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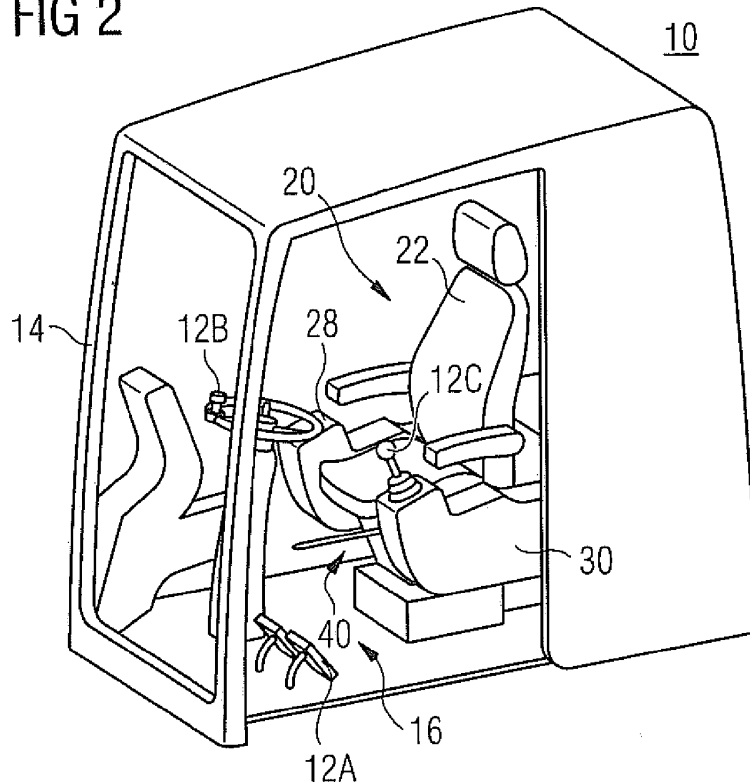
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**(54) Security blocking of cabin exit**

(57) Blocking an exit of a cabin (10) of a construction machine may ensure an operator of the construction machine to avoid accidental activation of the construction machine. A blocking system (40) is disclosed, which may couple a blocking position of a safety lever to an operating position of a seat console (30) and an exit position of the

safety lever to a non-operating position of the seat console (30). In some embodiments, the construction machine may be deactivated when the seat console is in the non-operating position, thereby additionally preventing inadvertent activation of the construction machine when leaving the cabin (10).

**FIG 2**



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## Description

### Technical Field

**[0001]** The present disclosure generally relates to a security blocking system for cabin exit of a construction machine.

### Background

**[0002]** Construction machines, such as wheeled or crawler excavators, wheel loaders, backhoes, or the like, may be provided with a cabin for an operator. The cabin may be provided with a seat having at least one seat console attached thereon. The cabin may be further provided with control devices for controlling the movement of the machine and/or attached implements.

**[0003]** The seat console may be foldable to facilitate access to the seat. The seat console may be provided with some of the control devices. In some construction machines, folding the seat console may deactivate the control devices, thereby breaking off the connection between the control devices and the construction machine and, therefore, preventing inadvertent actuation of the construction machine.

**[0004]** According to the European earth-moving Machinery Safety Standard EN 474-1 of 2009, controls, which can cause hazard due to inadvertent activation, shall be so arranged or deactivated or guarded as to minimize the risk, when the operator gets into or out of the operator's station. The deactivation device shall either be self-acting or acting by compulsory actuation of the relevant device.

**[0005]** For a construction machine, US 6 352 133 B1 discloses a cab with an operator's seat and console devices on the right and left sides of the seat. An entrance gating lever is pivotally switchable between an entrance blocking position (preventing an operator from getting into or getting off the cab) and an open position (opening the passage between the exit and the seat). The entrance gating lever is linked with a safety change-over valve which functions to open and block communication between a hydraulic pump and a hydraulic circuit. A lock mechanism holds the console in the open position. When an operator sitting on the seat intends to get out of the cab, the operator lifts the entrance gating lever, thereby releasing the locking mechanism via a cable, and the seat console automatically swings into an upturned position. As a result, the console is turned in a lifted position together with the entrance gating lever being raised into the open position. To operate the construction machine again, the entrance gating lever is lowered into the blocking position. This opens the safety change-over valve and puts the vehicular drive and the working mechanisms in an operative state. To have access to the console devices, the operator pushes in a separate step the console downward against a gas spring. Accordingly, the operator needs to perform two actions before starting opera-

tion, lowering the entrance gating lever and lowering the seat console.

**[0006]** The present disclosure is directed, at least in part, to improving or overcoming one or more aspects of prior systems.

### Summary of the Disclosure

**[0007]** According to an aspect, a seat console for a construction machine may comprise a seat console body, a mounting part configured to movably mount the seat console body and to position the seat console body in an operating position and a non-operating position, a safety lever movably mounted to the seat console body, and a positioning mechanism configured to position the safety lever in a blocking position blocking an exit passage of the construction machine and in an exit position unblocking the exit passage, wherein the positioning mechanism is configured to mechanically position the safety lever in the blocking position, when the seat console body is in the operating position, and to mechanically position the safety lever in the exit position, when the seat console body is in the non-operating position.

**[0008]** According to another aspect, a cabin for an operator of a construction machine may comprise a cabin frame and a seat unit, which may comprise a seat and a seat console as described above. The seat console may comprise a safety lever and the cabin may provide an exit passage disposed between the cabin frame and the seat console. In a blocking position of the safety lever, the safety lever may block the exit passage, and, in an exit position of the safety lever, the safety lever may unblock the exit passage.

**[0009]** According to another aspect, a construction machine may comprise a power source, a traction device driven by the power source, at least one implement, a boom, and a cabin as described above.

**[0010]** According to another aspect, a method for positioning a foldable seat console of a construction machine may comprise mechanically coupling a blocking position of a safety lever of a blocking system to an operating position of the seat console and an exit position of the safety lever to a non-operating position of the seat console.

