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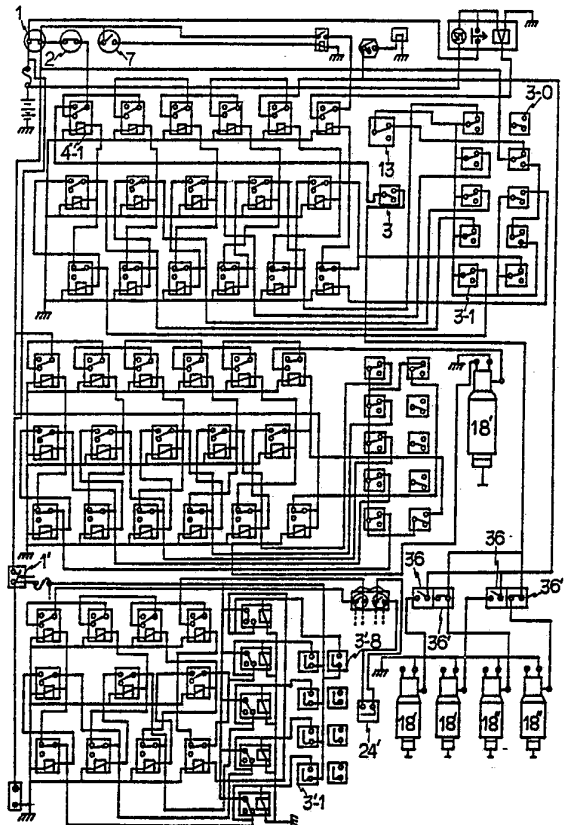
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(54) Title: AUTOMOBILE IN WHICH THERE IS NO KEY

## (57) Abstract

The main purpose of this invention is only when the secret numbers are pressed, the engine is started and the locking equipment of steering axis and brake is released. In addition, in case that the driver must leave the car in the state of engine preheating of winter or in the state that the engine starting was made unavoidably, if one operates the secret number which corresponds to this function, one may not tread the accelerator pedal. If one treads the accelerator pedal, the engine starting is extinct. In that case, it is required that all the secret numbers must be pressed for the engine starting. But in the case that the starting is extinct due to the sudden detachment of clutch, there is no need to press the secret numbers again. Bonnet is also opened by the secret number. If one executes the whole of this invention, the key of automobile will not be necessary.



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## AUTOMOBILE IN WHICH THERE IS NOT KEY

BACKGROUND OF THE INVENTIONField of the invention

The purpose of this invention is for protecting the individual  
5 wealth from the theft of car and for preventing the trouble and crime used the stolen car. In addition, because key must be used in the present cars, one must carry the key or must hold it somewhere. And, there is frequently the case to be nervous by inserting the key in the car and locking the door outside. This invention made us get  
10 out of the above-mentioned inconvenience perfectly, by removing the key. If one use merely the circuit of the engine starting of this invention the key can be removed from the heavy equipments or the portable generators for outdoor which are started by battery.

Description of the Prior Art

15 Today, various equipments for the theft prevention are sold in the market and attached at the time of manufacturing the car. nevertheless, the theft of car is endless, and most of the stolen cars are used for the crime. Most of the present safty devices are alarming sound system. These devices seem to have inconvenience wh-  
20 ich is apt to frighten surrounding people or prevent them from sleeping at midnight. There is card-key and remote control system, but those devices also have the inconvenience to hold the key or remote control and one must always be careful not to lose it. There is secret number switch which can input the new secret number at one's  
25 will. This like device needs IC chip. When these system is out of order, experts are needed to repair. Also, there is danger to forget the newly inputed secret numbers frequently, because, mostly, he/she inclines to change them, if only those are easily changed.

SUMMARY OF THE INVENTION

30 This invention succeeded in solving above-mentioned problems. Above all, only in case that one press the secret number, engine starting is made and bonnet is opened. If one starts the engine, the locking equipment of steering axis and brake gets to be released automatically. And, if one stops the engine starting, the steering  
35 axis and brake get to be locked automatically.

The door for entrance and exit can be opened by secret number. That is, the operation is possible only the button, though the key bundle remove completely. If one does not know the secret number, nobody may operate anything. Especially, in this invention, specially designed relay was used, so that the elementary driver may confirm the trouble easily. In addition, this invention does not transform the structure of existing car, and does not have influence on any voltage for starting at all.

For solving the problems of theft, let's examine the type of car theft, above all. First, When leaved the car, during the engine starting. Second, At the time when one parked the car on the road or in the alley at night, the case to steal by using the imitation key or by breaking the glass and invading the car and destorying the safty device. Third, The case to pull the car by using the rope and the other car. Fourth, The case to cut the locking equipment by mobilizing the cutting-off machine to steal. Fifth, The case to steal by using the traction car.

In this invention, it is impossible to steal the car, except the fourth and fifth among above theft methods. Let's compare the five kinds of theft methods enumerated above with the composition of this invention. Among the above first theft method, if one operate the secret number, it is possible to tread the accelerator pedal. If only one treads the accelerator pedal, the engine starting is stopped. Once the engine starting is stopped, the steering axis gets to be locked and brake is ready to be locked. And, only in case one press all six figures again, the starting is made. But, the case that the starting is stopped due to the sudden detachment of clutch during the driving is irrelevant to this function. Among the second theft method, though one invaded the car by taking any measures, it is impossible to start when one does not know the secret number. And as far as the starting is made, the locking equipment of steering axis and brake is not released. These locking equipments are being equipped in the engine room. So, as far as one may not open the bonnet, one can not destory these. The secret number to open the bonnet is different from the secret number for starting. So, it is the triple safty device. Among the third theft method, all the front and rear wheels are in the state that the brake is being applied. So, car is not dragged at all. In case that one exec-

cuted partially the circuit of this design in the car to use the key now, only first and second theft method may be prevented. But, in case one executed the whole of this invention, it removes the inconvenience to carry the key. It will do, if one memorizes only the  
5 secret number with ON-LINE type.

The designer of this invention designed it in the both sides of attack and defence. In addition, he designed it, so that the parts which are not complicated may be used to the minimum in the situation of mechanic. Thus, this invention is the new equipment for theft  
10 prevention in which the key is not necessary as what is different from other kind of machine for theft prevention in the side of character and function.

#### Description of the Drawings

The invention will be described in greater detail with reference  
15 ce to the drawings in which:

FIGURE 1 is a starting circuit of the gasoline engine car which is being used now;

FIGURE 2 is the starting circuit to compose the secret number of six figures for this invention;

20 FIGURE 3 is a basic circuit to have to press the secret number in order;

FIGURE 4 is a circuit of relay for sending an electric current at the time of working, during the relay used in this invention;

25 FIGURE 5 is a circuit of relay for power failure at the time of working, during the relay used in this invention;

FIGURE 6 is a circuit of relay for sending an electric current and power failure at the time of working, during the relay used in this invention;

30 FIGURE 7 is a circuit of switch of secret number used in this invention;

FIGURE 8 is a circuit of micro switch used in this invention;

FIGURE 9 is a composition drawing of micro switch installed at the working part of accelerator pedal of carburetor;

35 FIGURE 10 is a circuit of the protection function of starting equipment and starting state that this invention was executed;

FIGURE 11 is a composition of equipment to open the bonnet to be used now;

FIGURE 12 is a composition of equipment to open the bonnet that this invention was executed;

FIGURE 13 is a composition of magnet used in this invention;

FIGURE 14 is a circuit of equipment to open the bonnet that this invention was executed;

FIGURE 15 is a circuit of lighting to confirm the working situation and the existence or nonexistence of trouble of the relay for this invention and of the switch of secret number;

FIGURE 16a is a circuit of relay for sending an electric current at the time of working, and for using tact switch only;

FIGURE 16b is a place of main switch which is used for the circuit of the release of locking function of the door for entrance and exit;

FIGURE 16c is the secret number switch of the door and the draw of the place of tact switch;

FIGURE 16d is a door main switch and tact switch and the connecting circuit of the FIGURE 16a;

FIGURE 16e is the whole circuit of the release of locking function of the door for entrance and exit;

FIGURE 17 is a composition drawing of locking equipment of steering axis for this invention;

FIGURE 18 is the elevation of composition parts of the FIGURE 17;

FIGURE 19 is the arrangement of parts of the locking pin of steering axis;

FIGURE 20 is the assembly section of the parts of locking pin of steering axis;

FIGURE 21 is the expansion of intaglio groove of steering axis;

FIGURE 22 is the disassembly drawing of parts of locking equipment of steering axis;

FIGURE 23 is the connection drawing of locking equipment of steering axis;

FIGURE 24 is a composition drawing of locking equipment of brake;

FIGURE 25 is the comparison section of intaglio part of the locking pin of steering axis and the locking pin of locking equipment of brake;

FIGURE 26 is the section of intaglio part of locking pin of saw

tooth of brake;

FIGURE 27 is the circuit of the equipment for starting and locking of the gasoline engine car that this invention was executed perfectly;

5       FIGURE 28 is a switch for the fuel supply of diesel engine car for the execution of this invention;

FIGURE 29 is the connection drawing of magnet of the diesel engine car that this invention was executed;

10       FIGURE 30 is the circuit of starting of the diesel engine car that this invention was executed;

FIGURE 31 is the circuit of locking equipment of steering axis and brake during the engine running.

The name of the each symbols not explained in detailed description

15       The explanation of the each symbols is to help the appreciation of every structure.

Ry : Auxiliaary relay for starting.   6 : Ignition Coil.

10 : In put terminal.                   11 : Out put terminal.

11' : Lighting bulb and out put terminal.

12 : Lighting bulb terminal of 4'.   14 : Caburator.

20   15 : Bolt for the control of contact of micro switch.

16 : Rod for the working of micro switch.

17 : Rod for the working of caburator.

19 : Cable.                           21 : Switch for the make and break of door.

22 : Chassis of 21.

25   23 : Part of open terminal.       24 : Part of locking terminal.

25 : In put jack of outside power source.

31' : Working gap jaw of half moon key for release.

39' : Fixation stand of cylinder for locking.

43' : Oil ring.                       47 : Spring hanging the return

30   spring.                           49 : Cover.

52' : Board for the projection interception.

57 : Nut for the connection of rod.

62 : Nozzle pipe.                   64 : Button for engine stop.

65 : Grease nipple.

Detailed Description of the Invention1. Starting circuit of gasoline engine

The figure 1 is the starting circuit of gasoline engine to use the key(0) now. The figure 2 is the removing the key bundle(0) of the figure 1 and replaced it with the switch of button type, and composed the secret number(3) by intercepting the current to go to distributor(5) from the switch for the supply of primary power source(2) for starting over 5 times, and made the current apply to the distributor(5) by pressing the secret number(3) and contacting the intercepted part. Now, if only one press the starter(8) switch(7), the starting is made. Then, the secret number of six figures in all was composed, by intercepting the current to go to starter(8) over 1 time and composing the secret number(3). So as to heighten the safety degree of locking function, the connection of release circuit with the fifth switch among the secret number(3) was made. The reason why the primary current of starter(8) was intercepted only once is the sound that the starter(8) goes round brings the effect of alarm, in case the invader found out the number to operate the starter(8) and operated this switch. As is shown in the figure 3, if only one press the secret number(3) in order, the current gets to be applied. if one press the switch of secret number 3-1, the relay 4-1 is operated while the current passes through the relay 4'-1. And at the same time, the primary current of distributor(5) is contacted once. At this time, the power failure of relay 4'-2 is made. As the relay for 4' is for the power failure at the time of working, if one press the switch of secret number 3-2, the power failure is made at the relay 4'-2, and the electric current is sent by operating the relay 4-2 after passing through the relay 4'-3. The same principle is applied to the switch of secret number 3-4 also.

