(19) Europäisches Patentamt
European Patent Office
Office européen des brevets

(11) EP 1 158 100 A2

(12) EUROPEAN PATENT APPLICATION

(43) Date of publication:
28.11.2001 Bulletin 2001/48

(51) Int Cl.[7]: **E01C 19/38**, E02D 3/046

(21) Application number: **01850021.5**

(22) Date of filing: **30.01.2001**

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

(30) Priority: **25.05.2000 SE 0001951**

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(54) Remote-controlled vibrating plate

(57) The invention refers to a device for a remote-controlled vibrating plate operated by control signals from a hand-held control device, the control signals from which are transmitted to the plate (1) by means of infra-red light. The plate's IR eye (5) is mounted on a retractable mounting plate (6) and is protected by a spoke-shaped protective grille (13) to prevent damage to it (the eye) under the action of an external force.

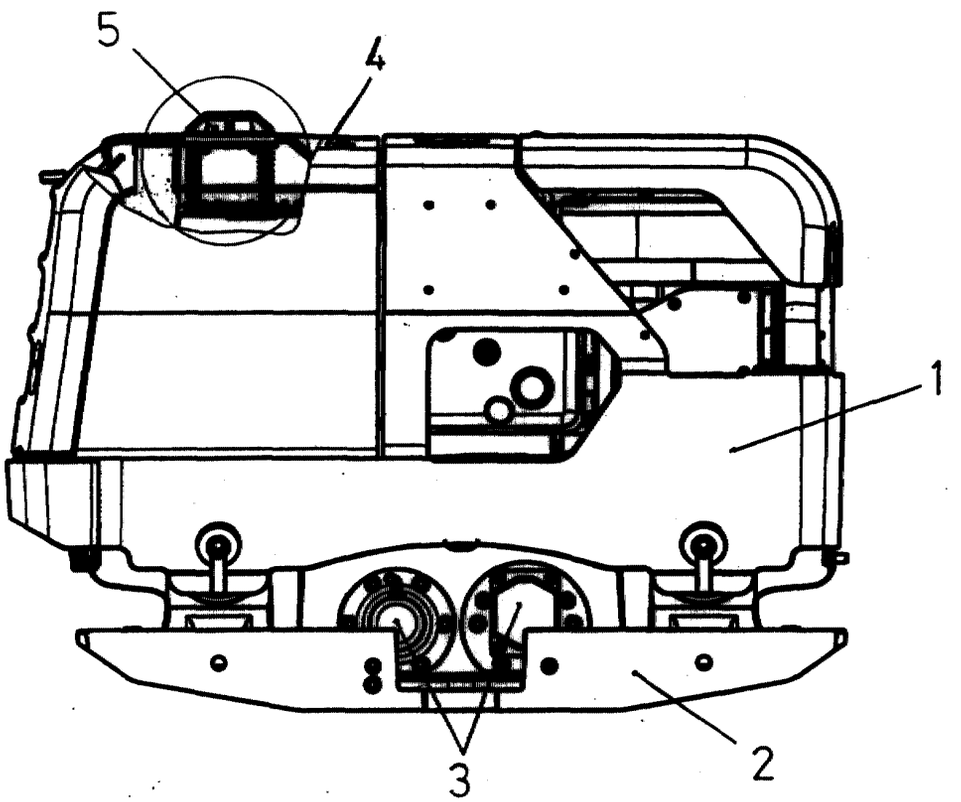

Fig 1

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Description

[0001] Remote-controlled vibrating plates are often operated by control signals from a hand-held device, from which the control signals to the plate are transmitted with the aid of infrared (IR) light. The receiving eye on the plate must be mounted at its (the plate's) highest point so that the signals are not obscured during operation. It is important, especially when operating the plate in pipe trenches, that the overall height of the plate is as small as possible so that it can be operated, for example, under existing posts between the sides of the trench. The purpose of the present invention is, by providing the receiving eye with a retractable mounting, to prevent damage to it (the eye) when operating the plate under posts, and also to protect the eye when lifting and handling the plate, for example with truck forks or an excavator bucket.

This is achieved, as described in the patent claim, by mounting the receiving eye on a spring-loaded mounting plate provided with a spoke-shaped protective grille enclosing the receiving eye, in such manner that the said grille is pressed into the plate housing under mechanical loading. Furthermore, the spokes of the protective grille are sloped with respect to the horizontal plane in such manner that the grille is depressed when either a vertical or horizontal force is imposed.

[0002] The invention will be described in further detail with the aid of the appended figures, of which Fig. 1 is a side view of a vibrating plate with an IR eye, Fig. 2 is an enlarged view of the IR eye shown in Fig. 1, Fig. 3 is a view of the IR eye from above and Fig. 4 is a vertical section through the eye (section A-A in Fig. 3).