**[0011]** In some embodiments, the positioning mechanism may provide a mechanical coupling of the safety lever's position with the seat console's position, for example, coupling the blocking position with the operating position and the exit position with the non-operating position.

**[0012]** Other features and aspects of this disclosure will be apparent from the following description and the accompanying drawings.

### Brief Description of the Drawings

**[0013]** In the accompanying drawings:

Fig. 1 is an illustration of a wheeled excavator;  
 Fig. 2 is a perspective view of a cabin provided with a seat and two seat consoles;  
 Fig. 3 is a perspective view of a seat frame, a console frame, and a first blocking system;  
 Fig. 4 is a side view of a seat console being in an operating position with the first blocking system of Fig. 3 being in a blocking position;  
 Fig. 5 is a side view of the seat console of Fig. 4 being in a non-operating position with the first blocking system of Fig. 3 being in an exit position;  
 Fig. 6 is a side view of a seat console being in the operating position with a second blocking system being in the blocking position;  
 Fig. 7 is a side view of the seat console of Fig. 6 being in the non-operating position with the second blocking system of Fig. 6 being in the exit position;  
 Fig. 8 is a side view of a seat console being in the operating position with a third blocking system being in the blocking position;  
 Fig. 9 is a side view of the seat console of Fig. 8 being in the non-operating position with the third blocking system of Fig. 8 being in the exit position;  
 Fig. 10 is a side view of a seat console being in the operating position with a fourth blocking system being in the blocking position; and  
 Fig. 11 is a side view of the seat console of Fig. 10 being in the non-operating position with the fourth blocking system of Fig. 10 being in the exit position.

#### Detailed Description

**[0014]** The following is a detailed description of exemplary embodiments of the present disclosure. The exemplary embodiments described therein and illustrated in the drawings are intended to teach the principles of the present disclosure, enabling those of ordinary skill in the art to implement and use the present disclosure in many different environments and for many different applications. Therefore, the exemplary embodiments are not intended to be, and should not be considered as, a limiting description of the scope of patent protection. Rather, the scope of patent protection shall be defined by the appended claims.

**[0015]** The disclosure is based on the realization that an exit blocking system for blocking an exit of a construction machine's cabin may be positioned in a coupled manner in accordance with a position of a seat console. For example, when the seat console is lifted or lowered, the blocking system may automatically change between a blocking position and an exit position, thereby permitting or blocking access to or from the operator's seat, respectively.

**[0016]** In addition, by lifting or lowering the seat console, deactivating the control devices may also automatically be achieved for preventing inadvertent actuation of the implements and/or vehicular drive when the operator is not present at the operator's seat.

**[0017]** In some embodiments, coupling the movement of the blocking system to the movement of the seat console in both ways (e.g. when lifting or lowering the seat console) may allow that a single action of the operator may result in: lifting/lowering the seat console, opening/blocking the exit passage by the blocking system or giving the exit passage free, and deactivating/activating the control devices.

**[0018]** In some embodiments, limiting the exit passage of the cabin via the seat console may be extended with the blocking system such that the operator may not leave the cabin without folding the seat console, thereby removing the blocking system. Thus, inadvertent actuation of, e.g. the vehicular drive and/or the implements may be avoided, particularly the vehicular drive and /or the implements are automatically disconnected from the control devices due to the console being in the lifted position.

**[0019]** In the following, various exemplary embodiments of a blocking device for use in construction machines are disclosed.

**[0020]** As an example for a construction machine, Fig. 1 shows a wheeled excavator 1 having a power source 2, e.g. an internal combustion engine, an electric motor, or hybrid, e.g. for driving wheels 4 as an example of a traction device. Wheeled excavator 1 may comprise implements 6, such as a shovel, a nipper, or a hammer attached to a boom 8, and a cabin 10 for the operator having several control devices for controlling, e.g., the output of power source 2, boom 8 and/or implements 6.

**[0021]** Fig. 2 shows an exemplary embodiment of cabin 10. Cabin 10 may comprise a cabin frame 14, a seat unit 20, and control devices such as pedals 12A, a steering wheel 12B, and a joystick 12C. Seat unit 20 may comprise a seat 22 and, e.g., two seat consoles 28, 30 being provided on the right and left sides of seat 22. Seat console 30 being closer to an exit passage 16 may comprise a first blocking system 40 attached thereto. In a blocking position B, first blocking system 40 may extend into exit passage 16, thereby blocking exit passage 16, i.e. the way out of cabin 10 and seat 22.

**[0022]** Fig. 3 illustrates an exemplary frame structure of seat unit 20 and an embodiment of blocking system 40. Specifically, Fig. 3 shows a seat frame 24 of seat 22 that may be configured to attach seat unit 20 to cabin frame 14. A console frame 32 of seat console 30 may be attached to seat frame 24. In addition or alternatively, console frame 32 (and/or the console frame of seat console 28) may be attached to cabin frame 14.

**[0023]** Console frame 32 may comprise a seat console body 34 and a mounting part 36. Mounting part 36 may be fixedly mounted to seat frame 24, e.g. screwed or welded, thereby attaching seat console 30 to seat 22. Seat console body 34 may be pivotally connected to mounting part 36 via, e.g., a joint part (not explicitly shown), to allow seat console 30 to be lifted. Accordingly and explained in detail in connection with Figs. 4 and 5, seat console 30 may be positioned in a lifted position

(herein referred to as a non-operating position NO) and in a lowered position (herein referred to as an operating position O).

**[0024]** First blocking system 40 may comprise a safety lever 42, a first mount 44, a second mount 46, and a supporting bar 52, the latter forming first positioning mechanism 50 for positioning safety lever 42.

**[0025]** For example, safety lever 42 may be attached to console frame 32 via first mount 44, and via supporting bar 52 and second mount 46 to seat frame 24.