Let's examine the case to mix the switch or press it reversely. If one press the switch of secret number 3-2 above all, the current operates 4'-1 by passing through the relay 4'-2. Therefore, though one press the switch of secret number 3-1, as the relay may not pass over the relay 4'-1, the relay 4-1 is isolated. If one press reversely perfectly, Whole from the relay 4-1 to the relay to 4-4 is isolated by this principle. Thus, one must press the switch of secret number(3) in order. The figure 4 is the circuit of relay for sending an electric current, and figure 5 is the circuit of relay for



power failure. Then, number 12 terminal is lighting bulb terminal, and the figure 6 is the circuit of relay for the combined use of sending an electric current and of power failure. When we see in the circuit of the figure 4, 5, and 6, the bulb of small-size(9) is being connected in series. Then this is for the use of overheat prevention at the time of working for long time. And, in case to use much quantity of relay at the automobile as the circuit of this design, this invention was designed especially, so that even the elementary driver may find out the parts which got out of order easily. The relay is operated simultaneously with the lighting. The bulb of small-size(9) is about 0.3---0.5W. In the state that the starting was made, when one operated the secret number which corresponds to this, the figure 9 is the composition drawing that one may not tread the accelerator pedal. Then the micro switch(13) was used. To operate the secret number which corresponds to this function, the main current which flows to the switches(3) and relay(4, 4', 4'') which are in the course of working now gets to flow by passing through the micro switch(13). Therefore, to tread the accelerator pedal, the power failure of micro switch(13) is made. Thus, the current which used to flow to each switch(3) and each relay(4, 4', 4'') gets to be intercepted at the same time. So, the starting gets to be stopped, and at the same time, the locking equipment of steering axis gets to be locked and the brake is ready to be locked by the operation. (Refer to the figure 23). To explain will be made with the figure 10. The secret number for starting is 123456, the secret number for one may not accelerator pedal is 9, 7. The circuit of the figure 10 is the circuit that the starting was made, and it is the circuit that secret number 9,7 was operated. The power source which came out from starter(8) switch(7) comes into COM terminal of 3-9 which are the switch of secret number, and then it enters NO terminal of micro switch(13) by passing through NO terminal. And then, it comes out to COM terminal again gets to flow to each switch of secret number(3-1---3-0). To tread the accelerator pedal, the power failure of micro switch(13) is made. So the power failure of each switch of secret number(3-1---3-0) and each relay is made simultaneously. Thus, all the currents from the relay 4'-1 to 4-6 are cut OFF. So the starting is stopped. To leave the accelerator pedal again, the relays may be operated as the circuit of starting state.

But, as the result of experiment, since the decision is made according as any relay is operated first by the number of wired numbers of coil of relay, one must control the number of wired times of coil, so that the relay 4'-1 which is the odd number of relay may be operated first. In the relays, 4'-11 is the service relay to make the starter(8) fail to be operated. Though the starting is not made because the relay 4'-1 is operated first among the relays. Thus, in the relay 4-5, the power failure of the current to go to distributor (5) is made. So the locking equipment is not released. (Refer to to the figure 23). When one operates the corresponding secret numbers 9 and 7, one must press 9 first, and then one must press 7. And, when one releases one must release, by pressing 7 reversely first and pressing 9. Let's examine the circuit that 3-9 and 3-7 which are the switches of secret number were released. As the power source which came out from the starter(8) switch(7) comes into COM terminal of 3-9 which is the switch of secret number and then comes out from NOC terminal and then it is applied to COM terminal of micro switch(13), it is irrelevant to micro switch(13) in the course of operation. So the power source is supplied normally. Therefore, at the time of working reservation of protection function of starting state, if one press the switches of secret number, the starting gets to be stopped. In the figure 10, if one press the 3-8 switch are the switches of secret number, as the relay 4'-11 gets to be operated, the starter(8) is not operated. This function protects the starter(8), and may prevent the trouble of safety carelessness at the time of maintenance of simple engine.

## 2. Circuit of Locking Equipment of Bonnet

The locking equipment of bonnet is the first important part in the theft prevention of car. In the aspect for operation, the starting equipment is important. But, for the theft prevention at the time of parking, bonnet is the most important. Because, if anybody may open the bonnet at his option, anybody may start by disregarding the whole of wiring installed in engine and binding the straight line with some pieces of wiring.

The figure 11 is the composition drawing of equipment to open the bonnet to be used now. Then, as is shown in the figure 12, the handle installed outside(18) was removed, and the open magnet(18') was

replaced instead of handle(18), and the open magnet(18') was equipment and attached in the engine room, and the open magnet(18') gets to be operated only by means of secret number by using the basic circuit of the figure 3. Thus, if one does not know the secret number, he/she may not open the bonnet. The figure 13 is a circuit of magnet. As is shown in the figure 14, the secret number to open the bonnet is 123456. Then, the plus(+) current of open magnet(18') was intercepted over 6 times. To press the switch 3-6 which are the last numbers among the secret number, the open magnet(18') is operated and the locking ring(20) gets to be opened. At this time, minus (-) current of open magnet(18') flows to the relay 4'-11. The relay 4'-11 of the figure 10 is the service relay to protect the starter(8), but it is the relay for the interception of power source of each switch(3-1---3-0) and each relay(4, 4') in the locking circuit. In the figure 14, at the moment that the open magnet(18') is operated, while the minus(-) current flows to the relay 4'-11, 4'-11 is operated. Thus, the main current of the secret number switch(3) and the relay(4, 4') is intercepted momentarily. And at the moment that the main current of relay 4'-11 flows again, as relay 4'-1 is operated first, the current of relay 4-1 is intercepted. Therefore, open magnet(18') gets to rest after operating only the locking ring(20). This circuit is protected open magnet(18').

### 3. Circuit of Make and Break of the Door for Entrance and Exit

By removing the key, as is shown in the figure 16e, in the door for entrance and exit also, this circuit was connected with the equipment of the automatic make and break of the door for entrance and exit to be used only in over medium-sized car now by using the circuit of this design. In this equipment, the emergency jack to be able to use the power source after borrowing it from outside was installed, by providing for the time when one may not open the door due to the case of sudden battery discharge and due to the contact inferiority of battery terminal. In locking the door, one press the locking button(24') only. Figure 16e is the circuit added relay(4''') to the basic circuit. The reason is the switch of the door inclines to be frozen by snow or rain in the cold winter. So, it will be good to use the tact switch(3') as the secret number switch of the door. Next is the explanation about operation above mentioned;

the figure 16d is the state of door locked, so the main switch(1') is ON. Only to press the secret number switch(3'), at the same time, an electric current is applied to the relay 4''', and the consequence of being operated the relay 4''', an electric current is applied to the relay 4', as an electric current flows in the coils of the relay 4''', although one take his hand off the secret number switch(3'), the operation of the relay 4''' is continued. If one open the door, the main switch(1') is turned OFF, an electric current which flows the relay 4''' and the relay 4' should be intercepted. In the figure 16e, the secret number for opening the door is 1234. As the secret number switches stand out of the car, the electric source wire(25') which applies the current to the magnet for the release of the locking function of the door for entrance and exit must be connected with this magnet directly through mere the main switch(1') of the door. In the trunk and in the cap of the hole to infuse fuel, key is not necessary. Because the operation is inside in the car.

#### 4. Locking Equipment of Steering Axis

This invention was designed especially, so that the locking equipment of steering axis may not be destroyed before opening the bonnet by installing it in the engine room. As is shown in the figure 17, this is the equipment to paralyze the operation of steering axis (34) by means of the insertion of locking pin(33) into intaglio groove(35), by forming the intaglio groove(35) in the steering axis. As the make and break of this equipment is being connected with the starting circuit of the figure 10, if one operate the secret number (3) so as to start, release is made automatically. And, if one stops the starting, it is locked automatically. It is important in this function, when one stops the engine, he/she should use the secret number switch(3) to be locked the steering axis and the brake locking equipment. When one test the state of steering axis and brake locking equipment, must use main switch(1) not to be worked the locking equipment of the steering axis and brake. The brake locking equipment will be explained by next part of No. 5. The composition drawing of the figure 17 will be explained in parallel with the figure 23. In the figure 23, the most important thing is switch 3. If the relay 4''-1 is abruptly out of order in driving, steering axis and brake are locked. So, the switch 3 is added, therefore the

switch should be off in driving. Because the locking system will not work, even if the relay 4"-1 shall be out of order.

The figure 17 is in the locked state. Then this explanation is the course for release. As the relay 4-5 is operated simultaneously with pressing 3-5 which is the fifth switch among the secret numbers for starting, the power source is applied to the open magnet(18') after passing through the operator(38') of the switch for magnet protection(36). And then, while the open magnet(18') is operated, the lower half moon key(28) of the figure 17 points downward. At this time, upper half moon key(29) returns to the original position by the center point(30) and return spring(41). And, at the same time, while the cylinder for locking(32) falls into the left, the steering axis(34) is released. Simultaneously with this, the operator (38') of the switch for magnet protection is turned OFF, while the outside sensor(38) falls into the intaglio groove(37) of the cylinder for locking. Thus, the open magnet(18') release only the steering axis(34), and it gets to rest as the power source is intercepted at the protection switch. At this time, the protection switch(36') of locking magnet(18'') is turned ON again. If one releases 3-1 which is the switch of secret number, engine stops, and the power source flows from the relay 4"-1 to locking magnet(18'') through the protection switch(36'). Thus, the steering axis gets to be locked. And, at the same time, the protection switch(36') of locking magnet (18'') is turned OFF again, and the protection switch(36) of open magnet(18') is turned ON again.

The board for projection control(51) of operation part of each magnet is for preventing that the connection ring(52) is projected over necessity. The figure 18 is the composition elevation of the figure 17. Then, the explanation is as follows: The composition is divided into upper part and lower part largely. Then, the lower half moon key(28) prevents the projection over necessity, as the board for projection interception(31') is hung on the pin for the control of operation gap(42). And, it gets to return to the original position, after the operation by the return spring(41). The extension body below the lower half moon key(28) was fixed with the tightening bolt(40) by being shielded with bushing(39'') and covering with the cover(39), so as to make the operation smooth as the round cylindrical form. In the upper part, the cylinder for locking(32) and

the locking pin(33) are main composition parts. Then, so as the intercept the projection over necessity at the time of make and break the gap jaw(31) was formed. And, for the disassembly and assembly of parts inside the cylinder(32), the intaglio installation of cutting part(43) was made. Upper half moon key(29) returns to the original position by the return spring(41), after being fixed at the fixation pin of center(30). And, the extension body(46) of locking rod is being fixed fixed by the fixation pin(44). And, in the upper half moon key(29), as the operation of half moon part is stopped toward the upper direction to 45 degree of right side by the center point(30) at the time of release, the intaglio installation of operation gap groove(45) was made. At the upper part of the cylinder for locking(32), sending an electric current and power failure of the power source of magnet(18', 18'') can be made, by forming the intaglio groove(37). To supplement and explain in the figure 17 is as follows: Filling the lubricant(27) to the full inside the chassis of locking equipment(26) made the contact part of each part operate smoothly, and covering the part to be projected outside the chassis(26) with the cover into which oil ring(48) was inserted and fixing it with bolt(50) prevented the oil leakage, and the chassis cover(26') was fixed with bolt(50) by making many units of bolt holes(50'). As the cylinder for locking(32) and the locking pin(33) are operated simultaneously, they were made, so that the locking pin(33) may be inserted into the intaglio groove(35) of steering axis(34), after penetrating the pipe(51) to protect steering axis(34). When we see in the figure 20, so as to prevent that the cylinder for locking(32) is destroyed by the force of inertia by putting stress on the handle compulsorily and turning it suddenly, the part on which the locking pin(33) is hung which is inside the cylinder for locking(32) was thickened, when we see in the figure 23, the manual release equipment(18) was installed by providing for the time of trouble of circuit. Of course, this equipment is being installed in the engine room.

##### 5. Locking Equipment of Brake

35 The figure 24 is the composition drawing of locking equipment of brake. The composition of parts is same as the locking equipment of steering axis, and the different point is that the brake rod(56)

and the locking pin of saw tooth(58) are being installed specially. As for the operation of brake of oil pressure type, to tread the pedal(54), the rod(56) which is being connected with pedal(54) operates the master cylinder(59), and then the brake fluid is sent to the pipe(59'). Thus, the brake gets to be applied. Then, in this invention, the separation of pedal(54) and rod(56) made the contact part(55) independent. As is seen in the figure 24, newly designed locking equipment is being installed in the engine room of the separation room(53) of driving seat and engine room. As far as one may not open the bonnet, this may not be destroyed. The explanation is as follows: The connection circuit of this locking equipment is as same as the figure 23. Thus, if one stops the starting, the cylinder for locking(32) is projected to the upper part. After this, to tread the brake, the tooth for locking(58) gets to be geared with pin(33'). Thus, pedal(54) gets to return to the original position by the return spring(41), and the brake is being applied. So, all the front and rear wheels become the locking state. If one does not tread the brake after stopping the starting, the locking pin(33') is only in the waiting state. In this composition, the pressure of return spring(41) of brake pedal(54) and that of return spring(41) of rod(56) must be same to the minimum, or the pressure of return spring(41) of rod(56) must be high a little bit. Connecting the rod(56) with nut made the disassembly and assembly of saw tooth(58) smooth. At the time of emergency, the installation of manual release equipment(18) provided for the time of circuit trouble. To start, the open magnet(18') is operated. Thus, the cylinder for locking(32) is released and points downward. So, it does not have influence on the brake operation at all at the time of traveling. The upper part of the saw tooth for locking(58) was made, so that the protection switch(36, 36') may be positioned, by forming the intaglio groove (37') of which the length is long. This is because the protection switch(36') must maintain the operation state continuously, though the saw tooth(58) is geared deeply. In addition, in the locking equipment of steering axis and brake, to release the switch of secret number 3-1, the locking state is made, as the locking equipment is operated. But, turn OFF the main switch(1) than the switch of secret number, 3-1 above all, the locking equipment is not operated. If one tries to lock the steering axis and brake, one must turn OFF

the main switch(1), after the locking equipment gets to be operated, by releasing the switch of secret number, 3-1 above all. At the time of maintenance and inspection of steering axis and brake, the locking state must not be made. So, in case of this maintenance and inspection, if one turn OFF the main switch(1) above all, the engine is stopped, and the locking equipment is not operated.

