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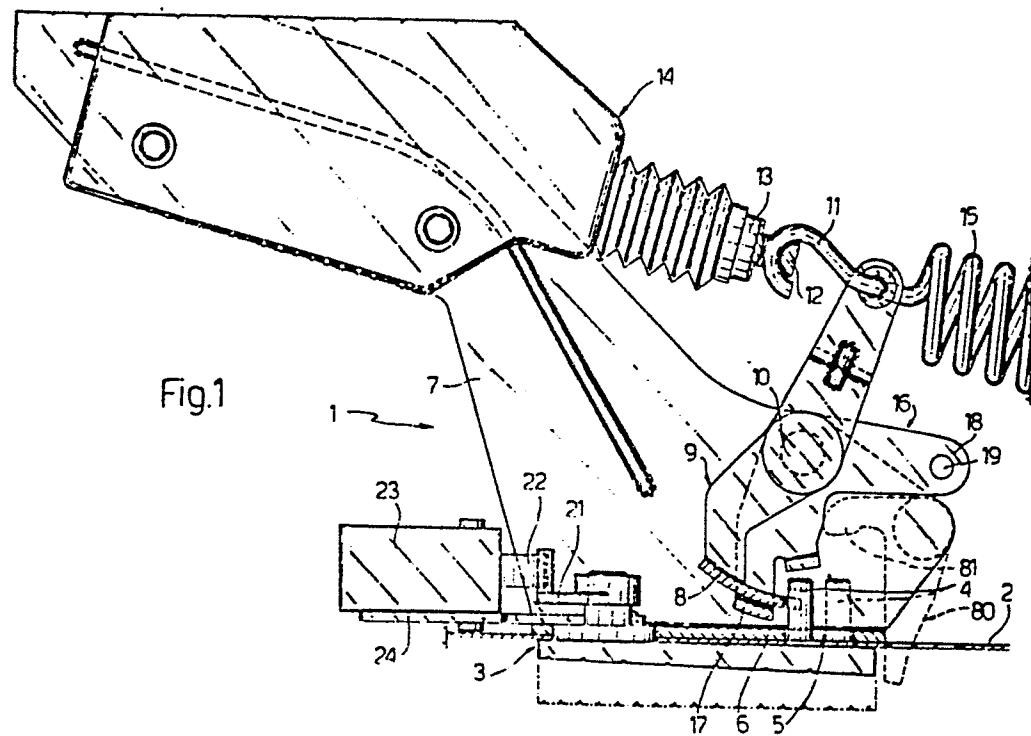
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(54) **An electrically actuated lock and control system for application to vehicles.**

(57) **A lock (1) comprising first, locking means (3) and second, release means (9) operating on this first, locking means (3) to effect opening of the lock (1).**

The main characteristic of this lock (1) lies in the fact that this second, release means (9) are activated by means of third, electrically controlled means (14).



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AN ELECTRICALLY ACTUATED LOCK AND CONTROL SYSTEM
FOR APPLICATION TO VEHICLES

The present invention relates to an electrically
5 actuated lock and to a control system for application
to vehicles, in particular motor vehicles.

As is known, locks, particularly those fitted to the
personal access doors, the baggage boot lid, and the
10 engine compartment of a vehicle, comprise locking
means and release means, the latter acting on the
locking means to effect opening of the lock. Such
release means are manually operable from outside the
vehicle and, for locking the door, also from the
15 interior.

It is known to fit electrical mechanisms to such
locks, which mechanisms perform the functions of
enabling or inhibiting the actuation of the release
20 means for effecting opening of the lock; the
action of opening the vehicle from the outside,
by acting on such means for releasing the locking
means, must however always be effected
manually, with various associated disadvantages
25 such as a force required from the user which is
variable in dependence on the constructional ar-
rangement of the lock and the handle mechanisms,
the reaction load applied by the perimetral door
seals or bonnet seals, the type of force exerted
30 on the handle (Press, pull, rotation etc.) such that
actuation of the lock involves a more or less un-
pleasant sensation of force and reaction on the
hand of the user, also influenced by the environ-

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mental conditions.

5 The object of the present invention is that of providing an electrically actuated lock and a control system for fitting to vehicles which overcomes the above indicated disadvantages in that it requires a very low and substantially constant actuating force from the user, together with other advantages which will become apparent from the following description.

10

According to the present invention there is provided a lock comprising first, locking means and second, release means operating on the said first, locking means to effect opening of the said lock, characterised by the fact that the said second, release means are activated by third, electric control means.

15

For a better understanding of the present invention a particular embodiment is now described, purely by way of non limitative example, with reference to the attached drawings, in which:

20

Figure 1 is a partial and partially sectioned side view of a lock formed according to the present invention;

25

Figure 2 is a schematic side view of a motor vehicle on which are fitted a plurality of locks of the type illustrated in Figure 1; and

30

Figure 3 is a block schematic diagram of a control system for a plurality of locks formed according to the present invention and fitted to the vehicle of Figure 2.