**[0026]** Specifically, safety lever 42 may be pivotally coupled to seat console body 34 via first mount 44 using a lever joint 48 being configured to enable safety lever 42 to pivot. Supporting bar 52 may be pivotally attached to safety lever 42 next to lever joint 48 for supporting and lifting/lowering safety lever 42.

**[0027]** At an opposed side of the pivotally attachment to safety lever 42, supporting bar 52 may comprise a long hole 54 for slidably attaching to second mount 46.

**[0028]** Long hole 54 may have a length such that a transversal movement of supporting bar 52 is limited in a manner that ensures the positioning of safety lever 42 to be mechanically coupled to the position of seat console 30, as explained in detail in connection with Figs. 4 and 5.

**[0029]** Fig. 4 shows a side view of seat console 30 in operating position O and first blocking system 40 in blocking position B. In operating position O, the control devices may be enabled to control e.g. implements 6, boom 8, and/or power source 2, and, due to safety lever 42 being in blocking position B, seat 22 is blocked.

**[0030]** As shown in Fig. 4, seat console 30 may be further provided with a hook system 90 and a release button 92 disposed in the reach of an operator sitting on seat 22 and configured to release hook system 90. Hook system 90 may be configured to lock seat console 30 in operating position O, e.g. a hook attached to seat console body 34 may interact with seat frame 24. When hook system 90 is released, a force may be applied to move seat console 30 into non-operating position NO that is shown in Fig. 5.

**[0031]** Releasing hook system 90 may deactivate control devices 6, e.g. by hydraulically disconnecting control devices 6 from a hydraulic system of wheeled excavator 1. In general, the activation or deactivation of the control devices may be achieved electronically, mechanically, and/or hydraulically.

**[0032]** As shown in Fig. 4, when seat console 30 is in operating position O, safety lever 42 may be supported by supporting bar 52 and may extend into exit passage 16 of cabin 10. Accordingly, the way out of or to seat 22 may be blocked.

**[0033]** Referring to Fig. 5, by activating, e.g. pulling release button 92, hook system 90 may disengage seat console body 34 from mounting part 36 and, therefore, seat console 30 may be lifted from operating position O into non-operating position NO, shown in Fig. 5. At the same time, the control devices may be deactivated, e.g. no further actuation of wheeled excavator 1 may be pos-

sible. The force for lifting seat console 30 may be provided by, e.g. precompressed elastic means such as a gas spring (not explicitly shown).

**[0034]** By lifting seat console 30 from operating position O into non-operating position NO, first blocking system 40 may automatically switch from blocking position B to an exit position E due to the mechanical coupling provided by first positioning mechanism 50. As shown in Fig. 5, safety lever 42 may fold by pivoting safety lever 42 down, as seat console 30 moves up. Specifically, the lifting movement of seat console 30 may be coupled to the movement of safety lever 42 e.g. via supporting bar 52 longitudinal sliding, thereby pivotally folding safety lever 42 down.

**[0035]** Alternative exemplary embodiments of first positioning mechanism 50 may be described in the following with reference to Figs. 6 to 11. Reference numerals for similar parts are maintained.

**[0036]** Fig. 6 and 7 illustrate an embodiment of seat console 30 with a second blocking system 140. As first blocking system 40, second blocking system 140 may be configured to fold safety lever 42 down. In contrast, the folding may be performed using a Bowden cable 160. For example, safety lever 42 may be attached pivotally to console frame 32 of seat console 30, e.g. via a lever joint 148.

**[0037]** Safety lever 42 may comprise a driving portion 172 in addition to a blocking portion 170. In operating position O of seat console 30, blocking portion 172 may horizontally extend from lever joint 148 into exit passage 16, and driving portion 172 may extend upwards from lever joint 148, e.g. perpendicular to safety lever 42. A first end 162 of Bowden cable 160 may be attached to drive portion 172, and a second end 164 of Bowden cable 160 may be attached to mounting part 36 of seat console 30 (shown in detail in Fig. 9). Bowden cable 160 may be a pull cable or a push and/or pull cable, e.g. a pull cable combined with a withdrawing spring system, etc., and provides thereby a one or two way force transmission. Thereby, Bowden cable 160 may be able to automatically couple the position of safety lever 42 to be in blocking position B or exit position E when seat console 30 is in operating O or non-operating position NO, respectively.

**[0038]** As described in connection with Fig. 5, by activation of, e.g. release button 92, hook system 90 may disengage seat console body 34 from mounting part 36, and, therefore, seat console 30 may be lifted, e.g. by influence of a gas spring (not explicitly shown). Thus, seat console 30 may switch from operating position O to non-operating position NO. At the same time, Bowden cable 160 may relax such that driving portion 172 and blocking portion 170 can pivot around lever joint 148, thereby automatically switching second blocking system 140 from blocking position B to exit position E, as shown in Fig. 7.

**[0039]** When an operator pushes seat console 30 down, e.g. against a force of a gas spring (not explicitly shown) i.e. moves seat console 30 from non-operating

position NO to operating position O, Bowden cable 160 may tighten and pull driving portion 172, thereby lifting blocking portion 170 and automatically switching second blocking system 140 from exit position E to blocking position B.

**[0040]** While the positioning mechanisms of Figs. 4 to 7 are based on pivoting safety lever 42, in some embodiments a translational movement of the safety lever may provide or block access to seat 22.

**[0041]** Fig. 8 shows a side view of seat console 30 in operating position O with a third blocking system 240 in blocking position B. Blocking system 240 may comprise safety lever 42 and a third positioning mechanism 250, e.g. a sliding mechanism. Positioning mechanism 250 may be disposed within seat console 30 and may be coupled to the movement of seat console 30. When seat console 30, shown in Fig. 9, may be switched from operating position O to non-operating position NO, safety lever 42 may automatically retract from blocking position B to exit position E, e.g. safety lever 42 may be located within seat console 30.