6. Equipment of the Make and Break of the Fuel of Diesel Engine

The figure 28 is the equipment of the make and break of the fuel of diesel engine. In the diesel engine, it will do, if only one make and break the cock(63) to intercept the fuel of governor(61) of injection pump(60) by using the circuit of this invention, as the starting is stopped only in case the fuel is intercepted differently from the benzine. the explanation is as follows:

As is seen in the figure 28, the upper half moon key(29) which is the locking equipment of design was installed in the cock(63) to intercept the fuel of governor(61). As the figure 28 is in the state that the starting was stopped, the fuel supply to the pipe to send fuel is stopped. At the end part of locking magnet(18''), the switch of magnet protection(36) was installed. The figure 29 is the connection drawing of magnet of gasoline engine. The explanation is as follows: To press the switch of secret number, 3-5, the relay 4-5 is connected. Thus, the open magnet(18') is operated. Simultaneously with this, while the minus(-) current of open magnet(18') flows to the relay 4'-12, 4'-12 is operated, and the power source of each switch(3-1---3-0) and each relay(4, 4', 4'') is intercepted.

The current of any one part among the interception part of 5 times of plus(+) current of open magnet(18') gets to be cut. So, the open magnet(18') gets to be rest. This principle is same as the circuit of bonnet open. The reason why the plus(+) current was intercepted is for connecting the locking equipment of steering axis and brake. If the open magnet(18') is operated, the operator(38) of the switch of magnet protection(36) is turned ON, and the locking magnet(18'') becomes the waiting state. At the time of engine stop, to press the engine stop button(64), locking magnet(18'') is operated, and the starting gets to be stopped, and the switch of magnet protection is turned OFF again. Thus, the button of engine stop(64) is not operated. And, only in case the starting state is made, operation is



made. The following is the explanation of the circuit of protection function of starting atste. The figure 29 is the circuit that the starting was made. Then, the secret number of this circuit is 1234 56, and the secret number of starting state is 079. Among 079, 0 is the number that even any one among the switches from 3-1 and 3-6 may not be touched, and 7, 9 are the number that the accelerator pedal may not be trodden. In operating this function, one must press 7, and then must press 9. To press 9 above all operate the locking magnet(18") immediately, as the switch of secret number, 3-7 is being circulated to NOC terminal, that is, it is on the off state. To press the switch 7, and then press 9, the current flows the COM terminal of micro switch(13). To tread the accelerator pedal, as the current flows the NOC terminal of micro switch(13), locking magnet(18") is operated, and the starting gets to be stopped. On the contrary, at the time of number release, reverse order must be made. One must release, by pressing 9 above all and then 7. Switch 0 is irrelevant to treading the accelerator pedal, but it is for preventing that the invader presses any numbers so as to find out the secret number of starting state. The reason why the current which came out from micro switch(13) was connected with COM terminal of the switch of magnet protection(36) is turned OFF, if the starting is stopped, in assuming that the starting was stopped by the touch of the switch of secret number, 3-2 of invader. The figure 30 is the circuit of total execution of diesel engine. Then, as the connection circuit of locking equipment of steering axis and brake is same as the connection circuit of benzine car, omission was made in the figure 30.

#### 7. Locking Equipment of Steering Axis and Brake During the Engine Running

The figure 31 is the circuit that steering axis and brake can be locked at a state of engine started. All circuits mentioned above show that both the steering axis and the brake are not locked during the engine running. So, though the door for entrance and exit be locked, provided he/she do not touch the accelerator pedal, can operate steering wheel and steal the car by using of another traction car. The purpose of this circuit is to prevent it. The explanation is as follows:

Being the state of engine stopped, from the relay 4"-1 to 4-5 and 4'" do not work. In order to start, the switch of secret number 3-1 and 3-5 should be pushed, then current flows through the relay 4'" and protection switch of open magnet(36) and operates the open magnet(18') and then locking state is released. (Refer to the figure 23). Being the state of engine starting, if one push the locking switch(66(3')) the locking magnet(18") is worked, then the protection switch of locking magnet(36') is turned OFF, and the protection switch of open magnet(36) is turned ON again. At the same time, the relay 4'" is worked and because of the current which flows to the protection switch of open magnet(36) is intercepted, the open magnet(18') is not worked. To release the locking equipment, make main switch(1) turn OFF and ON and then press the secret number again. And it is released. As what was explained above, because this invention does not transform the structure of car which is being manufactured now and may obtain the maximum effect by attaching simply, the person concerned who are employed in the automobile field and the drivers who drive the car will have sympathy. I am convinced that this will bring the considerable effect for protecting the individual fortune and for preventing the crime from the endless car theft.

## CLAIMS

What is claimed is :

1. In the car of gasoline engine, the circuit of theft prevention that the starting got to be possible, as the relay(4') of reverse  
5 prevention of order of secret number(3) operates the relay(4"-1 ---  
4-6) and make the primary current intercepted over 6 times be applied, by pressing the secret number(3) in order, after composing the  
secret number(3) of fiver figures through the interception of 5times  
10 of primary current which goes from the lighting switch(2) to distributor(5) and after composing the secret number of six figures in all  
through the interception of 1 time of primary current which goes from starting switch(7) to starting motor(8).
  
2. The relay(4, 4', 4", 4''') used in this invention is the relay of  
15 direct current power source for sending an electric current and for power failure which was made, so that the situation of radiation and  
operation may be confirmed with naked eye, by using the small-sized  
bulb(9) for overheat prevention.
  
3. Steering axis composes the upper part for locking and the lower  
20 part for release, with the equipment to paralyze the operation of steering axis(34), by means of the insertion of the locking pin(33)  
of the cylinder for locking(32) into the intaglio groove(35), by forming the intaglio groove(35) in the steering axis. And the cylinder  
for locking(32) which is being connected with upper half moon  
key(29) was made, so that the insertion may be made secondarily, if  
25 one turns the steering wheel, when the intaglio groove(35) and locking pin(33) are in the contrary position, by installing the locking  
pin(33) inside the cylinder for locking(32) doubly with intaglio circle. And it formed the operation gap jaw(31) for checking the unnecessary  
projection, at the time of operation of cutting part(43) of  
30 nut type and that of the cylinder for locking(32), for the disassembly and assembly of locking pin(33). The improved equipment for theft  
prevention that the outside senser of the switch(36, 36') to protect the magnet(18'') for locking may be positioned at the intaglio  
groove(37) by forming the intaglio groove(37) at the upper part

of the cylinder(32) for locking and that the cylinder for locking (32) was fixed with cover(39), after shielding both parts of it with bushing(39'') and that the operation rod(46) of upper half moon key (29) was covered with cover(39), by shielding the center part with 5 bushing(39''), for the fixation of center, and that the lower half moon key(28) for release have the operation gap jaw(31'), and that the gap jaw(31') gets to hang on the pin(42) for projection check, and that the lower half moon key(28) was fixed with cover(39) by shielding one part of it with bushing (39''), and that the abrasion 10 of each part may not exist and the operation got to be smooth, by filling the lubricant inside for the smooth operation of each part and covering with the cover into which the oil ring(48) was inserted on the projection part of the cylinder for locking(32) to be projected to the outside of chassis(26) and of the operation rod(46) of 15 upper half moon key(29) and of the lower half moon key(28) for the prevention of leakage of lubricant.

4. The locking equipment of brake is the equipment of locking type of wheel for theft prevention that the cylinder for locking(32) may be positioned inside chassis(26) in the item 2, and that the cylinder 20 er for locking(32) and locking pin(33') are projected to the upper part at the time of locking, by installing the saw tooth for locking (58) connected with brake rod(56) on the upper part of locking pin (33') especially, after installing the locking pin(33') made with slant, and that the saw tooth(58) for locking and locking pin(33') 25 are geared, to tread the brake, and that the off state of protection switch(36') is maintained continuously, though the saw tooth(58) is geared deeply, so that the operator(38') of protection switch(36') of the magnet for locking(18'') may maintain the off state continuously at the time of locking, by forming the part of intaglio groove 30 (37') of which the length is long at the upper part of saw tooth(58) for locking, and that the outside sensor(38) of protection switch (36, 36') may position at the part of intaglio groove(37').

5. Automobile of gasoline engine in which there is not key that the locking function of steering axis and brake is released automatically 35 ly at the time of starting, by connection item 3 and 4 with item 1,

and the equipment for theft prevention to be locked automatically is composed at the time of engine maintenance, and that only the secret number is used, by removing the key bundle for locking and starting perfectly and replacing with button.

- 5 6. In the car of diesel engine, the equipment of the make and break for the supply of diesel fuel that 1 unit of protection switch(36) of the magnet for locking(18") is installed at the end part of half moon key for locking(29), after installing the half moon key for locking(29) at the cock(63) of fuel interception of governor(61) of  
10 injection pump(60), and that the protection switch(36) is turned OFF in the locking state, and that it is turned ON in the release state, and that the operation center of the half moon key for release(28) was maintained by shielding it with 1 unit of bushing(39") and fixing it with cover(39), in the car of diesel engine.
- 15 7. Automobile of diesel engine in which there is not key to use only secret number, by removing the key bundle for locking and starting perfectly and replacing with button, in the item 6.