[0003] Fig. 1 is a side view of a remote-controlled vibrating plate 1 with a sole plate 2 and excentric elements 3. Item 4 is the upper cover of the vibrating plate, through which cover the spring-loaded IR eye projects. Fig. 2 shows the mounting plate 6 of the IR eye 5, which plate is held in the upper position by means of the coils springs 7, which are free to move on the guide pins 8. The guide pins are attached to the plate 9 which, in turn, is mounted on the vibrating plate's hydraulic tank 10.

Fig. 3 is a view of the IR eye from above, showing the mounting of the IR eye itself on the mounting plate 6 by means of a circular plate 11, which is bolted to the mounting plate by means of the bolts 12. The circular plate 11 is provided with a spoke-shaped steel crosspiece 13, which encloses the IR eye and it designed to protect it (the eye) if obstacles are encountered. The upper position of the mounting plate 6 is determined by the recessed screws 14, which are threaded into the guide pins 8 as shown in Fig. 4. The cylindrical part of each screw hole in the mounting plate for the screws 14 is of a diameter slightly bigger than that of the guides. The mounting plate 6 is retained in its upper position by means of the coils springs 7, which permit the mounting plate and IR eye to be retracted into a protected position below the level of the vibrating plate cover 4 under the action of an external force.

Claims

1. Device for a remote-controlled vibrating plate operated by control signals from a hand-held control device, the control signals from which are transmitted to the plate by means of infrared light, **characterised in that** the plate's IR eye (5) is mounted on a retractable mounting plate (6) provided with a spoke-shaped protective grille (13) enclosing the IR eye, which mounting plate, when subjected to an external force, enables the IR eye to be retracted below the level of the plate's upper cover (4), by virtue of the fact that the said mounting plate is mounted on guide pins (8), and returned to its upper position under the action of coil springs (7) mounted on the pins.