**[0042]** Figs. 10 and 11 show a further exemplary embodiment of a fourth positioning mechanism 350 based on translating the safety lever 42 via an internal positioning mechanism 350. Specifically, seat console 30 shown in operating position O may comprise a fourth blocking system 340 with safety lever 42 and positioning mechanism 350. Positioning mechanism 350 may be attached to safety lever 42 and to mounting part 36. Internal positioning mechanism 350 may comprise a mechanical truss comprising several supporting bars 352 and lever joints 348. Positioning mechanism 350 may be disposed within seat console 30. Moreover, the mechanical truss may be configured to enable transversal movements of safety lever 42 that are coupled to the position of seat console 30.

**[0043]** By activation of, e.g. release button 92, hook system 90 may disengage seat console body 34 from mounting part 36, and, therefore, seat console 30 may be lifted from operating position O to non-operating position NO. At the same time, positioning mechanism 350 may pull safety lever 42 into seat console 30, thereby automatically switching blocking system 340 from blocking position B to exit position E.

**[0044]** When an operator pushes seat console 30 down, e.g. against a force of a gas spring (not explicitly shown), internal positioning mechanism 350 may push safety lever 42 out of seat console 30 into exit passage 16, thereby automatically switching blocking system 340 from exit position E to blocking position B.

#### Industrial Applicability

**[0045]** In the following, an exemplary operation of wheeled excavator 1 is described. As an example, the following description refers to components provided in the exemplary wheeled excavator 1 of Fig. 1 and positioning mechanism 50 shown in Fig. 3. As will be known

by the person skilled in the art, also different types of wheeled excavators and construction machines may be used to implement the disclosed concept.

**[0046]** An operator of wheeled excavator 1 may sit on seat 22 within cabin 10 and may control wheeled excavator 1 via several control devices, such as pedals 12A, a steering wheel 12B, and a joystick 12C. Accordingly, seat console 30 may be in operating position O. When the operator intends to leave cabin 10, the operator may be prevented thereof, as seat console 30 and blocking system 40, especially safety lever 42, may block exit passage 16. Therefore, the operator lifts seat console 30, e.g. by activating hook system 90 (pulling release button 92 and disengaging seat console body 34 from mounting part 36). Subsequently, seat console 30 may be lifted, e.g. by influence of a gas spring (not explicitly shown). At the same time, lifting seat console 30 may deactivate control devices and inadvertent actuation of wheeled excavator 1 may be prevented. By lifting seat console 30, blocking system 40 comprising safety lever 42 and positioning mechanism 50 may be switched from blocking position B to exit position E, e.g. safety lever 42 may pivotally fold down forced by positioning mechanism 50. Then, exit passage 16 may be free and the operator may leave cabin 10.

**[0047]** When re-entering cabin 10, seat console 30 may still be in non-operating position NO and blocking system 40 may still be in exit position E. After sitting down on seat 22, the operator may lower seat console 30 from non-operating position NO into operating position O. At the same time, blocking system 40 may be automatically switched from exit position E to blocking position B, e.g. safety lever 42 may automatically pivotally fold upwards into exit passage 16 for blocking the same.

**[0048]** Lowering seat console 30 may also engage hook system 90, thereby activating the control devices for operating the wheeled excavator 1. At this time, the operator may be prevented from leaving seat 22, as seat console 30 and blocking mechanism 40 may block exit passage 16. To exit, the operator may be forced to fold seat console 30, as described above.

**[0049]** Although the preferred embodiments of this invention have been described herein, improvements and modifications may be incorporated without departing from the scope of the following claims.

#### **Claims**

1. A seat console (30) for a construction machine (1) comprising:

a seat console body (34);  
a mounting part (36) configured to movably mount the seat console body (34) and position the seat console body (34) in an operating position (O) and a non-operating position (NO);  
a safety lever (42) movably mounted to the seat

- console body (34); and  
 a positioning mechanism (50; 150; 250; 350) configured to position the safety lever (42) in a blocking position (B) blocking an exit passage (16) of the construction machine (1) and in an exit position (E) unblocking the exit passage (16),  
 wherein the positioning mechanism (50; 150; 250; 350) is configured to mechanically position the safety lever (42) in the blocking position (B), when the seat console body (34) is in the operating position (O), and to mechanically position the safety lever (42) in the exit position (E), when the seat console body (34) is in the non-operating position (NO).
2. The seat console (30) according to claim 1, wherein the positioning mechanism (50; 150; 250; 350) is further configured to transfer a force to the safety lever (42) in dependence of the position of the seat console body (34).
  3. The seat console (30) according to claims 1 or 2, wherein the safety lever is pivotally attached to the seat console body (34) and the positioning mechanism (50) comprises a supporting bar (52) pivotally attached to the safety lever (42) and slidably attached to the mounting part 36.
  4. The seat console (30) according to claims 1 or 2, wherein the positioning mechanism (150) comprises a Bowden cable (160) being attached to the safety lever (42) and to the mounting part (36).
  5. The seat console (30) according to claims 1, 2, or 4, wherein the positioning mechanism (250; 350) comprises a linear translation mechanism being configured to move the safety lever (42) into the seat console (30), when the seat console (30) is switched from the operating position (O) to the non-operating position (NO), and move the safety lever (42) out of the seat console (30), when the seat console (30) is switched from the non-operating position (NO) to the operating position (O).
  6. The seat console (30) according to claims 1, 2 or 5, wherein the positioning mechanism (250) is a sliding mechanism for linearly translating the safety lever (42).
  7. The seat console (30) according to claims 1, 2 or 5, wherein the positioning mechanism (350) comprises an internal positioning mechanism comprising at least one supporting bar (352) disposed within the seat console (30) for linearly translating the safety lever (42).
  8. The seat console (30) according to any one of the preceding claims, further comprising at least one control device (12C) for controlling the construction machine (1).
  9. The seat console (30) according to any one of the preceding claims, further comprising a hook system (90) configured to maintain the seat console body (34) in the operating position (O), when activated, and to release the seat console body (34) into the non-operating position (NO) when deactivated.
  10. The seat console (30) according to claim 9, further comprising a release button (92) for activating the hook system (90).
  11. The seat console (30) according to any one of the preceding claims, wherein, in the operating position (O) of the seat console body (34), seat console body (34) is positioned in a lowered position and, in the non-operating position (NO) of the seat console body (34), seat console body (34) is in a lifted position.
  12. A cabin (10) for an operator of a construction machine (1), the cabin (10) comprising:
    - a cabin frame (14); and
    - a seat unit (20) comprising a seat (22) and a seat console (30) according to any one of the claims 1 to 11, the seat console (30) comprising a safety lever (42), wherein the cabin (10) provides an exit passage (16) disposed between the cabin frame (14) and the seat console (30) and, in a blocking position (B) of the safety lever (42), the safety lever (42) blocks the exit passage (16), and, in an exit position (E) of the safety lever (42), the safety lever (42) unblocks the exit passage (16).
  13. A construction machine (1) comprising:
    - a power source (2);
    - a traction device (4) driven by the power source (2);
    - at least one implement (6);
    - a boom (8); and
    - a cabin (10) according to claim 12.
  14. A method for positioning a foldable seat console (30) of a construction machine (1), the method comprising:
    - mechanically coupling a blocking position (B) of a safety lever (42) of a blocking system (40; 140; 240; 340) to an operating position (O) of the seat console (30) and an exit position (E) of the safety lever (42) to a non-operating position (NO) of the seat console (30).