FIG. 1

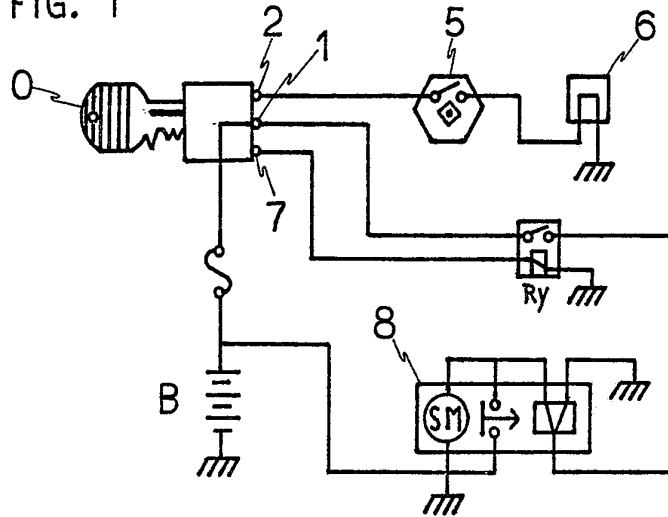


FIG. 2

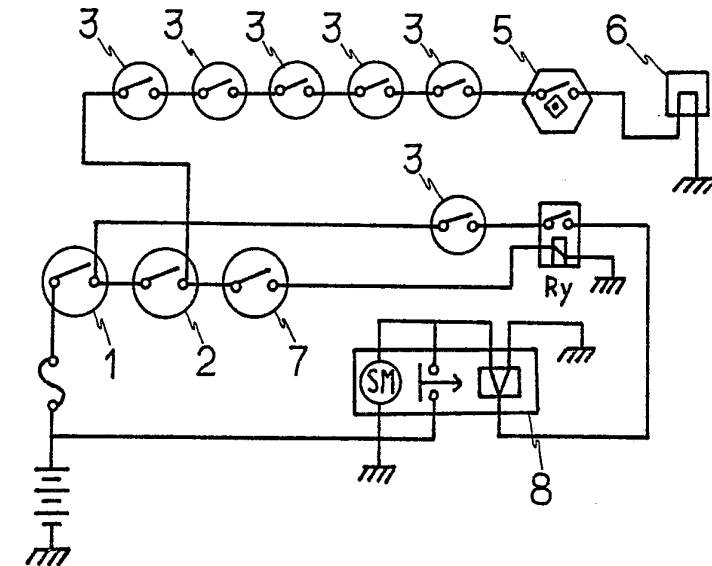
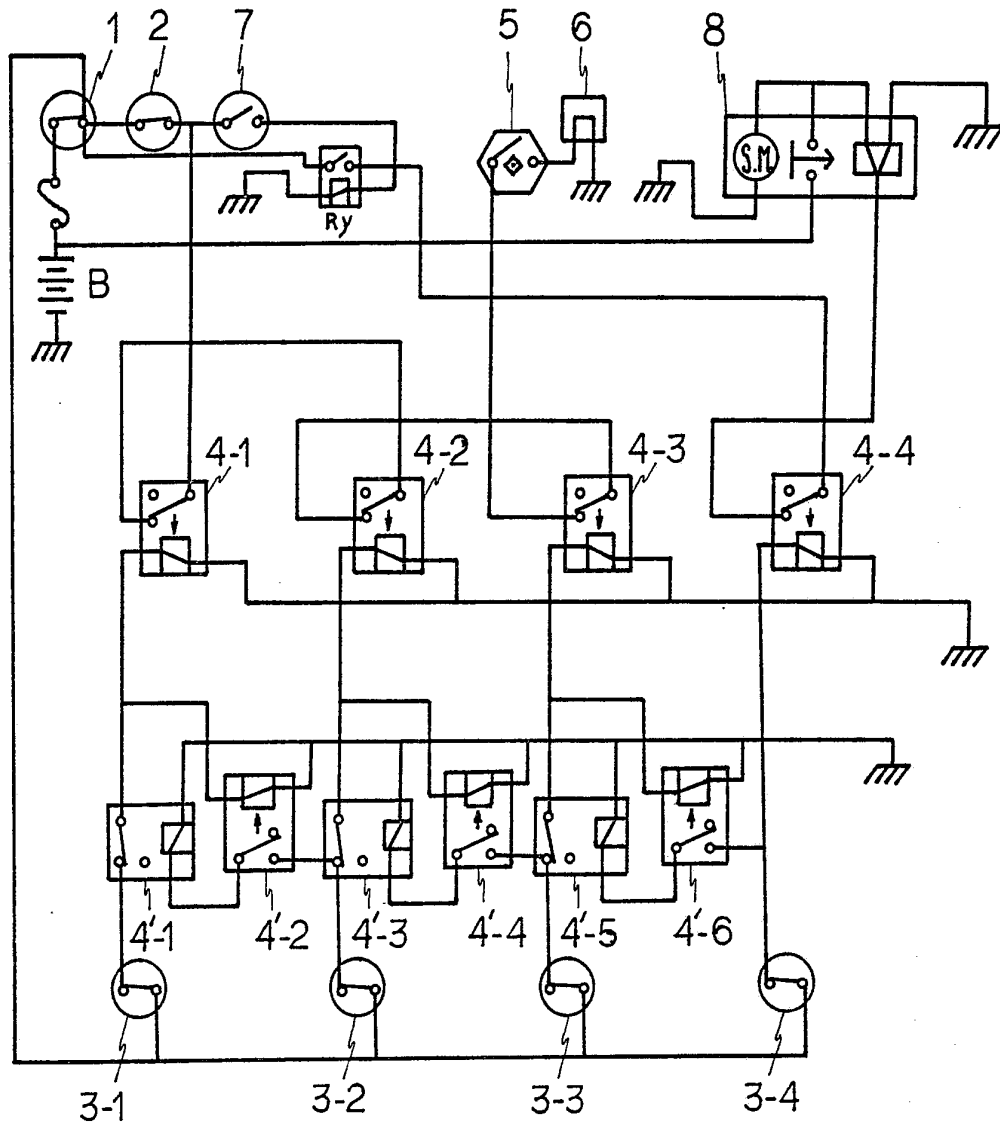


FIG. 3



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FIG. 4

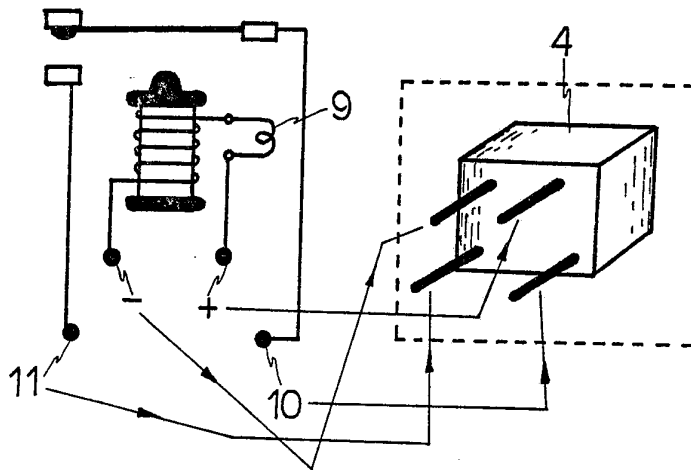


FIG. 5

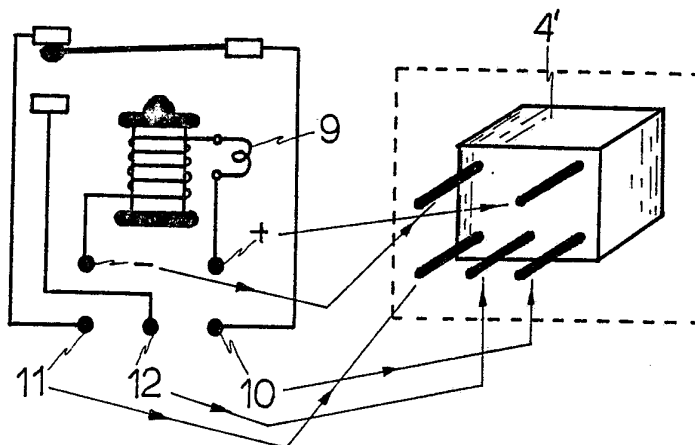
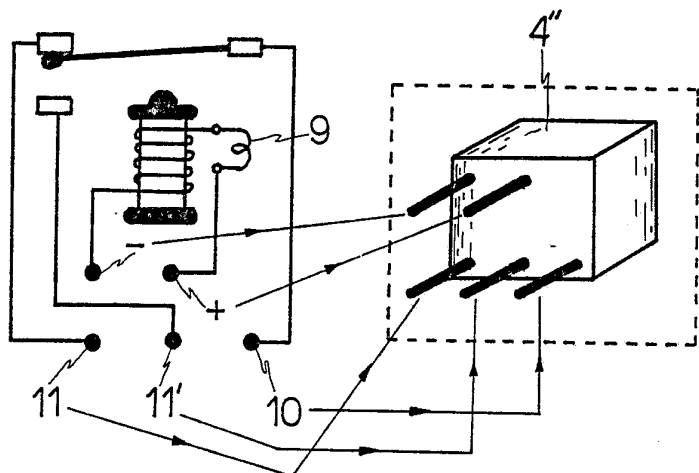
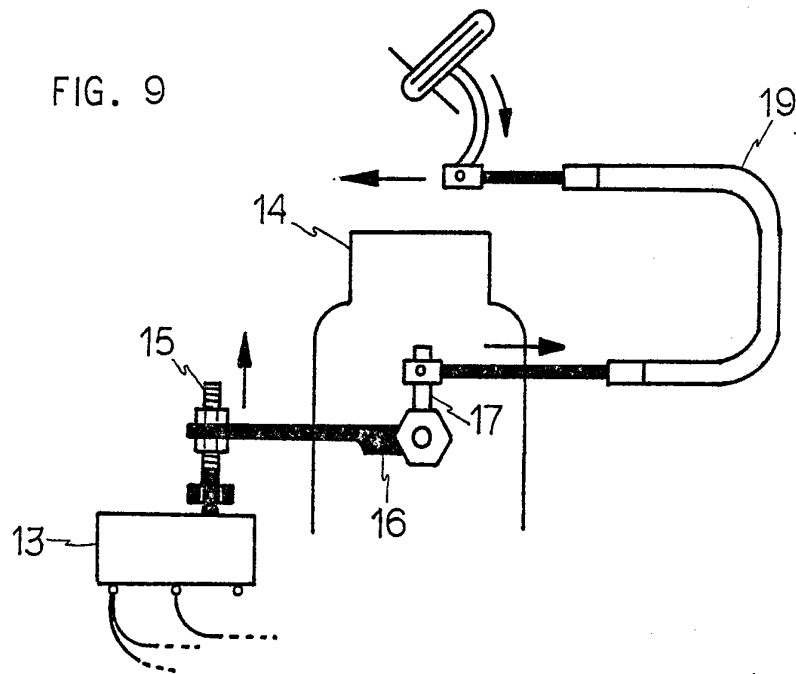
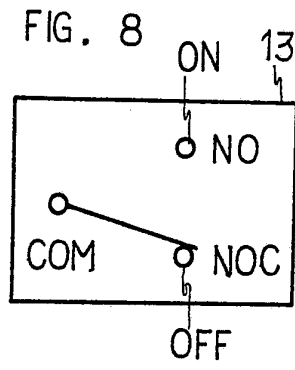
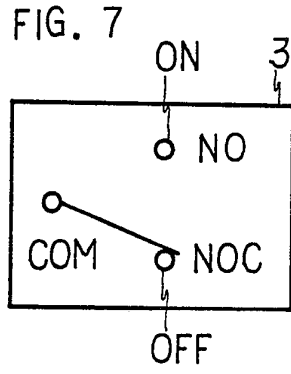


FIG. 6



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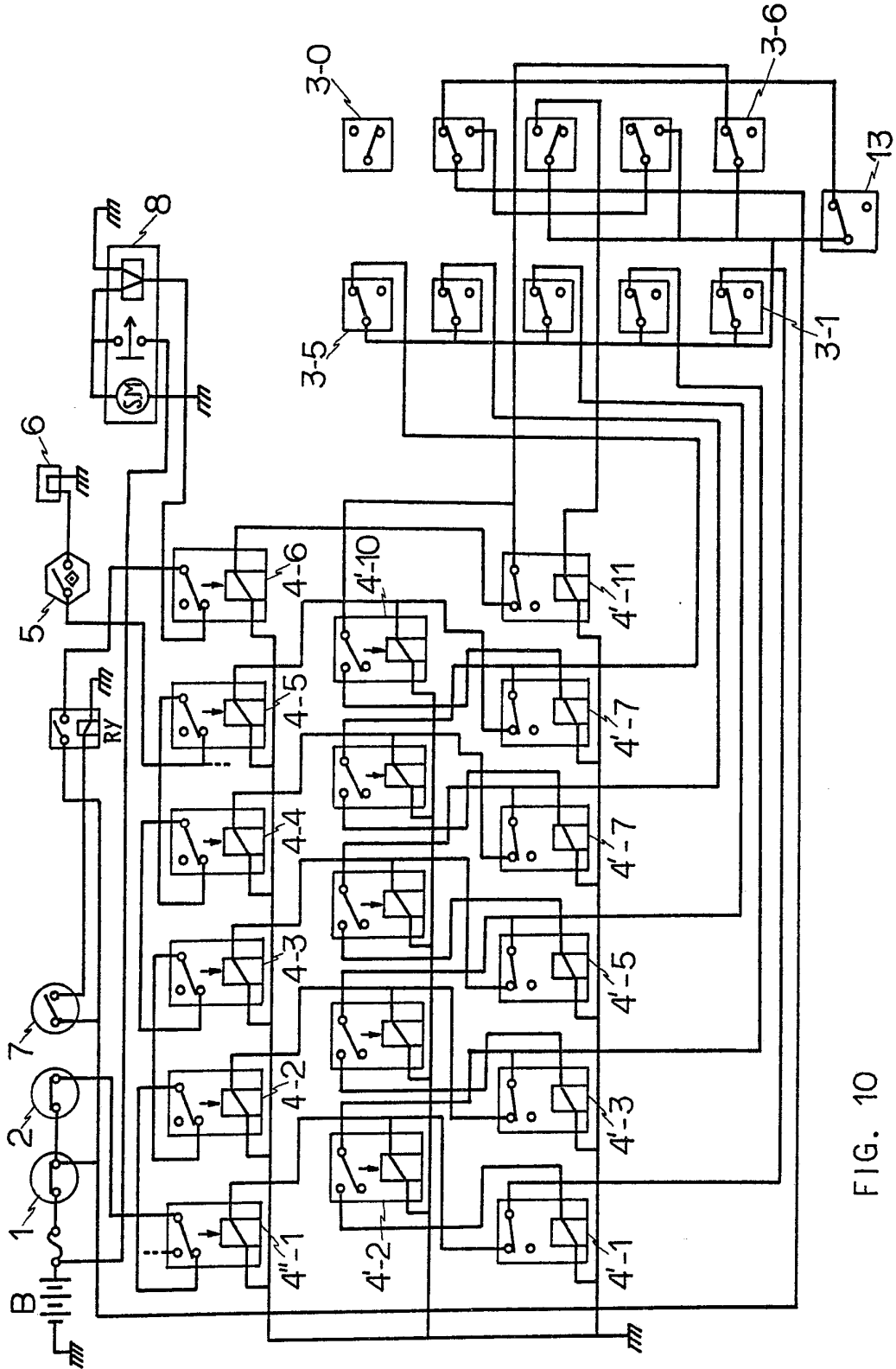