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With reference to Figure 1, there is shown a lock formed according to the present invention, indicated with the reference numeral 1, and mounted for example on a section of metal sheet 2 of a motor vehicle door.

5 This lock 1 includes locking means 3 of known type, disposed on the outside of the metal sheet 2, and shown partially; the release actuation of such locking means 3 is obtained, in a known way, by means of a peg 4 which passes through an aperture 5 formed in the

10 metal sheet 2 and a folded portion 6 fixed onto the inner part of the metal sheet 2 and belonging to a support frame 7 of the lock 1. To displace the peg 4 in the aperture 5, one end 8 of a release lever 9 can act on the end of the peg, which release lever

15 is pivoted on the frame 7 by means of a pin 10, and which at the other end carries a hook 11 connected to one end 12 of a rod 13 which projects linearly from a geared motor unit 14 which is fixed on the support frame 7. To the end of the release

20 lever 9 to which the hook 11 is connected there is also connected, on the opposite side, the first end of a tension spring 15 the other end of which is fixed on a support (not illustrated). On the pin 10 there is pivoted another release lever 16 which

25 has a first end 17 which is able to act on the peg 4 to displace it in the aperture 5, and a second end 18 with a hole 19 to which is connected in a known way, a mechanical actuating element (not illustrated).

30

The locking means 3, in their opening movement, cause an angular displacement of a small lever 21 which projects inwardly of the metal sheet 3 and the

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folded portion 6 of the support frame 7, and is able to actuate a terminal 22 of a micro-switch 23 which is fixed by means of a body 24 on the frame 7.

5 In Figure 2 there is shown a motor vehicle 26 having two front doors 27 and two rear doors 28 as well as a boot lid 29 on which are mounted locks 1 according to the present invention, which are monitored and controlled by means of a central control unit 83
10 according to the diagram illustrated in Figure 3. With reference to Figure 3, the reference numerals 31 and 31', 32 and 32', 33 and 33', 34 and 34' identify four two-position switches which are disposed respectively in correspondence with the two
15 front doors 27, the boot lid 29 and within the passenger compartment of the motor vehicle 26, conveniently on the dashboard. The actuation of such switches 31 and 31', 32 and 32', 33 and 33', can take place by rotation of a block in two senses by means
20 of keys, whilst the actuation of the switches 34 and 34' on the dashboard can take place by means of a two-position push-button. The switches 31, 32, 33 and 34 are connected at one side to earth, and at the other side to a first input 36 of a block 37 which
25 at another input 38 receives terminal connections of the switches 31', 32', 33' and 34' which at the other side are connected to earth. The activation of any one of the switches 31, 32, 33 and 34 causes a consensus signal to open the locks 1 as will
30 be described better below, and causes an output signal 39 from the block 37 which, by means of a block 40, controls an operational consensus condition for four blocks 41, 42, 43 and 44 which each control the electrical supply to a respective geared

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motor unit 14 of each block 1 fitted respectively to the two front doors 27 and to the two rear doors 28. These blocks 41, 42, 43 and 44 which receive a supply voltage for the geared motor units 14, conveniently at 12 volts, conveniently include a timer relay with an activation logic circuit which receives a signal from a respective push-button switch 45, 46, 47 and 48 the other side of which is connected to earth; these push-buttons are conveniently disposed on the four doors 27 and 28 next to the door handles 49 (Figure 2); the push-button switch 45 for the front door 27 and the push button switch 46 for the other front door 27 are made with blocks which have slots for the introduction of an actuating key for the respective two-position switches 31 and 31' and 32 and 32'. In the blocks 41, 42, 43 and 44, upstream of the activation logic circuits for the timer relays there are positioned detector circuit blocks for detecting the correctness of the pulse signal generated by the push-button switches 45, 46, 47 and 48, and conveniently comprising circuits which detect a signal duration greater than a minimum predetermined time period, for example several tens of milli-seconds, to ignore disturbing signals.

In the case, on the other hand, in which the signal to the unit 37 comes from the input 38 corresponding to the activation of one of the switches 31', 32', 33' or 34' and causing an inhibition of the activation for the geared motor units 14 as will be described in more detail below, there is produced from the block 37 an output signal 31 which is passed to a block 52 which evaluates whether or not an earth signal has been received via the series of four micro-

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switches 23, 23', 23" and 23''' actuated by the locking means 3 of the locks 1 fitted to the four doors 27 and 28 of the motor vehicle 26. In the positive case (switches 23, 23', 23" and 23''' all closed)
5 it is passed to a block 54 which causes an operating inhibition condition for the blocks, 41, 42, 43 and 44, whilst in the negative case (at least one of the switches 23, 23', 23" and 23''' open) it passes to the block 40 which causes the operating enablement
10 condition for the blocks, 41, 42, 43 and 44.

To the negative output of this block 52 there is connected an indicator lamp 55 connected to earth, whilst an indicator lamp 56 is connected to the
15 input of the control circuit 40 and then connected to earth.