15. The method according to claim 14, further comprising deactivating the construction machine (1) when the seat console (30) is switched from the operating position (O) to the non-operation position (NO).

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**Amended claims in accordance with Rule 137(2) EPC.**

1. A seat console (30) for a construction machine (1) comprising:

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a seat console body (34);  
 a mounting part (36) configured to movably mount the seat console body (34) and position the seat console body (34) in an operating position (O) and a non-operating position (NO);  
 a safety lever (42) movably mounted to the seat console body (34); and  
 a positioning mechanism (50; 150; 250; 350) configured to position the safety lever (42) in a blocking position (B) blocking an exit passage (16) of the construction machine (1) and in an exit position (E) unblocking the exit passage (16),  
 wherein the positioning mechanism (50; 150; 250; 350) is configured to mechanically couple the blocking position (B) of the safety lever (42) with the operating position (O) of the seat console body (34), when the seat console body (34) is in the operating position (O), and to mechanically couple the exit position (E) of the safety lever (42) with the non-operating position (NO) of the seat console body (34), when the seat console body (34) is in the non-operating position (NO).

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2. The seat console (30) according to claim 1, wherein the positioning mechanism (50; 150; 250; 350) is further configured to transfer a force to the safety lever (42) in dependence of the position of the seat console body (34).

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3. The seat console (30) according to claims 1 or 2, wherein the safety lever (42) is pivotally attached to the seat console body (34) and the positioning mechanism (50) comprises a supporting bar (52) pivotally attached to the safety lever (42) and slidably attached to the mounting part 36.

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4. The seat console (30) according to claims 1 or 2, wherein the positioning mechanism (150) comprises a Bowden cable (160) being attached to the safety lever (42) and to the mounting part (36).

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5. The seat console (30) according to claims 1, 2, or 4, wherein the positioning mechanism (250; 350) com-

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prises a linear translation mechanism being configured to move the safety lever (42) into the seat console (30), when the seat console (30) is switched from the operating position (O) to the non-operating position (NO), and move the safety lever (42) out of the seat console (30), when the seat console (30) is switched from the non-operating position (NO) to the operating position (O).

6. The seat console (30) according to claims 1, 2 or 5, wherein the positioning mechanism (250) is a sliding mechanism for linearly translating the safety lever (42).

7. The seat console (30) according to claims 1, 2 or 5, wherein the positioning mechanism (350) comprises an internal positioning mechanism comprising at least one supporting bar (352) disposed within the seat console (30) for linearly translating the safety lever (42).

8. The seat console (30) according to any one of the preceding claims, further comprising at least one control device (12C) for controlling the construction machine (1).

9. The seat console (30) according to any one of the preceding claims, further comprising a hook system (90) configured to maintain the seat console body (34) in the operating position (O), when activated, and to release the seat console body (34) into the non-operating position (NO) when deactivated.

10. The seat console (30) according to claim 9, further comprising a release button (92) for activating the hook system (90).

11. The seat console (30) according to any one of the preceding claims, wherein, in the operating position (O) of the seat console body (34), the seat console body (34) is positioned in a lowered position and, in the non-operating position (NO) of the seat console body (34), the seat console body (34) is in a lifted position.

12. A cabin (10) for an operator of a construction machine (1), the cabin (10) comprising:

a cabin frame (14); and  
 a seat unit (20) comprising a seat (22) and a seat console (30) according to any one of the claims 1 to 11,  
 wherein the cabin (10) provides an exit passage (16) disposed between the cabin frame (14) and the seat console (30) and, in a blocking position (B) of the safety lever (42) of the seat console (30), the safety lever (42) blocks the exit passage (16), and, in an exit position (E) of the safe-

ty lever (42), the safety lever (42) unblocks the exit passage (16).

**13.** A construction machine (1) comprising:

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a power source (2);  
 a traction device (4) driven by the power source (2);  
 at least one implement (6);  
 a boom (8); and  
 a cabin (10) according to claim 12.

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**14.** A method for positioning a foldable seat console (30) of a construction machine (1), the method comprising:

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mechanically coupling a blocking position (B) of a safety lever (42) of a blocking system (40; 140; 240; 340) to an operating position (O) of the seat console (30) and an exit position (E) of the safety lever (42) to a non-operating position (NO) of the seat console (30).

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**15.** The method according to claim 14, further comprising deactivating the construction machine (1) when the seat console (30) is switched from the operating position (O) to the non-operation position (NO).