FIG. 10

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FIG. 11

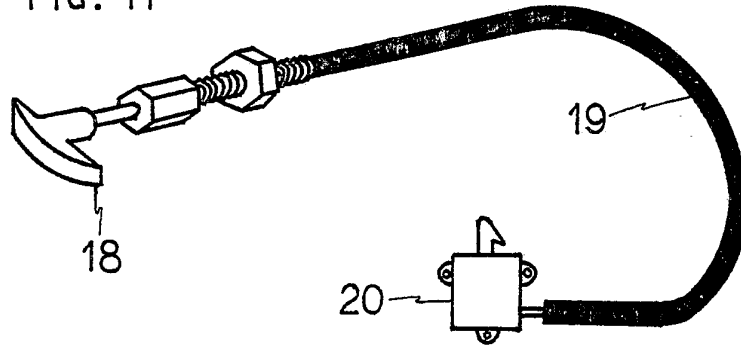


FIG. 12

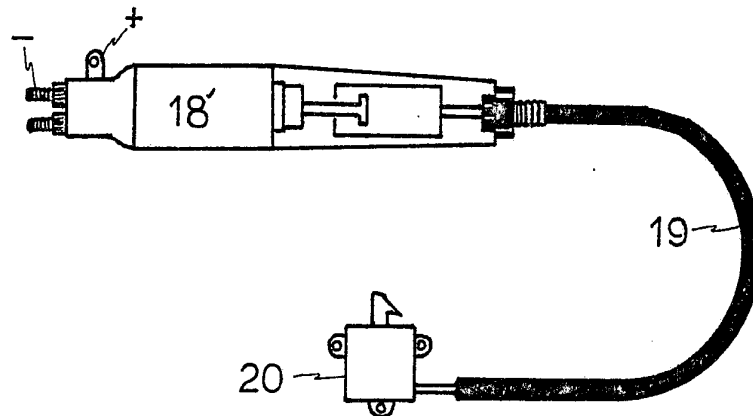
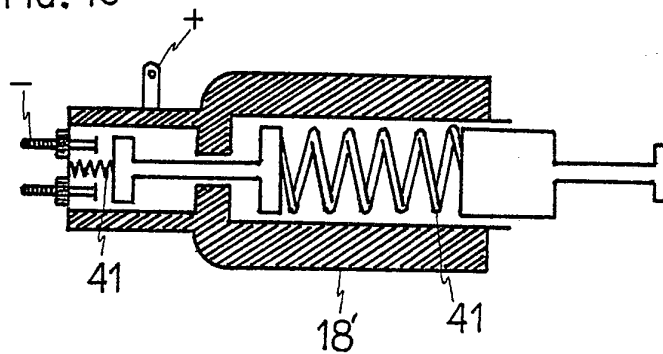


FIG. 13



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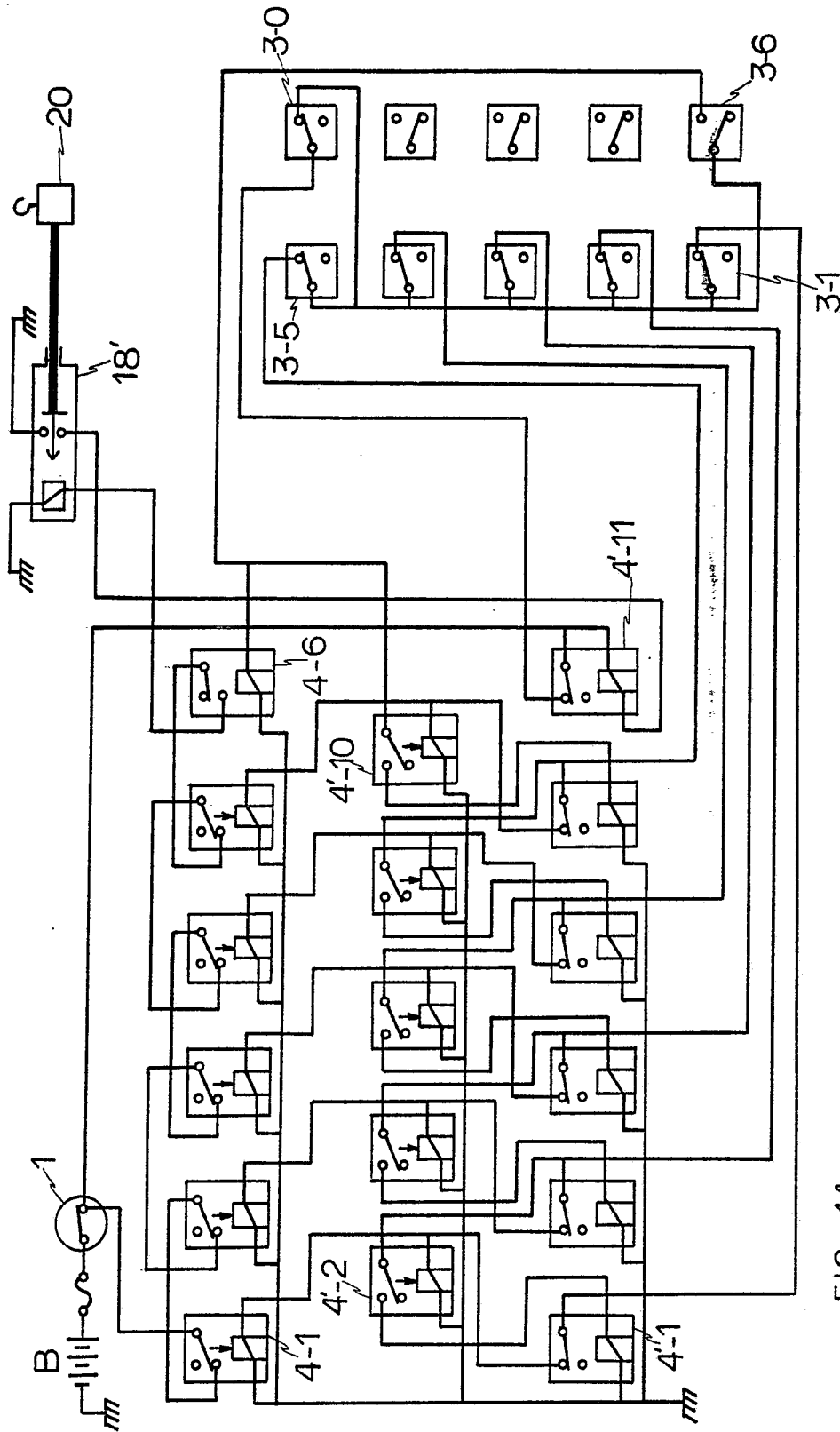


FIG. 14

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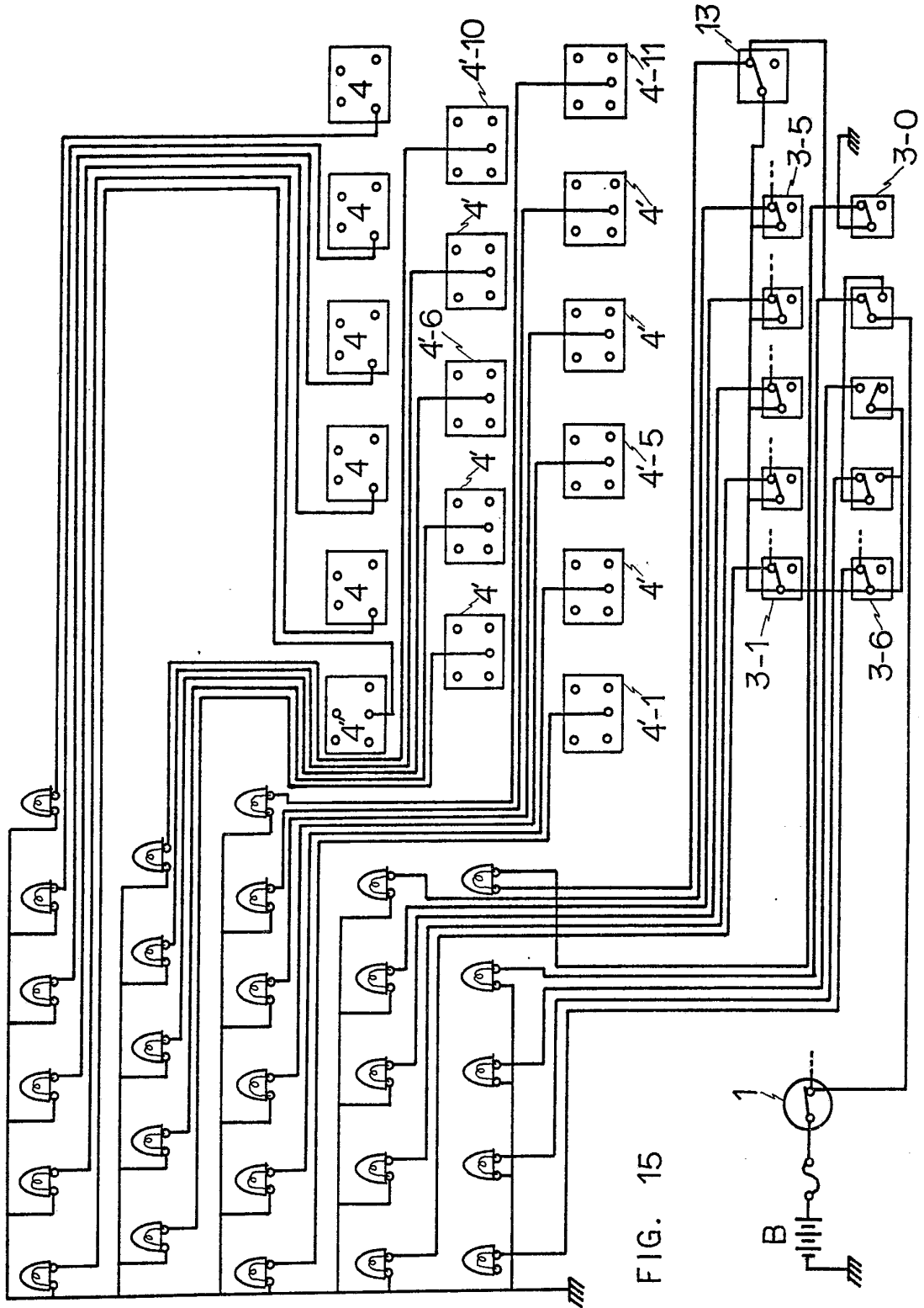


FIG. 15

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FIG.16a

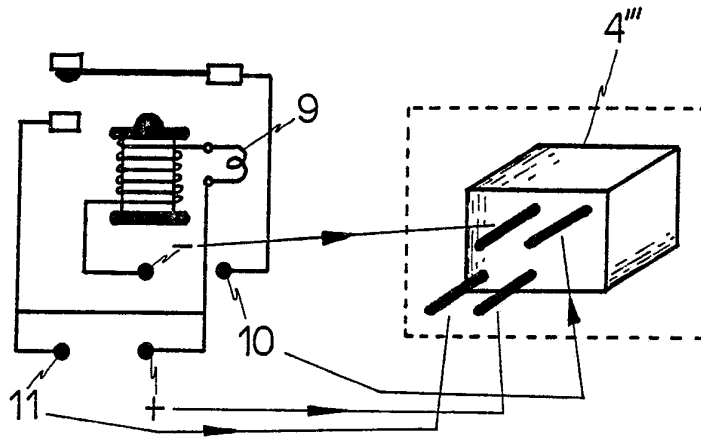


FIG.16b

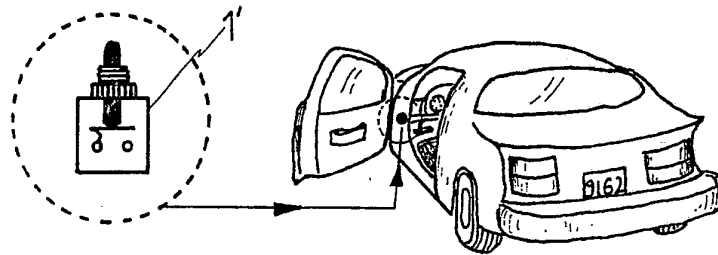


FIG.16c

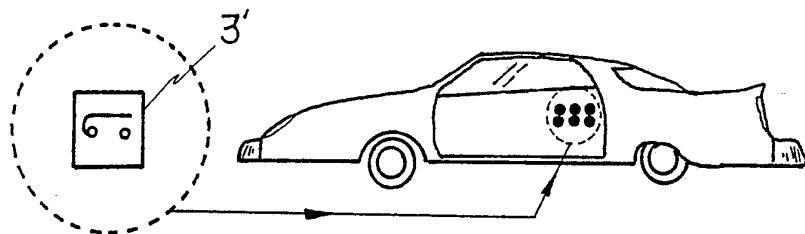
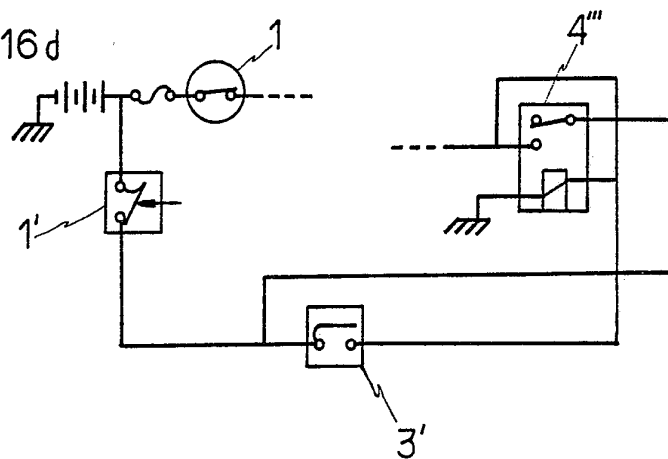