In the position of locked closure, within the passenger compartment of the motor vehicle 26, for
20 example within a box in the dashboard, there is disposed a two-position switch 58 and 58' one side of which is connected to earth and the other of which is connected to the two inputs of a block 59 which, in dependence on the signal from one or
25 the other of the inputs, provides a respective output signal 60 or 61. The output signal 60 is passed to a block 62 similar to the block 37 and which, in the presence of the signal 51, provides an output signal 63 which is passed to a block 64 similar to
30 the block 52 and which likewise receives a connection to the switches 23, 23', 23" and 23'''. If these four switches are all closed, from the block 64 it passes to a block 65 (at which also arrives the

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output signal 61 directly from the block 59) which causes an inhibition condition for a control block 66 (similar to the blocks 41, 42, 43 and 44) for a lock 1 fitted to the boot lid 29; this block 66
5 further receives an actuation signal from a push-button switch 67 similar to the switches 45 and 46 and formed with a respective key block for the switches 33 and 33'. This block 65 further controls a block 68 which on the leading edge of the control
10 signal produced by the block 65, causes actuation of a geared motor 70 which actuates a latch 71 for locking the closure of a small cover 72 which closes access to the fuel filler inlet. On the other hand, if at least one of the switches 23, 23', 23" and 23"' is open, from the block 64 it passes to a block 75
15 which controls enabling of the actuation by the block 66, and further controls, on the leading edge of this enabling signal, the operation of the geared motor 70 which causes the withdrawal of the latch 71
20 which allows opening of the cover 72. From the block 62 it also passes to the control block 75 in the event of loss of the signal 51.

The various blocks 37, 52, 40, 54, 59, 62, 64, 65 and
25 75 described above can be functional blocks formed by means of a microprocessor, or else can be circuit blocks, and in this case the blocks 37, 59 and 62 can conveniently be formed by multivibrators, the blocks 64 and 52 can be formed by logic gates, and
30 blocks 40, 54, 65 and 75 can be made by circuit components for controlling the various signals described.

The operation of the described electrically actuated lock of the present invention and the control system

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for application to vehicles, is as follows. With reference to Figures 2 and 3, supposing that all the occupants of the vehicle 2⁶ are outside and all the front doors 27 and rear doors 28 are closed, the operation of all the various locks 1 fitted to the motor vehicle 2⁶ can be locked by actuation of one of the switches 31', 32' or 33' by rotation of a key inserted into a block in an associated push-button 45 or 4⁶ for the front doors 27, or 67 for the boot lid 29. In this way there is caused a signal at the input 38 of the block 37, which causes the signal 51 which is passed to the block 52, which latter, detecting the closure condition of all the switches 23, 23', 23" and 23"', determines, via the block 54, the operational inhibition condition of the blocks 41, 42, 43 and 44 such that an actuation of any of the push-buttons 45, 4⁶, 47 or 48 does not cause opening of the doors 27 or 28. The signal 51 from the block 37 acts, moreover, on the block 62 which thus generates the signal 63 which is passed to the block 64 which, also receiving the closure signal from all of the micro-switches 23, 23', 23" and 23"', controls the block 65 to determine the operational inhibition of the block 66 (such that operation of the push-buttons 67 becomes ineffective) and further triggers the block 68 for a predetermined time, for example 0.6 seconds, which causes actuation of the geared motor 70 such as to cause displacement of the latch 71 for locking the cover 72 and thus prevent access to the fuel tank filler inlet.

When the driver wishes to re-enter the passenger compartment of the motor vehicle 2⁶, he inserts the key into any of the push-buttons 45, 4⁶ or 67 so as

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to cause closure of any of the switches 31, 32 or 33. In this way a signal arrives at the input 3⁶ of the block 37, which thus provides the output signal 39 which is passed to the circuit 40 which determines in
5 actuation enablement condition of the various blocks 41, 42, 43 and 44. When the signal 51 from the block 37 ceases, the block 6² no longer provides the signal 6³ but controls, via the block 75, the operating enablement of the block 6⁶ and, moreover, controls via
10 the block 6⁸, again for a time of about 0.⁶ seconds, the actuation of the geared motor 70 in an opposite sense such as to withdraw the latch 71 and allow opening of the cover 72. The actuation of any of the push-button switches 45, 4⁶, 47, 48 and 6⁷ therefore
15 causes an operating control to the associated geared motor unit 14 for opening of the associated lock 1 and therefore of one of the front doors 27 or rear doors 28, or of the boot lid 29. The blocks 41, 42, 43, 44 or 6⁶ in fact cause a supply to the associated geared
20 motor units 14 for a predetermined time, for example 0.⁶ seconds, and, with reference to Figure 1, this displaces the rod 13 which, by means of the hook 11, causes an anti-clockwise rotation of the release lever 9 the end 8 of which displaces the peg 4 within the
25 aperture 5 moving it to the position indicated in broken outline such that the locking means 3 is released, thus obtaining opening of the lock; by the reaction force exerted by the perimetral closure seals there is therefore an automatic opening, by an initial
30 movement, of the front doors 27 or rear doors 28, or of the boot lid 29, depending on which of the push-button switches has been actuated. At the end

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of the phase of displacement of the rod 13 the tension spring 15 moves the release lever 9 back to the rest position in which it does not act on the peg 4, as illustrated in Figure 1, such that the corresponding
5 door 27 or 28, or the boot lid 29 can be reclosed.

