (12),
b) motorenheden (21) består af en motor (22), en hydraulikpumpe (23), en hydrauliktank (24), en køler (25) samt en elektrisk generator (26),
c) mellem motor- og arbejdsenhed (21, 12) er der placeret ledningskoblinger (28) til en løsbar forbindelse af hydraulikledninger (29), der er beregnet til påvirkning af arbejdsværktøjerne (15), samt af en motorstyreledning (30).

2. Maskine ifølge krav 1, kendetegnet ved, at koblingen (20), der er beregnet til forbindelse af motor- og arbejdsenhed (21, 12), er dannet ved hjælp af to koblingsstifter (32), der forløber parallelt med hinanden og er forbundet med aggregatrammen (11) til arbejdsenheden (12) og forløber omtrent parallelt med et køreplan (31), der er dannet af sporkransrullerne (7), på den ene side og ved hjælp af koblingsmuffer (33), der tjener til optagelse af disse, og er forbundet med motorenheden (21), på den anden side samt ved hjælp af en låseanordning (34).

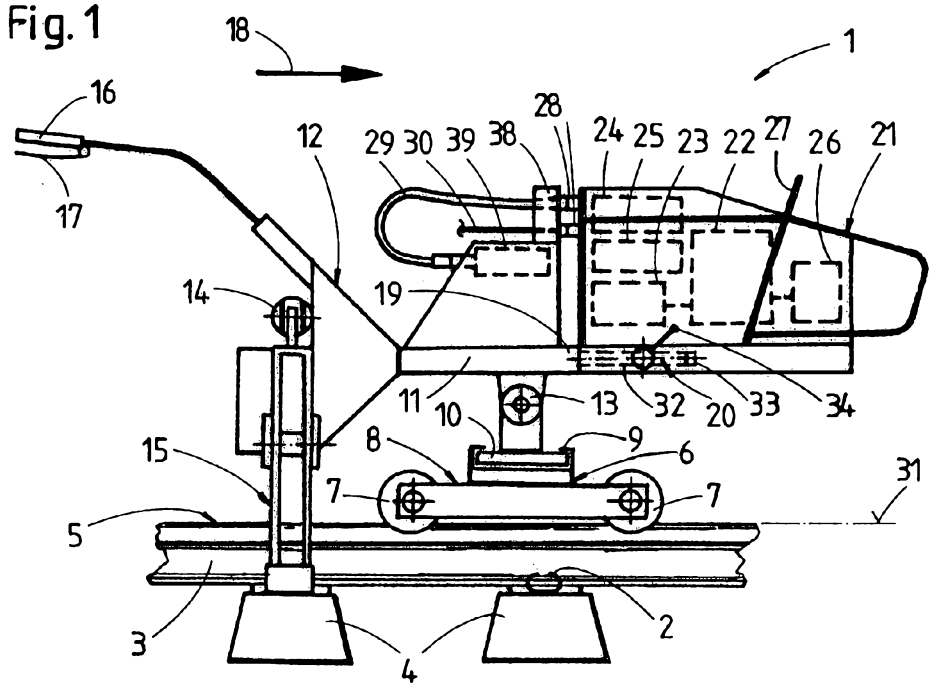
3. Maskine ifølge krav 1 eller 2, kendetegnet ved, at motorenheden (21) omfatter en første ramme (35), der er forbundet med motoren (22), og en anden ramme (36), der er forbundet med koblingsmufferne (33), hvor de to rammer (35, 36)

er forbundet med hinanden ved hjælp af dæmpningselementer (37).

4. Maskine ifølge krav 1 eller 2, kendetegnet ved, at ledningskoblingerne (28) er udformet som en koblingsblok (38), der på den ene side er forbundet med motorenheden (21) og på den anden side med arbejdsenheden (12), til en automatisk kobling af hydraulik- og motorstyreledningen (29, 30), ved at motorenheden (21) skydes på koblingsstifterne (32).

5. Maskine ifølge krav 1, kendetegnet ved, at der er placeret en ventilstyring (39), der er beregnet til styring af arbejdsværktøjerne (15), på arbejdsenheden (12).

Fig. 1


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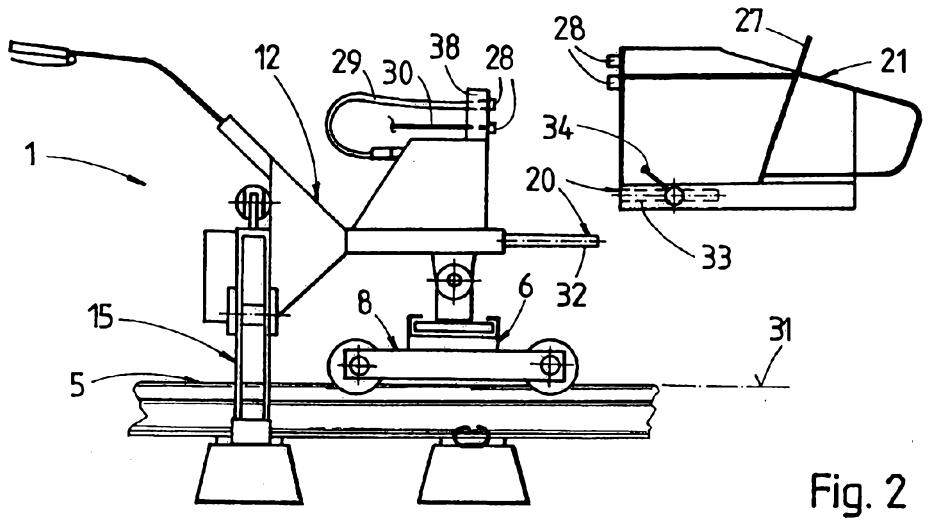
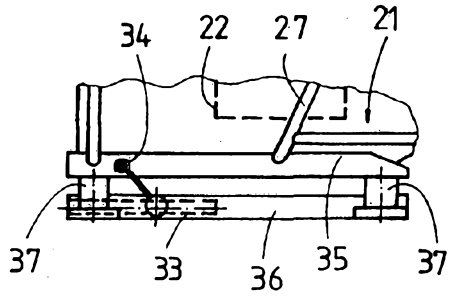

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8
15
31
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Fig. 2

Fig. 3



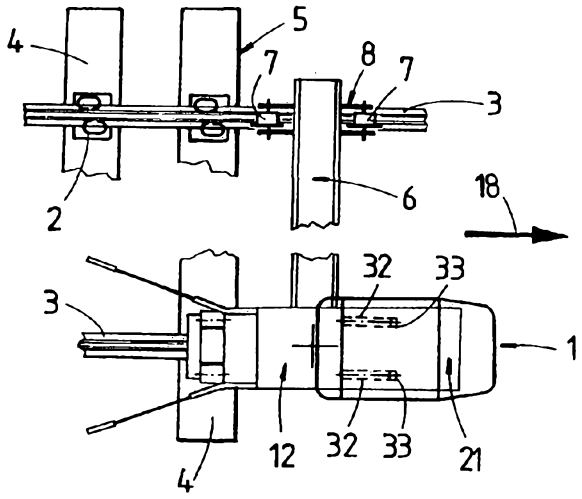


Fig. 4