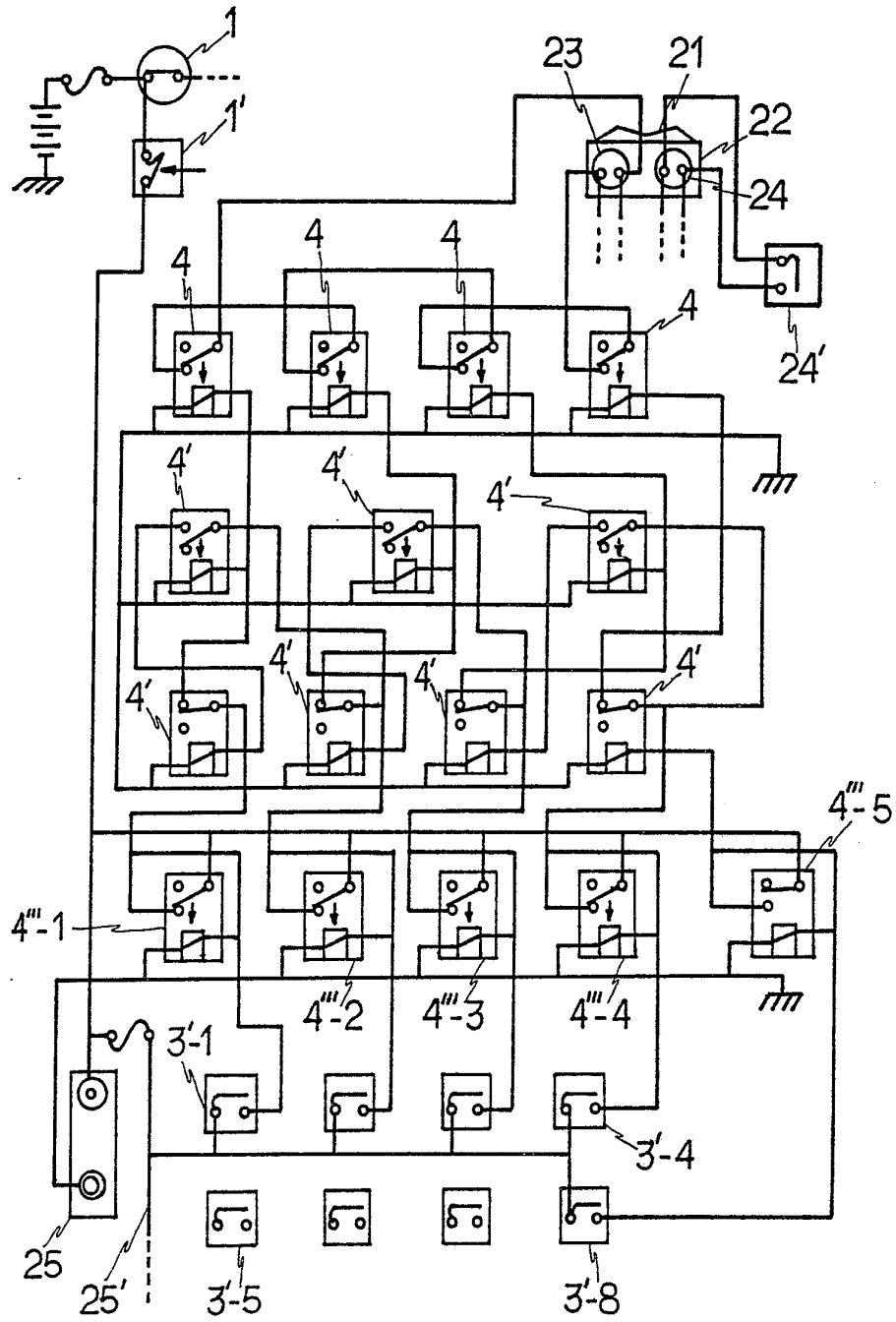
FIG.16d



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FIG. 16e



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FIG. 17

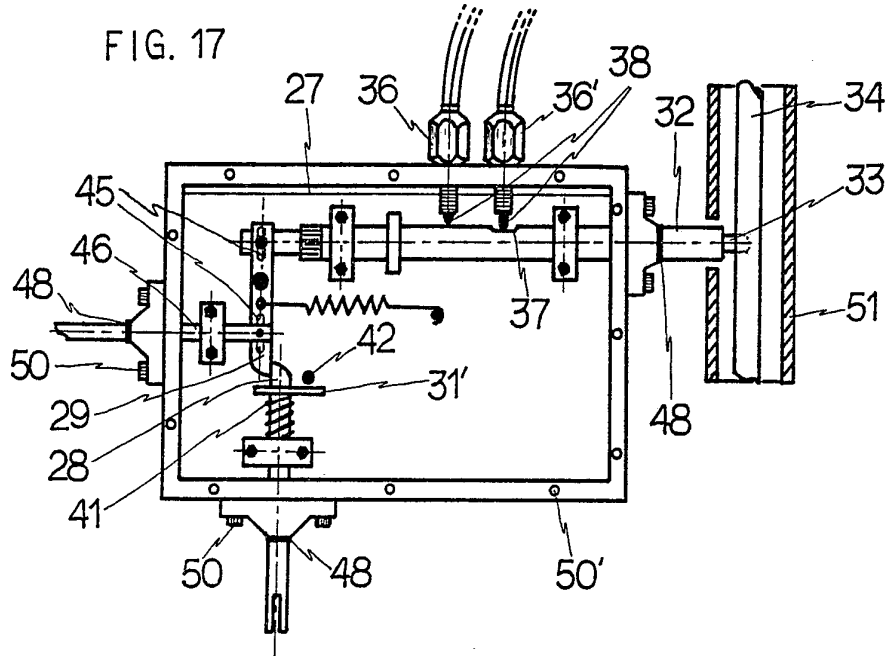
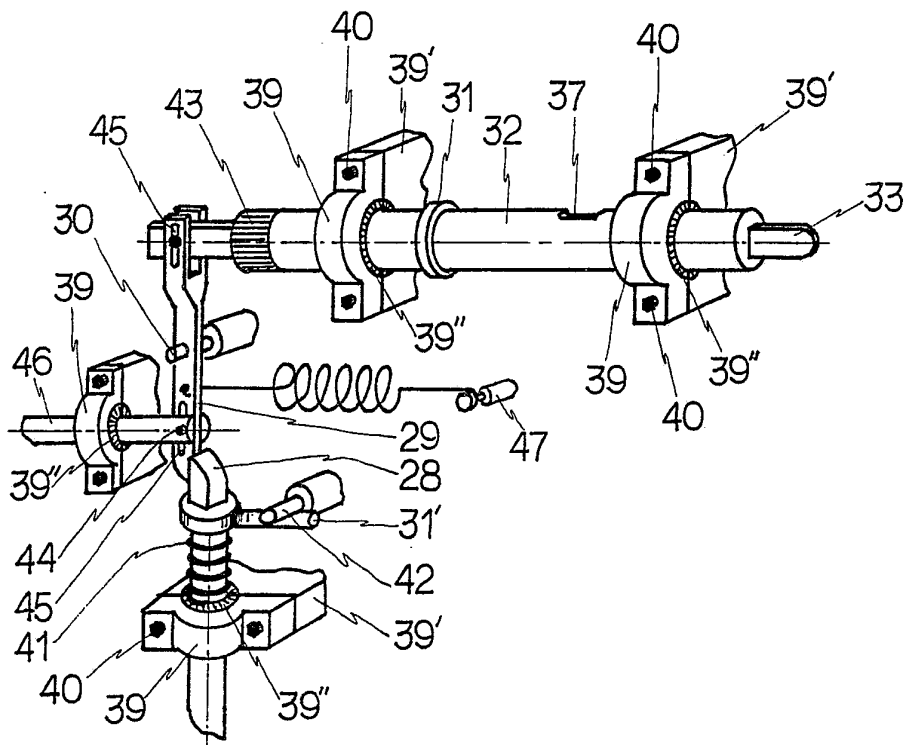


FIG. 18



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FIG. 19

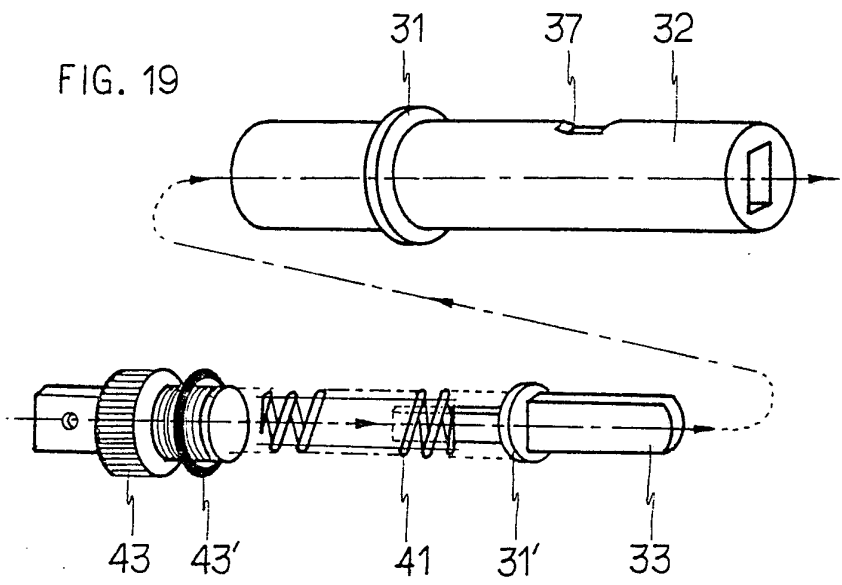


FIG. 20

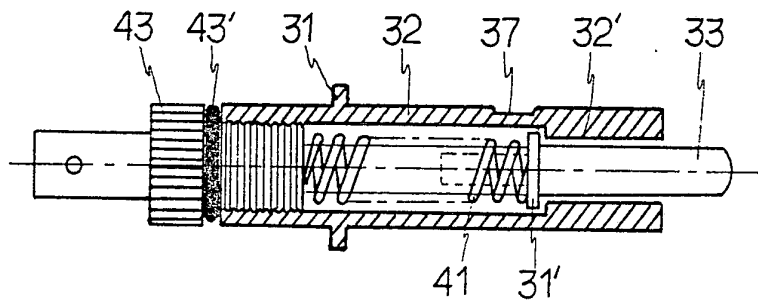
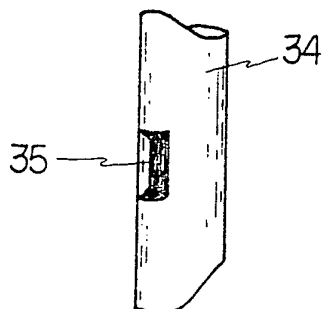
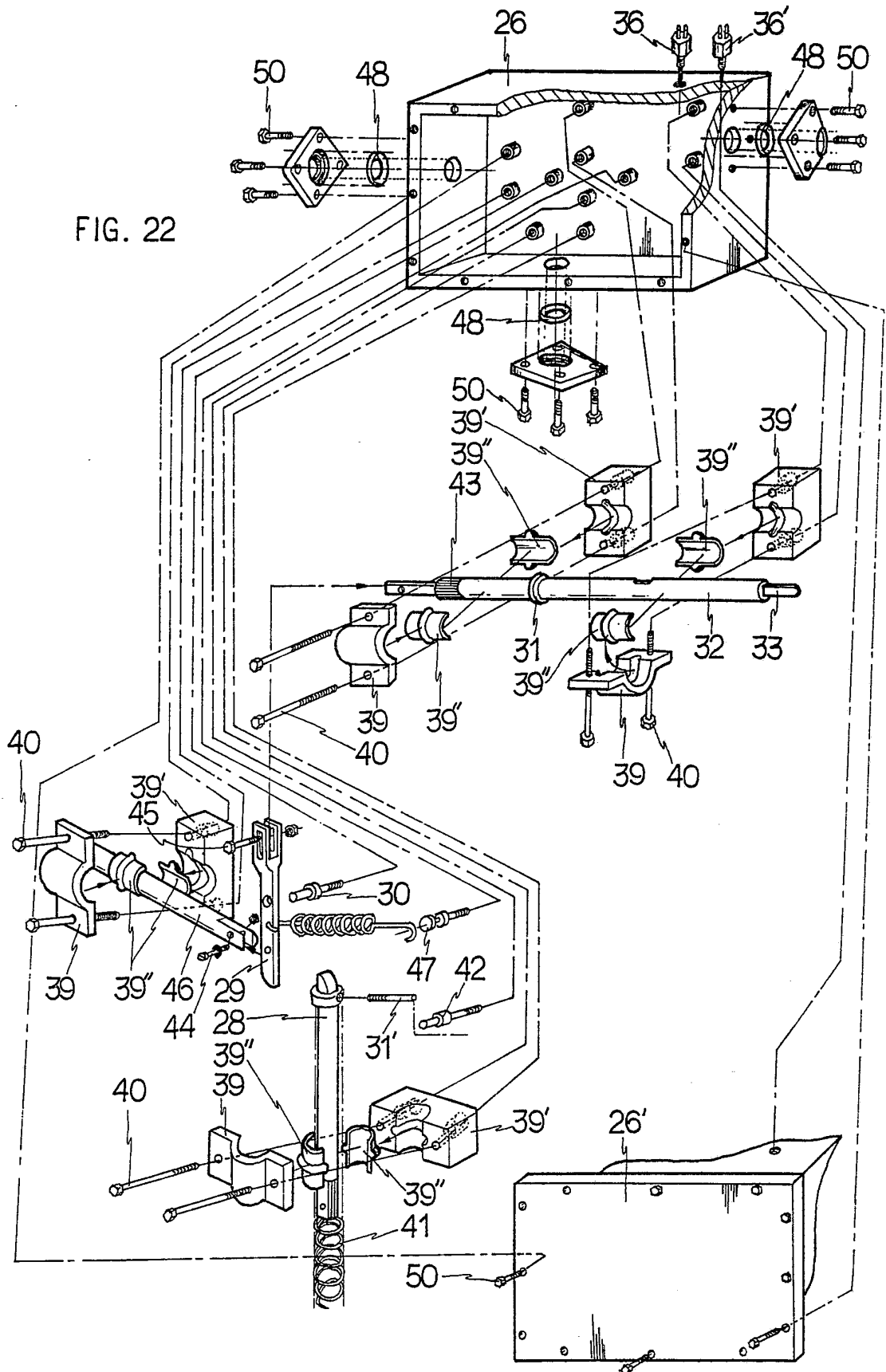