Supposing now that the passengers are all in the passenger compartment of the motor vehicle 2⁶, the opening of the doors 27 or 28 can be prevented by
10 actuating the switch 34' disposed on the dashboard so that there is provided a signal to the input 38 of the block 37 which sends the signal 51 to the block 52 which, if the closure condition of all
15 the switches 23, 23', 23" and 23''' is detected (indicative of the closure of all the doors 27 and 28) controls the block 54 which determines the actuation inhibition condition of the blocks 41, 42, 43 and 44 and, moreover, as already described above, the
20 signal 51 also acts on the block 6² which, by means of the block 6⁴ determines the inhibition of the block 6⁶ and, via the block 6⁸, the actuation of the geared motor 70 for closure with the latch 71 of the cover 72. On the other hand, if one of the doors
25 27 or 28 is open, the corresponding micro-switch 23, 23', 23" or 23''' will be open so that from the block 52 there is provided a signal not for the block 54 but for the block 40, which determines the operating enablement condition of the blocks 41, 42, 43 and
30 44 and similarly the block 6⁴, via the block 75, determines the operating enablement of the block 6⁶ and does not activate the block 6⁸ for closure of the cover 72. This condition with at least one of the doors 27 or 28 open is moreover indicated by illumination of
35 the lamp 55 fed with the signal from the output of the

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block 52, and thus the lamp 5⁶ is also illuminated, which indicates the operating consensus condition of the blocks 41, 42, 43 and 44 for controls to open the doors 27 and 28; the lamp 5⁶ is, moreover, also
5 illuminated in the operating enablement condition of the blocks 41, 42, 43 and 44 determined directly by the block 37 by means of the signal 39 following actuation of one of the switches 31, 32, 33 or 34.

10 When the doors 27 and 28 are locked, and with the passengers within the passenger compartment of the motor vehicle 2⁶, these doors can be opened directly from the interior in a mechanical manner with the normal interior mechanical actuating levers, which
15 act on the end 18 of the lever 1⁶ (Figure 1) the other end 17 of which acts on the peg 4 in a manner similar to the lever 9 (opening of the rear doors 28 from the interior of the passenger compartment can be prevented by means of a safety lever 80, indicated in broken outline in Figure 1, of known type,
20 pivoted to the support frame 7 and having an end 81 which can act on a portion of the lever 1⁶ to lock it). Such opening of one of the doors 27 or 28, by mechanical actuation from the interior of the passenger compartment, thus causes the opening of the corresponding switch 23, 23', 23'', or 23''', so that even
25 if the central control unit 83 causes an operating inhibition condition of the blocks 41, 42, 43, 44 and 6⁶, the blocks 52 and 64 cause, via the control circuits 40 and 75, operating enablement of the control
30 blocks of the respective geared motor units 14. In this way, the preceding operating inhibition condition of the blocks 41, 42, 43, 44 and 6⁶ being cancelled

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following opening of any of the doors 27 or 28,
it is avoided that the driver cannot get back into
the interior of the motor vehicle 26 if he had left
without taking with him the key for actuation of the
5 switches 31 and 31', 32 and 32', 33 and 33'.

The switches 58 and 58', disposed in a space access
to which can be locked, serves to provide the so-
called "garage" function in which the operation of
10 the blocks 41, 42, 43 and 44 remain enabled for
opening the doors 27 or 28 by means of the control
push-buttons 45, 46, 47 or 48, whilst the block 66
remains disabled (so that actuation of the push-
button 67 does not cause opening of the boot lid 29)
15 as does the block 68 which maintains the geared
motor 70 in the closure condition of the cover 72.
In fact, the actuation of the switch 58' causes
a signal for the block 59 which provides the signal
61 which directly controls the block 65 which
20 disables the block 66 and, via the block 68, causes
closure of the latch 71. On the other hand, actua-
tion of the switch 58, causes, via the block 59,
the output signal 60 for the block 62, which can
therefore evaluate, in dependence on the
25 presence or otherwise of the signal 51, the general
inhibition conditions determined by any of the switches
31', 32', 33' or 34' as already described above.

In the case of failure of the electricity supply to
30 the system of the present invention described above
for the control of the various locks 1 fitted on
the motor vehicle 26, and to avoid the situation
that the user cannot gain access to the interior of

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the motor vehicle 26, one of the locks 1 is also made actuatable mechanically by means of a key; conveniently this can be the lock for the boot lid 29 which, as well as having the key block which controls the two-position switches 33 and 33', and having the push-button switch 67, can also have a further section of rotation of this block which acts in a mechanical manner to open the associated lock (conveniently by acting on the peg 4). In this way the user can open the boot lid 29 and gain access manually to an interior region in which there may be disposed two electrical connection terminals for an external battery, or else there may be disposed one end of a lever which acts in a mechanical manner on one of the locks 1 fitted to the doors 27 or 28 to open it from the inside.