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FIG 1

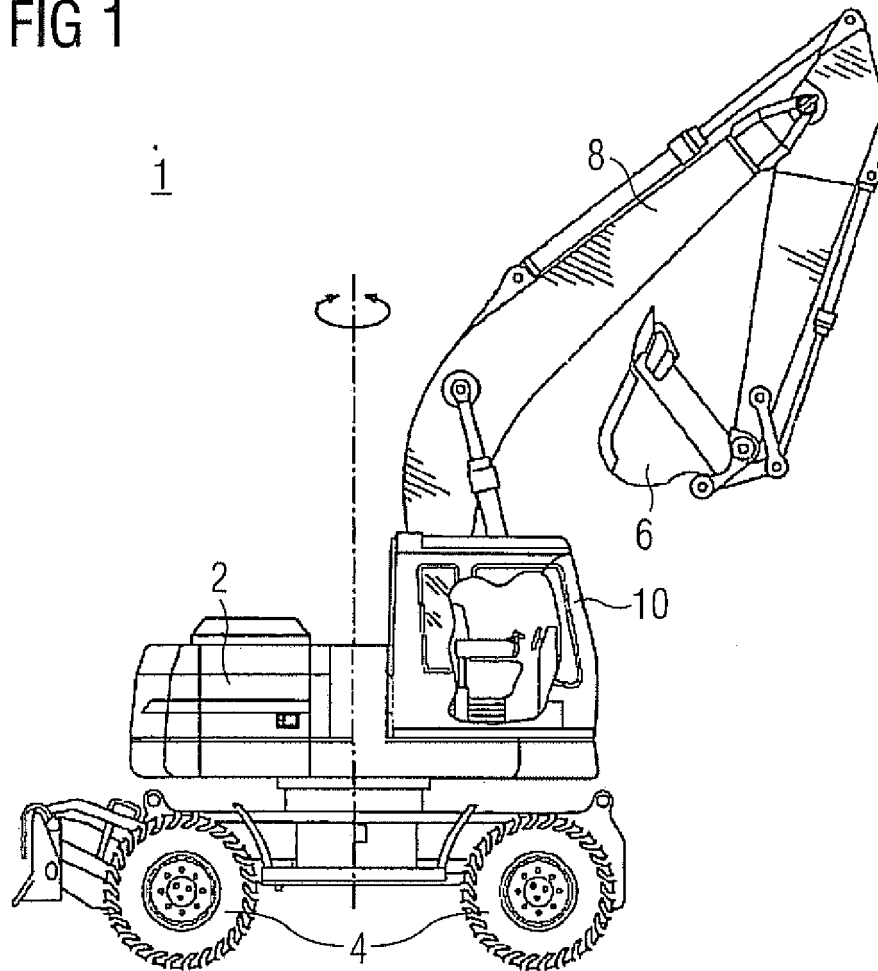


FIG 2

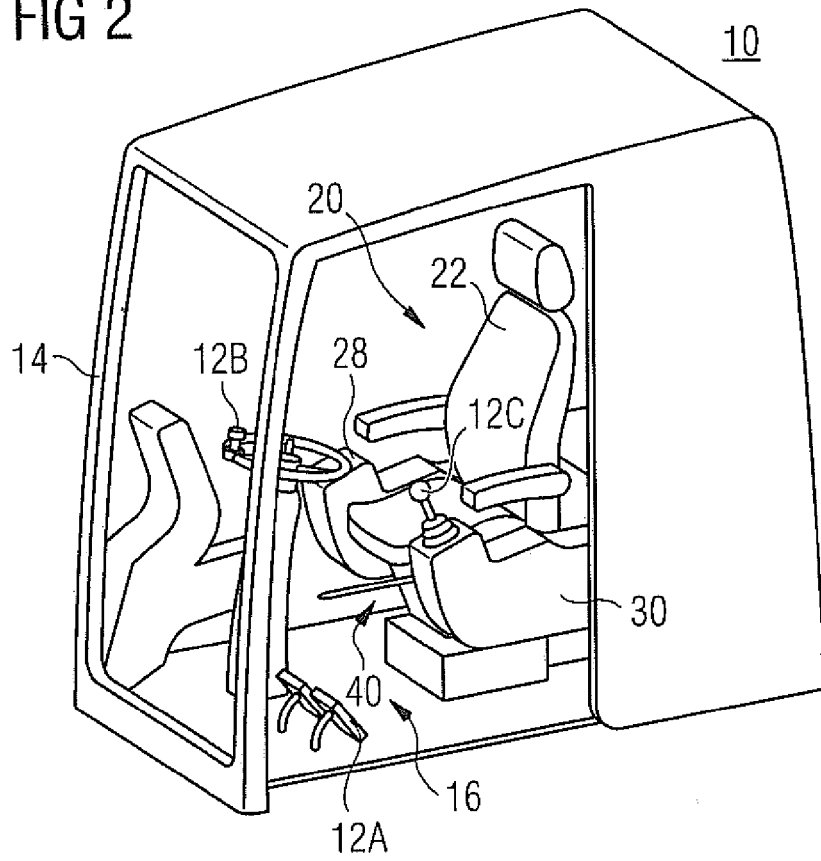
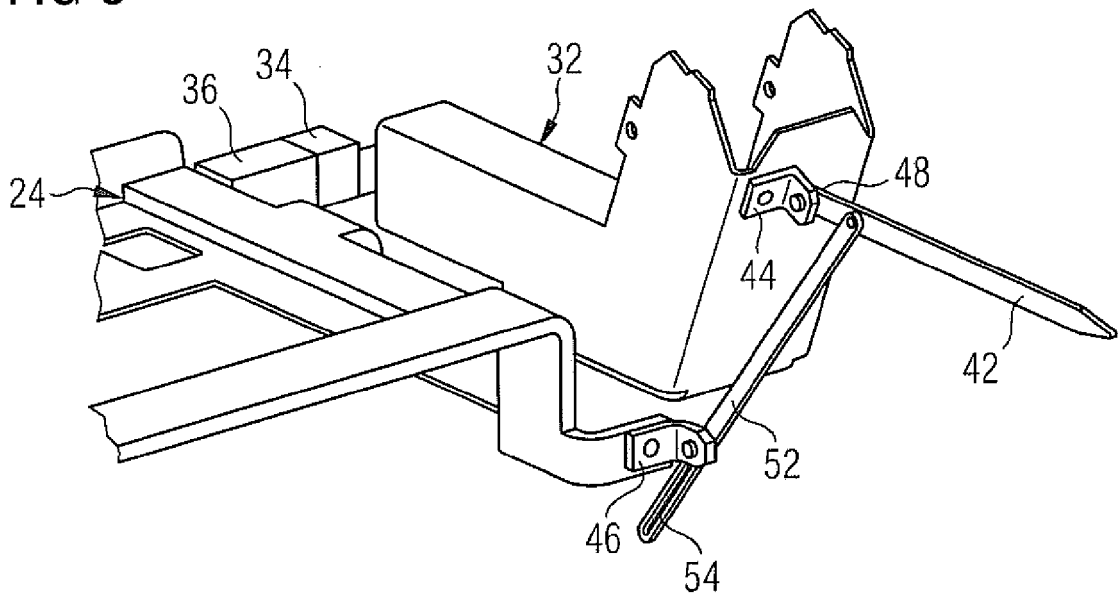
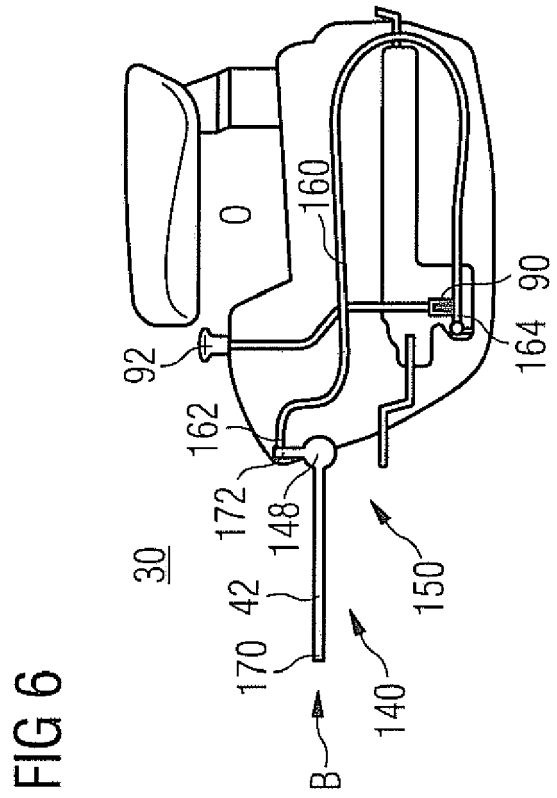
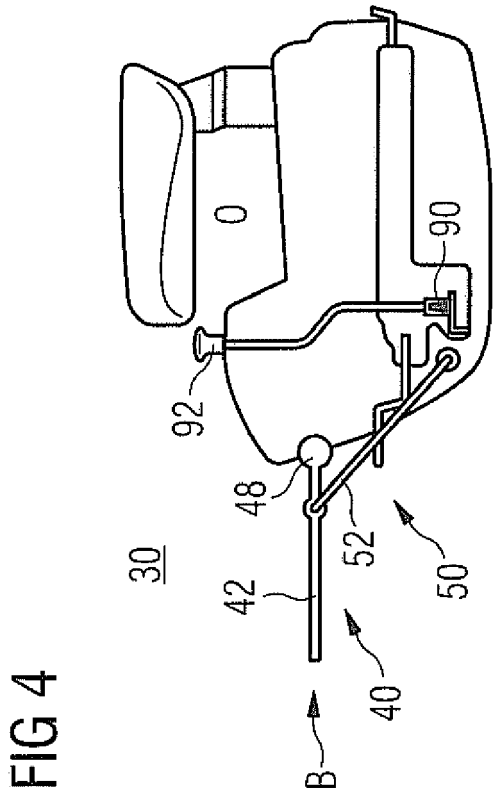