FIG. 21



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FIG. 22



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FIG. 23

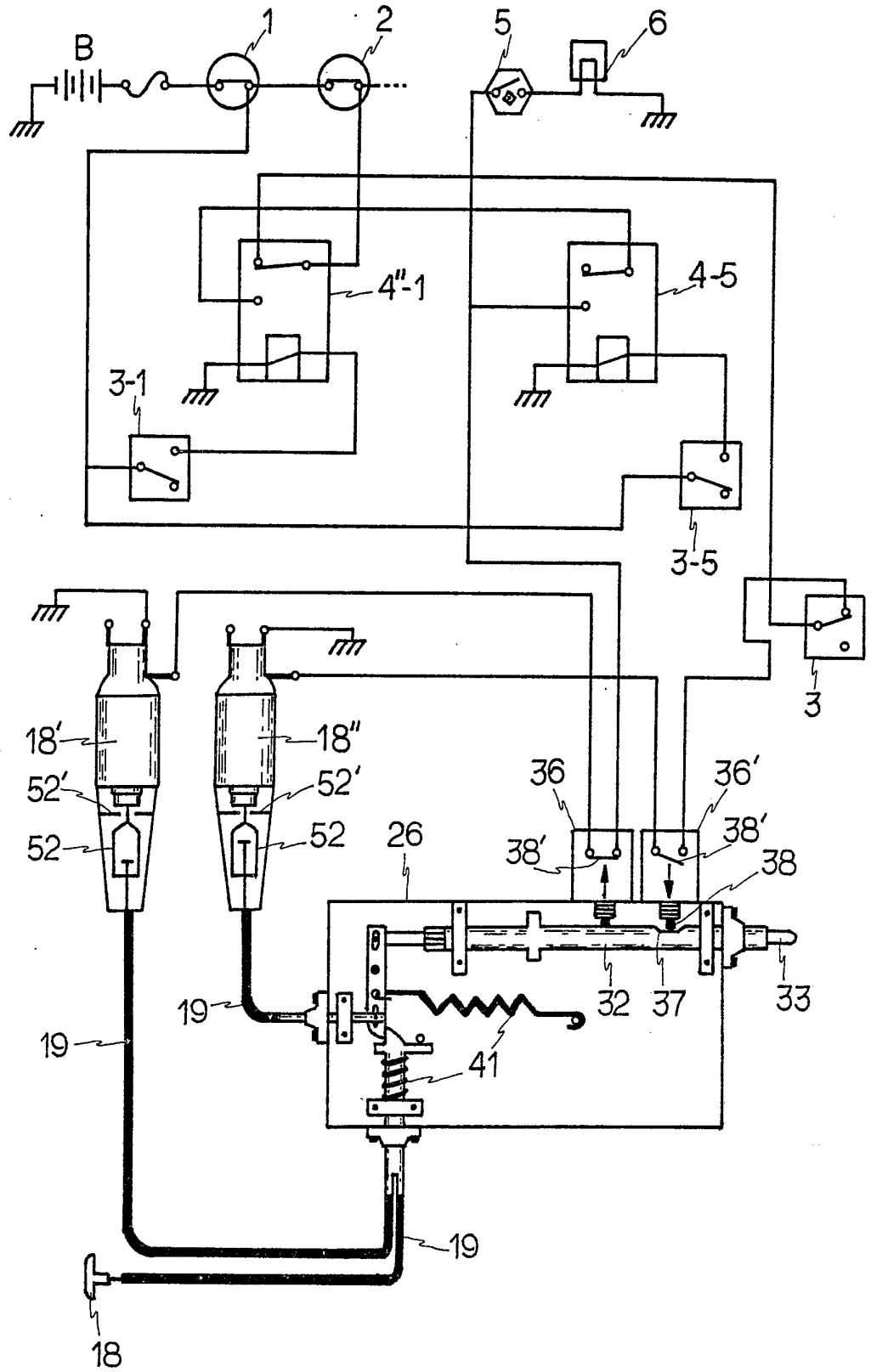


FIG. 24

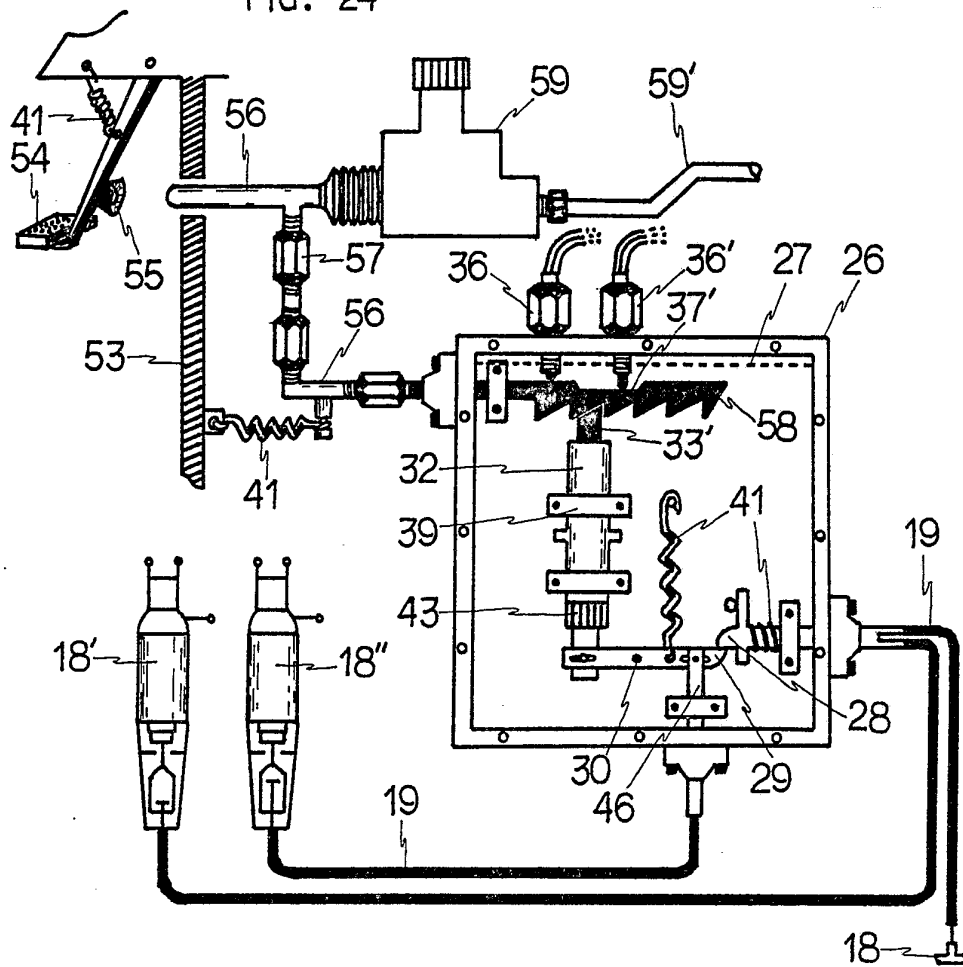


FIG. 25

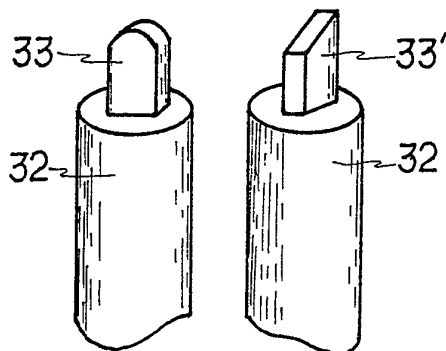


FIG. 26

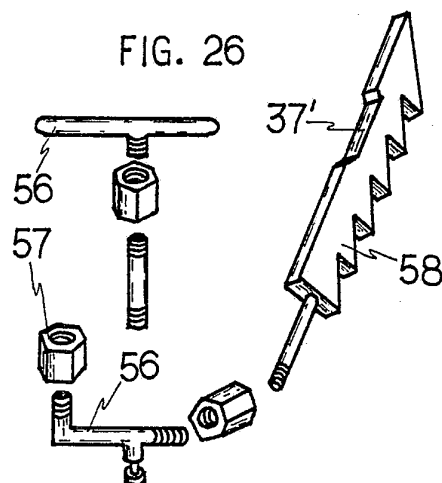