The advantages obtained with an electrically operated lock described according to the present invention, and with the control system for application to vehicles are apparent from what has been described; in fact, the user requires only a constant and light manual force to open such locks in that he must exercise only pressure on the push-button switches 45, 46, 47, 48 or 67; the mechanical force necessary to open the lock 1, even though variable, is exercised by the geared motor 14; therefore a greater load on the perimetral closure seals of the doors 27 or 28, or the boot lid 29 can be employed, with advantages in water tightness, insulation from noise etc.

Moreover the push-buttons 45, 46, 47, 48 or 67 for controlling opening, no longer having to act directly

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and mechanically on lock opening mechanisms for the lock 1, can be disposed where most convenient without limitations of position, thereby allowing wide possibilities of design variants to the stylists.

5

The various operative functions of the control system for the various locks 1 fitted to the motor vehicle 26, such as simultaneous total or partial locking functions, indication of opening, etc., are obtained
10 in an extremely simple manner with the electrical and electronic control unit 83 such that a significant constructional simplification of the mechanical parts of the lock 1 can be obtained.

15 The circuits disposed in the blocks 41, 42, 43, 44 and 66 which filter possible perturbation signals and allow operation determined only by signals originating from actuation of the push-button switches 45,46,47,48 and 67 ensure that unwanted opening
20 of the locks 1 cannot occur.

Finally, it is clear that the described embodiments of the lock of the present invention and the control system for application to vehicles, may have modifications and variants introduced thereto which
25 do not depart from the scope of the invention itself.

For example the push-button switches, 45, 46, 47, 48 and 67 for controlling opening, and the two-position
30 switches 31 and 31', 32 and 32', 33 and 33', 34 and 34' and 58 and 58' can be made in a very different constructional manner and, moreover, can be replaced by circuits activated by control signals transmitted

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through the air; for example by ultrasonics.

- The motor vehicle 26 can, moreover, include a number of locks 1 different from those described, and may, for example include also a lock 1 for opening the engine compartment bonnet, and can for example include a single pair of front doors 27 without the rear doors 28.
- 10 The mechanism which makes the release lever 9 return to its rest position at the end of the actuation of the geared motor 14, rather than being made by means of the spring 15 can be replaced by a device of the crank and link type which is actuated by a rotatory movement of the geared motor unit 14 always in the same sense, for a predetermined time determined by the timer circuit of such blocks as 41, 42, 43, 44 and 66. Alternatively these blocks may include two relays and two timer circuits which determine, for predetermined times, for example 0.6 seconds, 0.4 seconds, and in opposite senses, the electrical supply to the associated geared motor units 14.

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CLAIMS

1. A lock (1) comprising first locking means (3) and second, release means (9) operating on the said first, locking means (3) for effecting opening of the said lock (1), characterised by the fact that the said second, release means (9) are actuated by third, electrical control means (14).
2. A lock according to Claim 1, characterised by the fact that the said third, electrical control means (14) include an electrically controlled mechanical actuator.
3. A lock according to Claim 2, characterised by the fact that the said third, electrical control means (14) include an electric motor.
4. A lock according to any of the preceding Claims, characterised by the fact that the said second, release means comprise a lever (9) actuated by the said third, electrical control means (14).
5. A lock according to any preceding Claim, characterised by the fact that on the said first, locking means (3) for effecting release thereof and therefore opening of the said lock (1), supplementary, manually operable release means (16) operate.
6. A lock according to any preceding Claim, characterised by the fact that it includes fourth means (23) controlled by the said first, locking

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means (3), and operable to provide an electrical signal indicative of the opening or closure condition of the said lock (1).

5 7. A lock according to any preceding Claim, characterised by the fact that it includes sixth means (15) for returning the said third, electrical control means (14) to the initial position after the operating phase on the said second, release means
10 (9).

 8. A lock according to Claim 7, characterised by the fact that the said sixth means include a biasing spring (15) acting in a sense opposite
15 the action of the said third, electrical control means (14).

 9. A lock according to Claim 7, characterised by the fact that the said sixth means include
20 mechanical devices of the crank and link type.

 10. A lock according to Claim 7, characterised by the fact that the said sixth means include relay means and timer means operable to control the
25 actuation of the said third, electrical control means in opposite senses and for predetermined times.

 11. A lock according to any preceding Claim, characterised by the fact that the said third, electrical control means 14 are controlled and monitored by fifth, monitoring and control means (83).
30

 12. A lock according to Claim 11, character-

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ised by the fact that the said fifth means (83) include seventh means (45) operable to provide an electrical signal for controlling the operation of the said third means (14)

5

13. A lock according to Claim 12, characterised by the fact that the said seventh means include a switch (45) actuated by a push-button.

10

14. A lock according to Claim 12 or Claim 13, characterised by the fact that it includes ninth, circuit means for monitoring the validity from the said seventh means (45) of electrical signals for controlling the operation of the said third means (14).