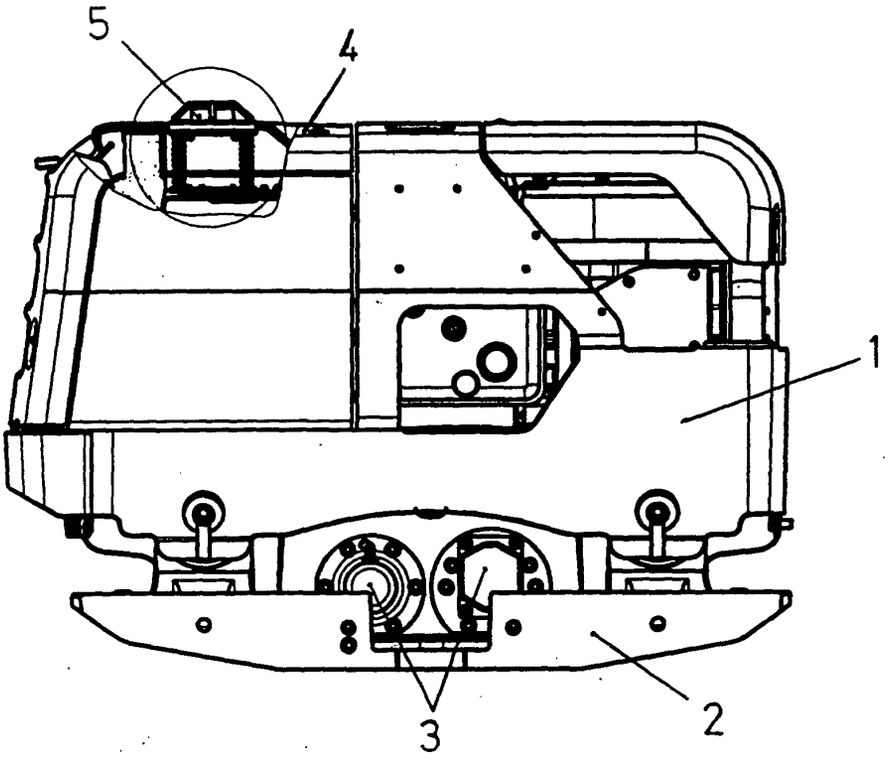

Fig 1

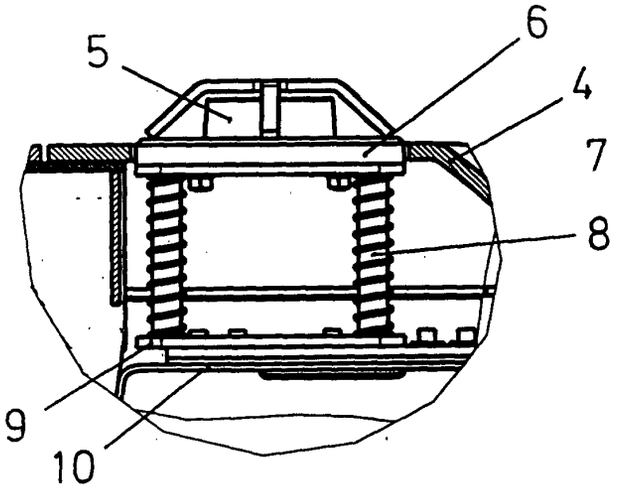

Fig 2

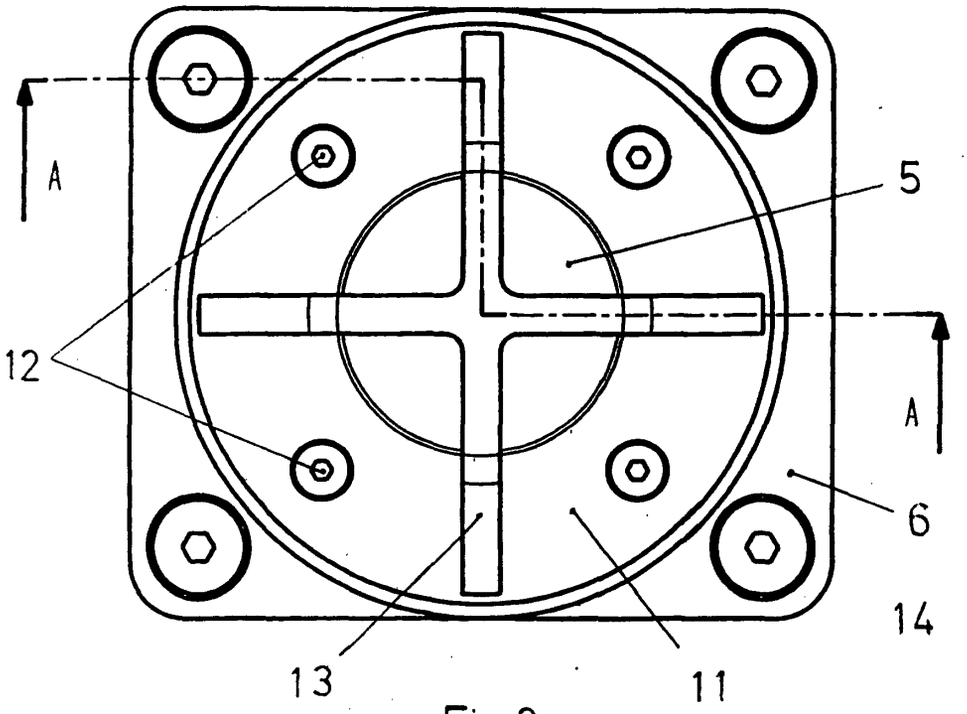

Fig 3

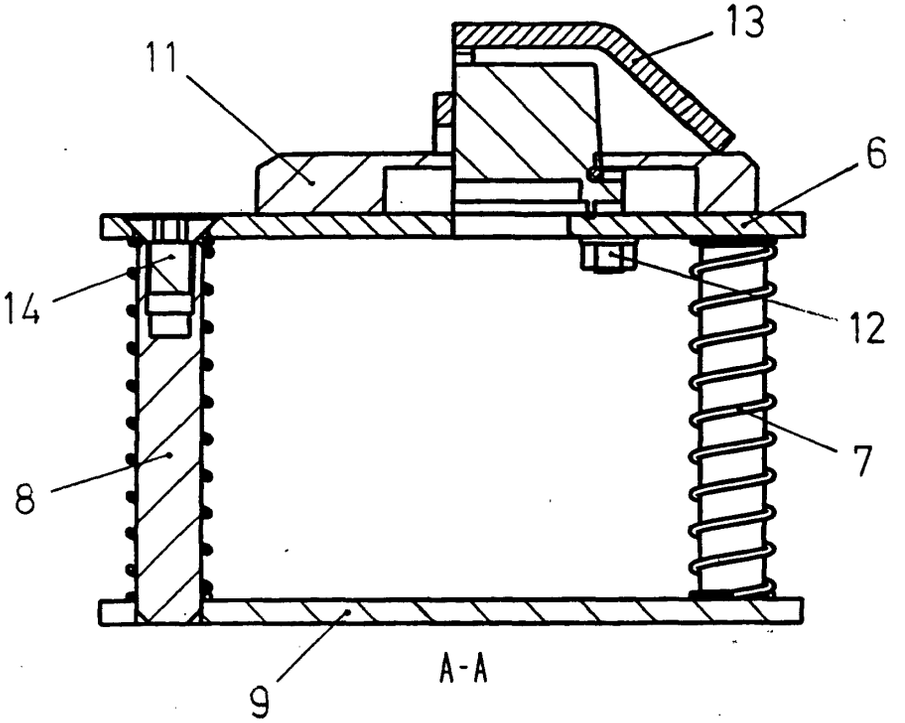

Fig 4