

Description of FR2449924

The present invention has as an aim a control stick intended in particular but not exclusively for the machines public works.

It is known that the cockpit installed in one cabin of machine of public works requires, for there precision, the safety of piloting and the possibility access to the seat, levers of control laid out of share and of other of the driver and with the range of the hands of this one.

Unfortunately, this provision makes that the access to cockpit itself is difficult, account held of what it is necessary to pass over one of these levers. Moreover, during its installation, the driver can run up against the aforementioned lever, which can if required to cause an accident.

The present invention has as an aim a foldable lever allowing to cure the disadvantages previously announced.

The control stick according to the present invention is characterized in that it is articulated around an axis horizontal had in the vicinity of the ground cabin and locked below of the aforesaid axis by the intermediary one piston recalled by a spring.

Thus, by action on a push rod laid out at the end higher of the lever, the conical piston is driven out and it lever can rock around its axis so as to to release the passage of the driver.

According to another characteristic of the invention, it conical piston penetrates by its lower part when it is driven out axis in a higher part joint of order so as to carry out blocking of this one.

Thus, when the lever is folded up, it cannot any more to act on the control device of the machine and any accidental operation is thus prohibited.

Other characteristics and advantages of the invention will appear during the description which will follow

of a particular mode of realization of the invention in
glance of the figures which represent

- the fig. 1 a lever in position of work,
- the fig. 2 the same lever during its unlocking,
- and the fig. 3 the same lever in folded up position.

Figure 1 represents the lever in its position of control or position of work. At the interior of a frame 1 interdependent of the cabin is gone up, thanks to the part support 2 being used as mechanical reference a clamp 3 gone up with the Joint on two perpendicular axes 4 and 5 on which it is journalled. Axis 4 ends in a kneecap 6 encased in a support 7 and one same assembly is planned for axis 5.

Supports 7 constitute stems of order which, by action on hydraulic bodies allow there operate bodies of drive and order of the machine.

Clamp 3 is interdependent of a lever 8 covered on one part its height by a matter soufflet²² rubber band such as rubber for example intended for to avoid the penetration of dust in the mechanism. The description which has been just given corresponds to traditional system currently used.

According to the invention, lever 8 presents at its part higher a button 9 allowing the dissociation of lever 8 and of clamp 3. For this purpose, button 9 is connected to a stem of order 10 articulated inside hollow lever as in point 11 on a push rod 12. push rod 12 is guided by one stage 13 interdependent of the lower part of lever 8 and penetrates inside the swivelling assembled cylinder 14 around axis 15. The lower end of the push rod 12 rests on the head of a conical piston 16 which, in position of work, penetrate inside the cylinder 14 and the solidarisation of clamp 3 ensures thus and of 8. Lorsque lever its work is finished (fig. 2), it driver presses on the pushbutton 9 and the piston 16 are driven out of the cylinder 14, cylinder which can then to swivel around its axis 15. It is thus possible to make swivel the lever around axis 15, which the easy release of the driver allows. Piston 16 is recalled-automatically in its position of work by a return spring 17. The presence of a thrust 18 do not authorize, as that appears on figures 2 and 3, the swing of the lever that in the selected position.

In a mode of realization preferred of the invention;

piston 16 is interdependent of a stem guides 19 extending downwards starting from the conical head.

As that appears on figure 2, the movement of lowering of piston 16 results in a lowering stem 19 whose lower end 20 penetrates in an opening 21 envisaged with the higher part of Joint. Thus, this one is immobilized at the point died, which ensures the total safety of the machine when the driver enters or leaves the cabin. In these conditions, clamp 3 and consequently the whole of orders which are connected there remains inert even if it lever 8 receives an accidental shock.

Figure 3 represents the lever in folded position or position of dead point. End 20 of stem 19 penetrate then in boring 21 and blocks the joint.

The present invention which requires one in addition good mechanical precision (tolerances being of the order of the 1/100e of mm) can also be used in any other technical field that that of the machines public works, each time one wishes to disunite a lever of the control units on which it acts normally.

It thus exists two possibilities of exploitation of the invention. The first consists simply with to disunite the lever of the clamp by driving out it conical piston 16. This solution can be put in work with traditional joints.

The second solution consists, as this is described in glance of figures 1 to 3, to block the joint in position of point died by the co-operation of stem 19 interdependent of piston 16 and a boring 21 formed in joint, which increases the cost of the realization but ensure an increased safety.

It goes from oneself that modifications can be brought to the mode of realization which has just been described, in particular by substitution of average techniques equivalents, without leaving for this the framework present invention.

Claims of FR2449924

1. - Control stick, in particular for machines of work public, interdependent of a frame and connected by a joint to control units, characterized in that it is gone up swivelling around a horizontal axis by the intermediary of a cylinder inside from which comes to engage a conical piston, the aforementioned piston which can be driven out of the cylinder by the action of a push rod ordered by a pushbutton.

2. - Control stick according to claim 1, characterized in that the above mentioned conical piston is prolonged with its lower part by a stem of which the penetrate end, when the piston is thorough towards low, in a boring envisaged on the joint, this penetration causing blocking of the aforesaid joint and of control units.

3. - Machine of public works, characterized in that it a lever includes according to any of claims 1 or 2.