15

15. A lock according to any of Claims from 11 to 14, characterised by the fact that the said fifth means (83) include eighth means (31,31'; 37, 40, 54) operable to provide an electrical signal for enabling or inhibiting the operation of the said third means (14).

20

16. A lock according to Claim 15, characterised by the fact that the said eighth means include switch control means (31,31').

25

17. A lock according to Claim 16, characterised by the fact that the said switch means (31, 31') are key actuated.

30

18. A lock according to any of Claims from 15 to 17, characterised by the fact that the said eighth means (31,31',37,40,54) are controlled by means

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(52,23) for detecting the open or closure condition of the said lock (1).

19. A lock according to any preceding
5 Claim, characterised by the fact that it is fitted to at least one of the passenger doors (27,28), boot lid (29), engine compartment bonnet (72) and fuel tank filler inlet cover (26).

10 20. A control system for a plurality of locks (1) according to any of Claims from 1 to 18, and fitted at least to some of passenger doors (27, 28), boot lid (29), engine compartment bonnet and fuel filler inlet cover (72) of a vehicle (26).

15 21. A control system according to Claim 20 when dependent on any of Claims from 11 to 18, characterised by the fact that the said fifth and/or seventh and/or eighth and/or ninth means for the said
20 plurality of locks belong to a central electronic monitoring and control unit (83).

22. A control system according to Claim 21, characterised by the fact that it includes a plurality
25 of the said seventh means (45,46,47,48,76) for controlling the operation of each of the said locks (1).

23. A control system according to Claim 22, characterised by the fact that it includes a plurality
30 of the said eighth means (31,31',32,32',33,33',34,34') each of which is able to act on enablement or otherwise of the operating state of the said third means (14) for all of the said locks (1).

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24. A control system according to Claim 23, characterised by the fact that the said eighth means (31,31',32,32',33,33',34,34') are disposed in correspondence with front passenger doors (27) and/or
5 boot lid (29) and on the interior of the passenger compartment of the said vehicle (26).

25. A control system according to any of Claims from 21 to 24, characterised by the fact that
10 it includes means (58,58') disposed within the passenger compartment and accessible by means of a key, and operable to provide an electrical signal for the enablement or inhibition of enablement of the said third means (14) relating to the single lock (1) for
15 the said boot lid (29) and the said fuel filler inlet cover (72).

26. A control system according to any of Claims from 21 to 25, characterised by the fact that
20 the said lock for the said fuel filler inlet cover (72) is activated to the open or closure position respectively by enablement or inhibition signals at least for the said lock (1) of the said boot lid (29).

25
27. A control system according to any of Claims from 21 to 25, characterised by the fact that it includes optical indicator means (55,46) disposed within the passenger compartment and indicative
30 respectively of the condition of enablement or otherwise to opening of the said locks (1) and the open or otherwise condition of at least some of the said locks (1).

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28. A control system according to any of Claims from 21 to 27, characterised by the fact that it includes mechanical means actuatable from outside and operating on the said locking means (3) for
5 releasing at least one of the said locks (1).

29. A control system according to Claim 28, characterised by the fact that the said mechanical means are actuatable by means of a key and are disposed
10 in correspondence with the lock for the said rear boot lid (29).

30. A control system according to Claim 29, characterised by the fact that within the rear space
15 of the said vehicle (26) there are positioned attachment means for external electrical supply to the said central control unit (83) and to the said third means (14), or mechanical actuation means operating on the said locking means (3) for releasing at least
20 one lock (1) of the said passenger compartment doors (27,28).