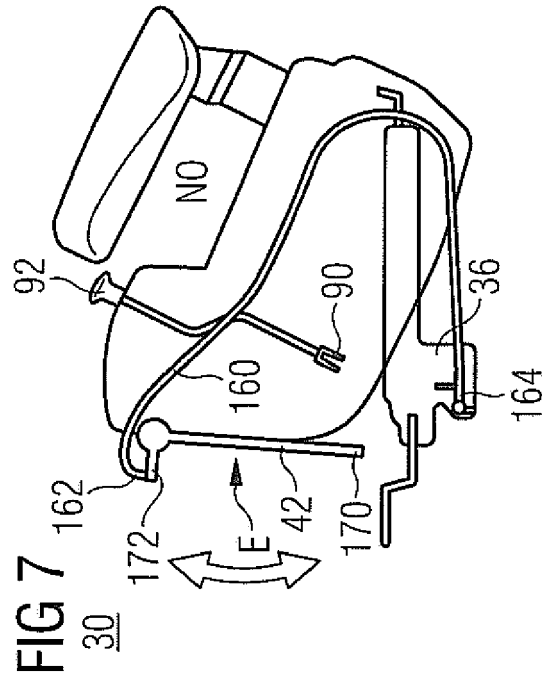
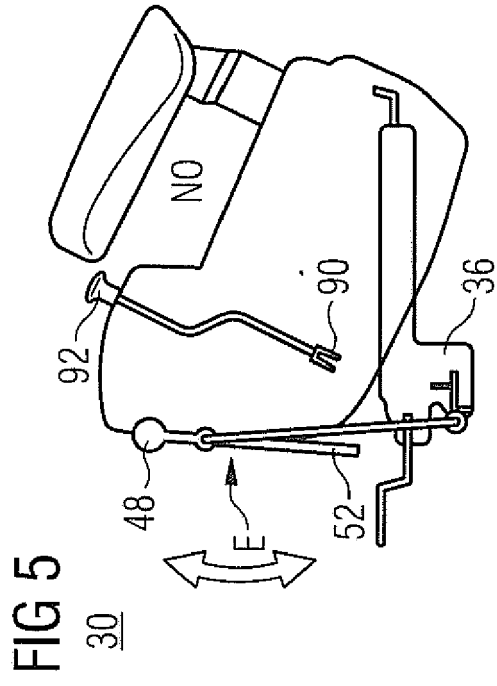
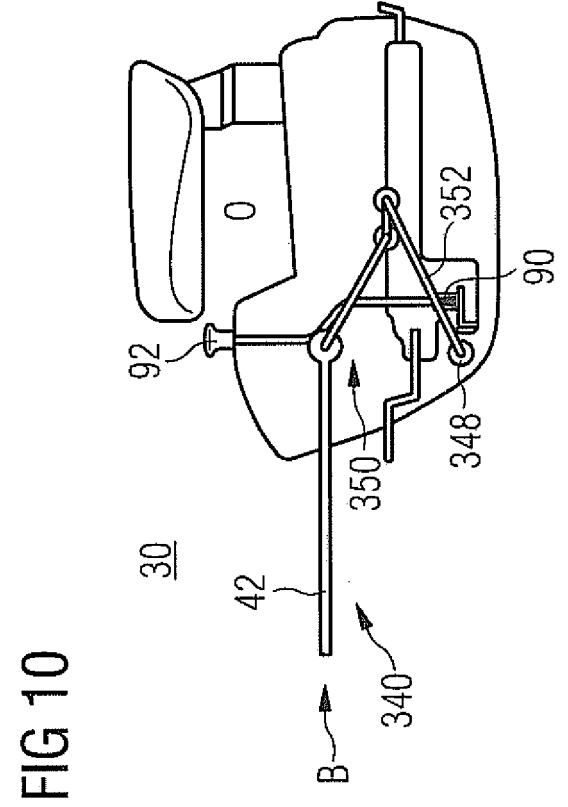
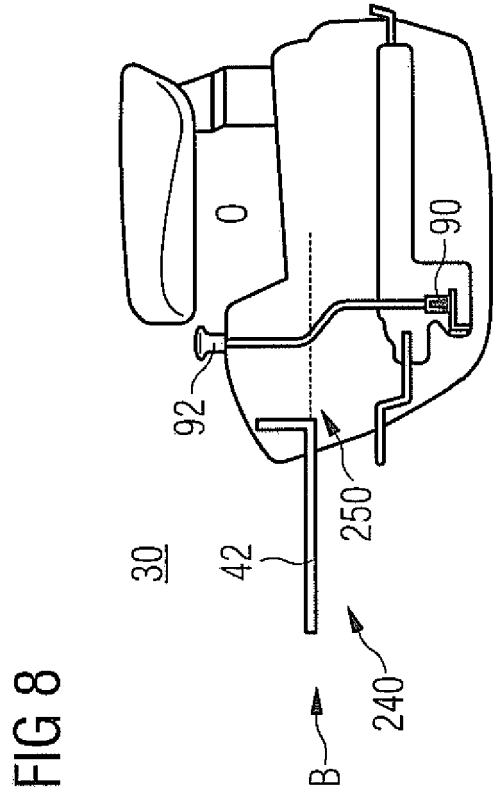
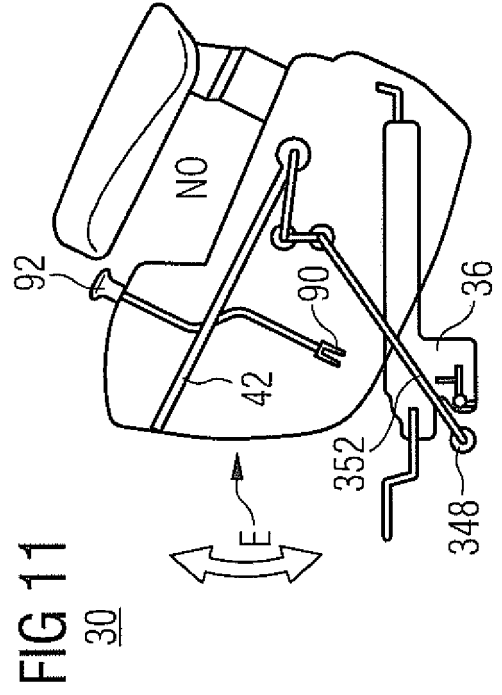
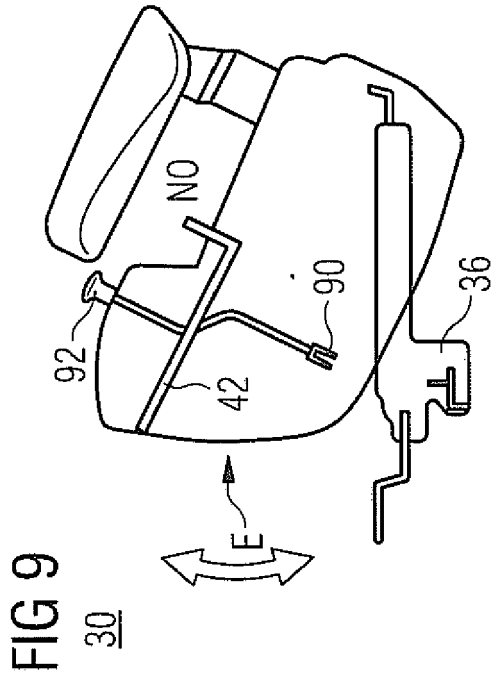


FIG 3









EUROPEAN SEARCH REPORT

Application Number  
EP 11 18 3603

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CATEGORY OF CITED DOCUMENTS		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ..... & : member of the same patent family, corresponding document	
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