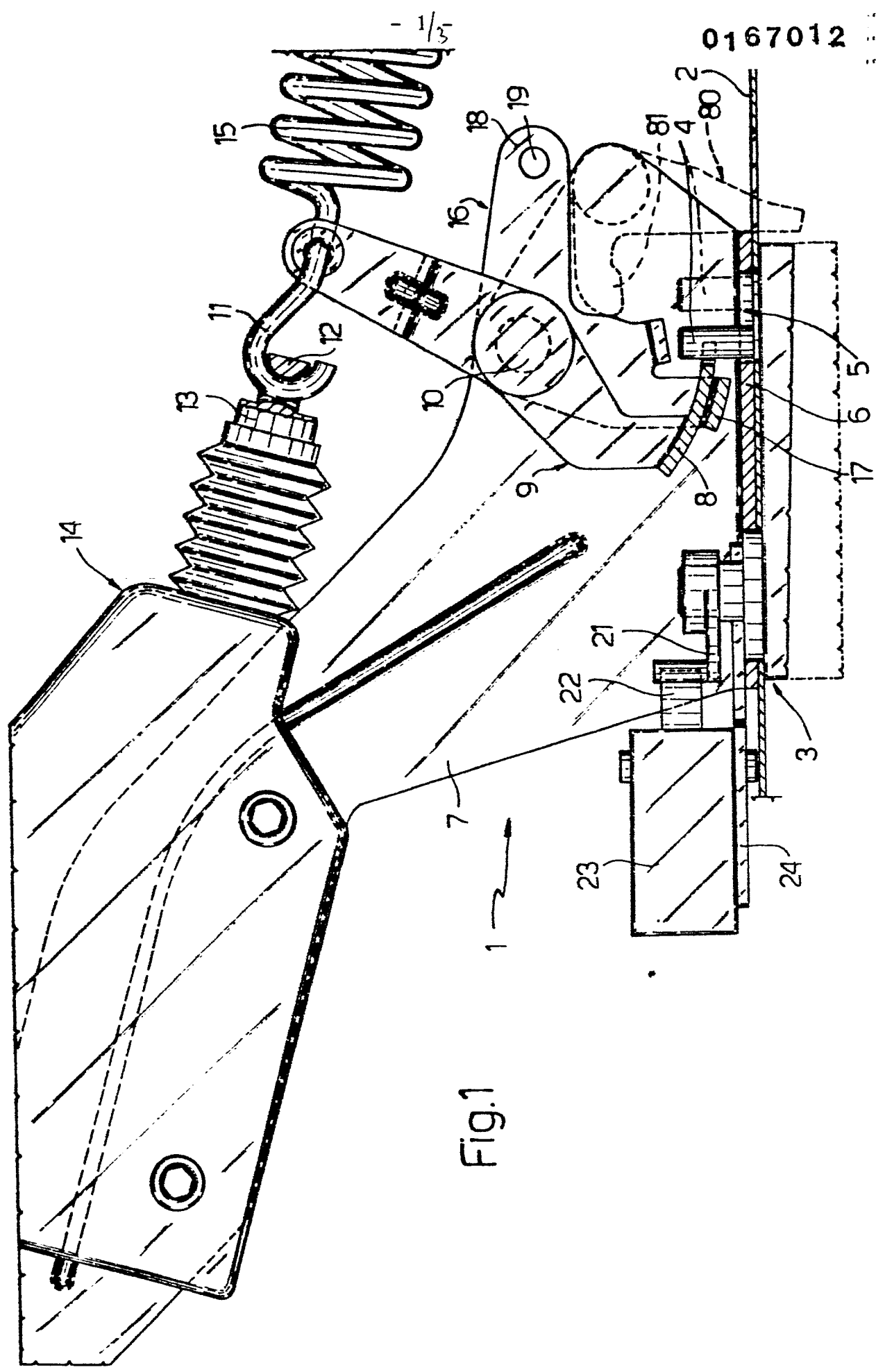


Fig.1

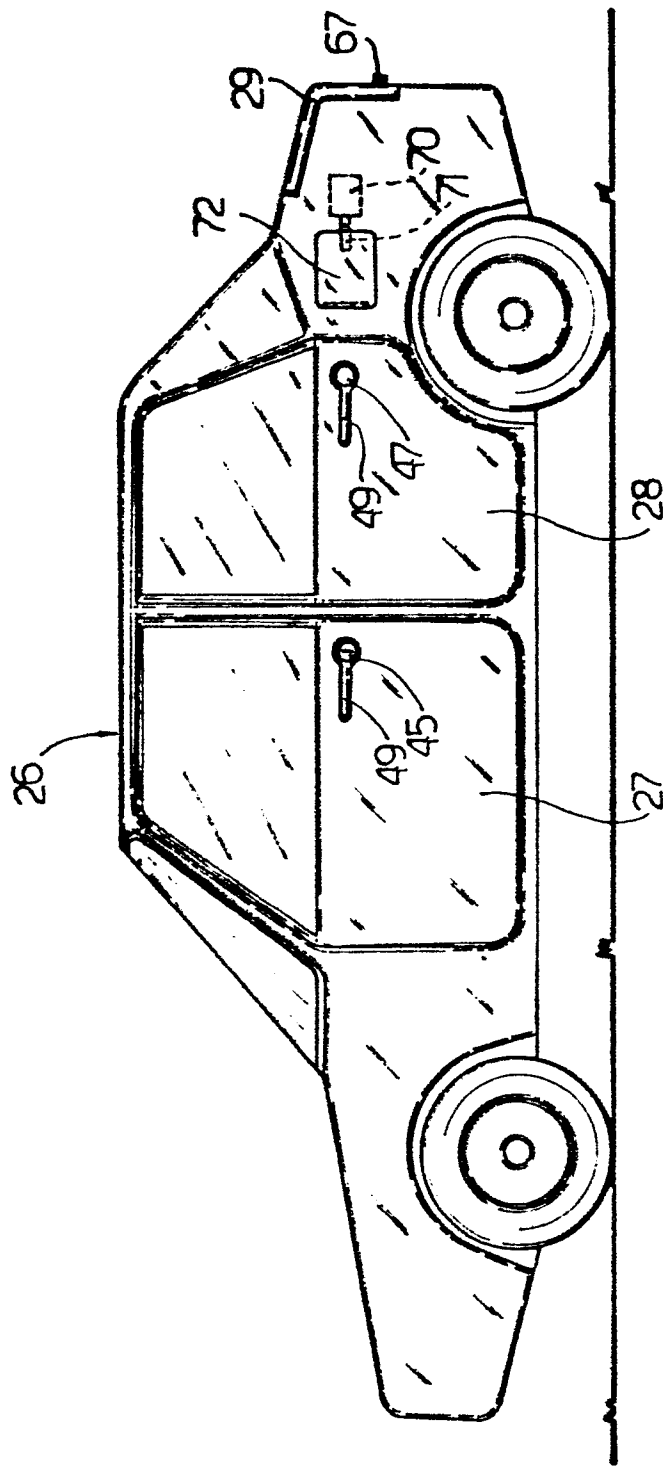


Fig. 2

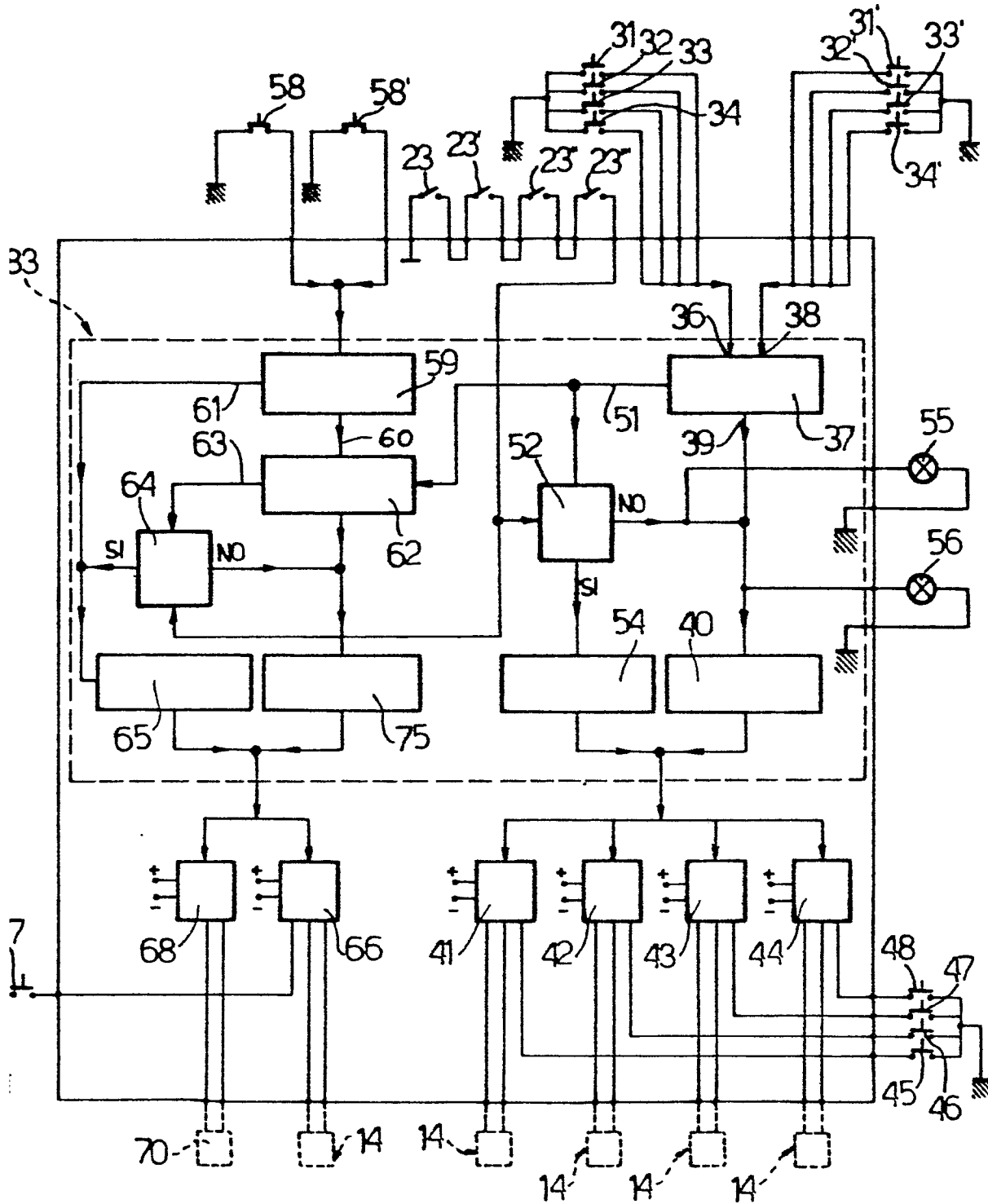


Fig.3



European Patent
Office

EUROPEAN SEARCH REPORT

0167012

Application number

DOCUMENTS CONSIDERED TO BE RELEVANT			EP 85107014.4
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
X	FR - A - 1 581 402 (SIEMENS AKTIENGESELLSCHAFT) * Fig. 1-4 * -----	1,2,4, 5,7,8	E 05 B 65/12
			TECHNICAL FIELDS SEARCHED (Int. Cl.4)
			E 05 B
The present search report has been drawn up for all claims			
Place of search VIENNA		Date of completion of the search 30-07-1985	Examiner CZASTKA
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		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	