FIG. 27

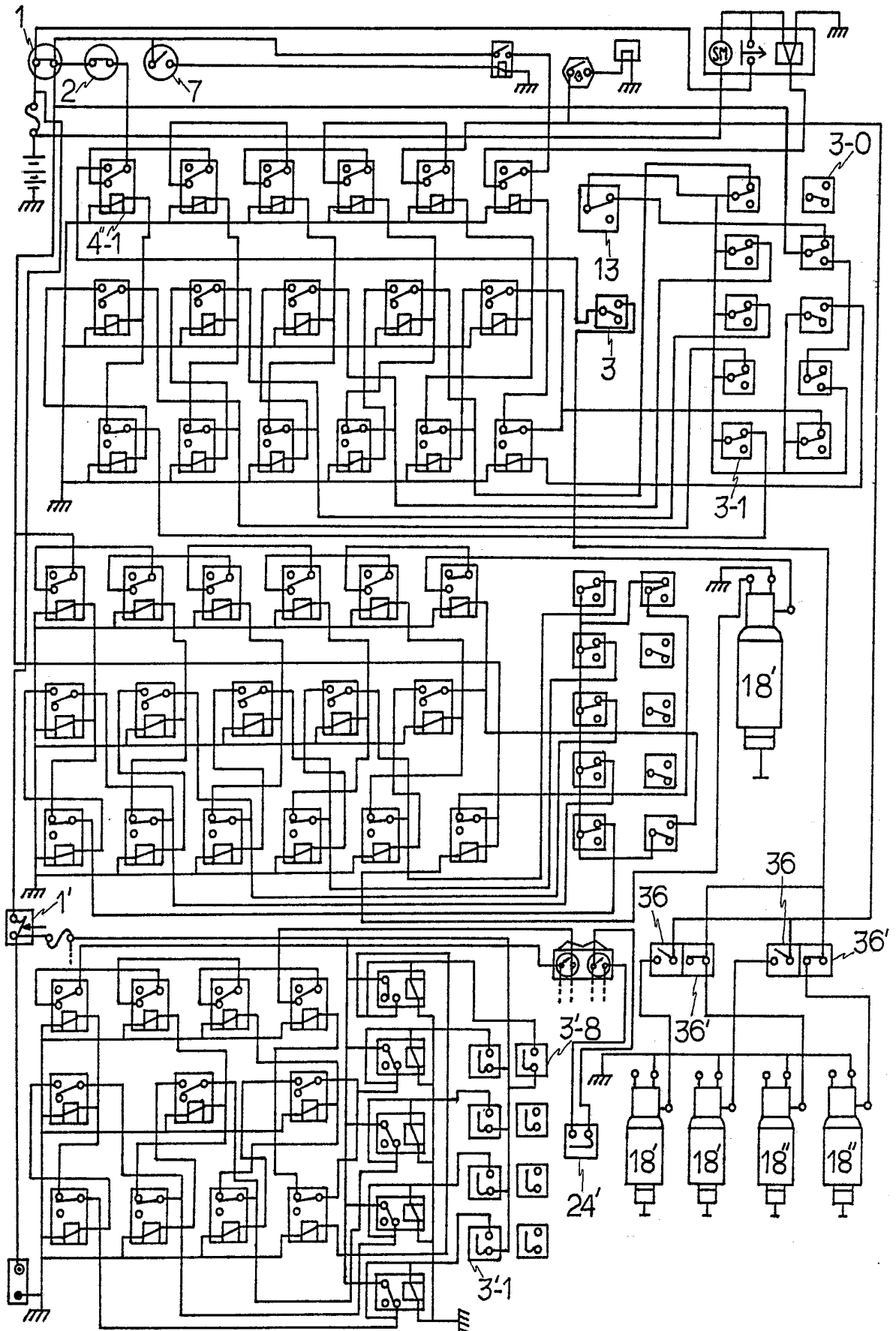
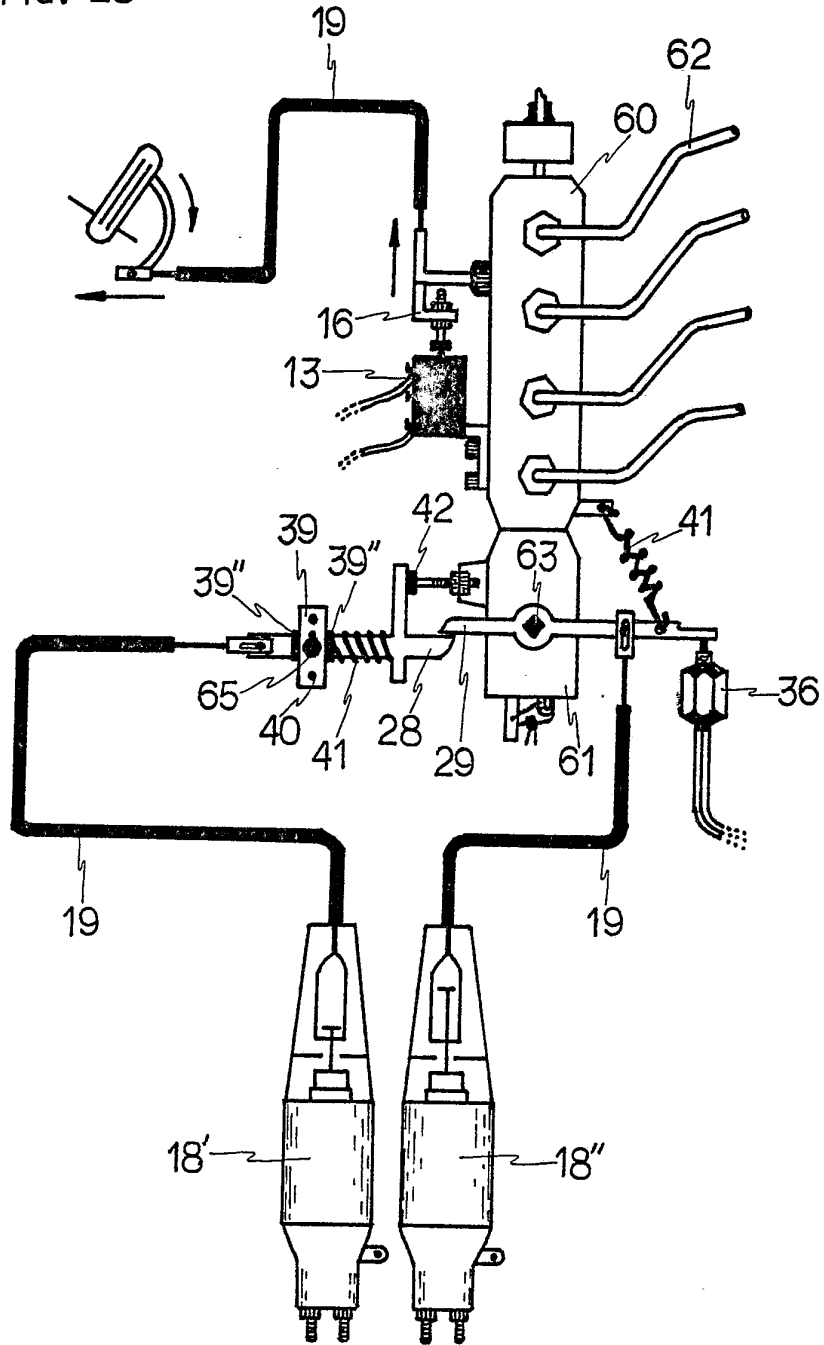


FIG. 28



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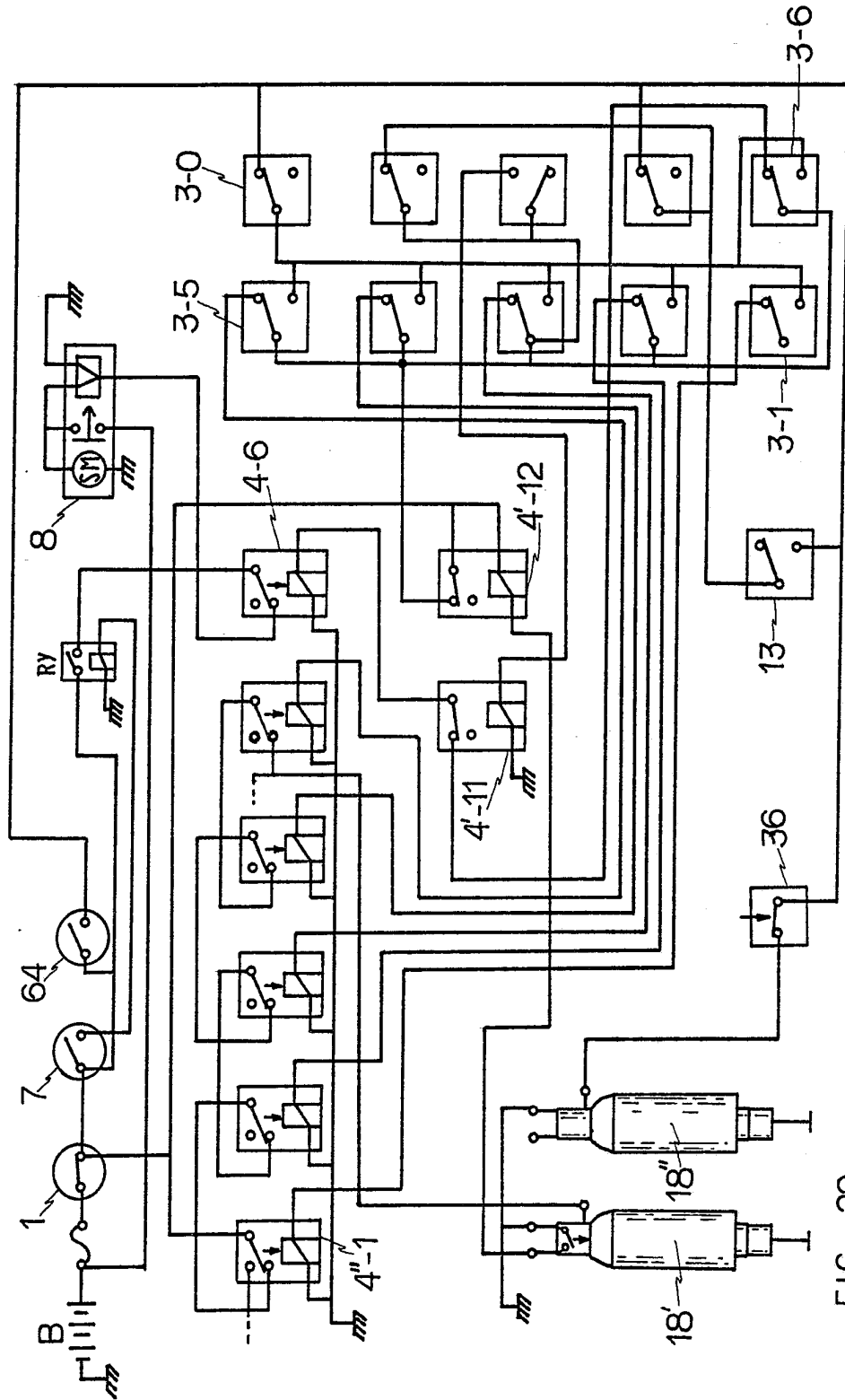


FIG. 29

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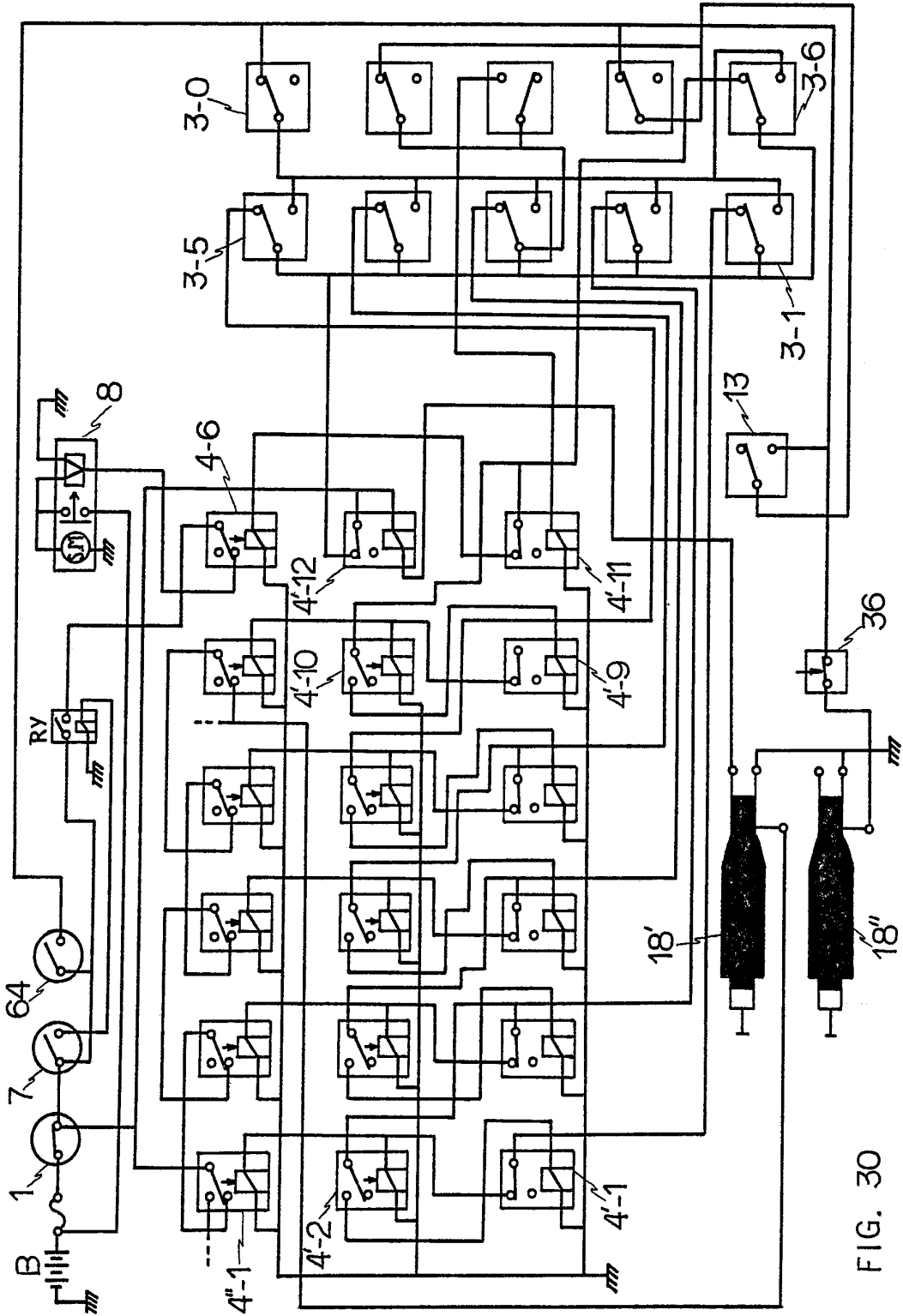
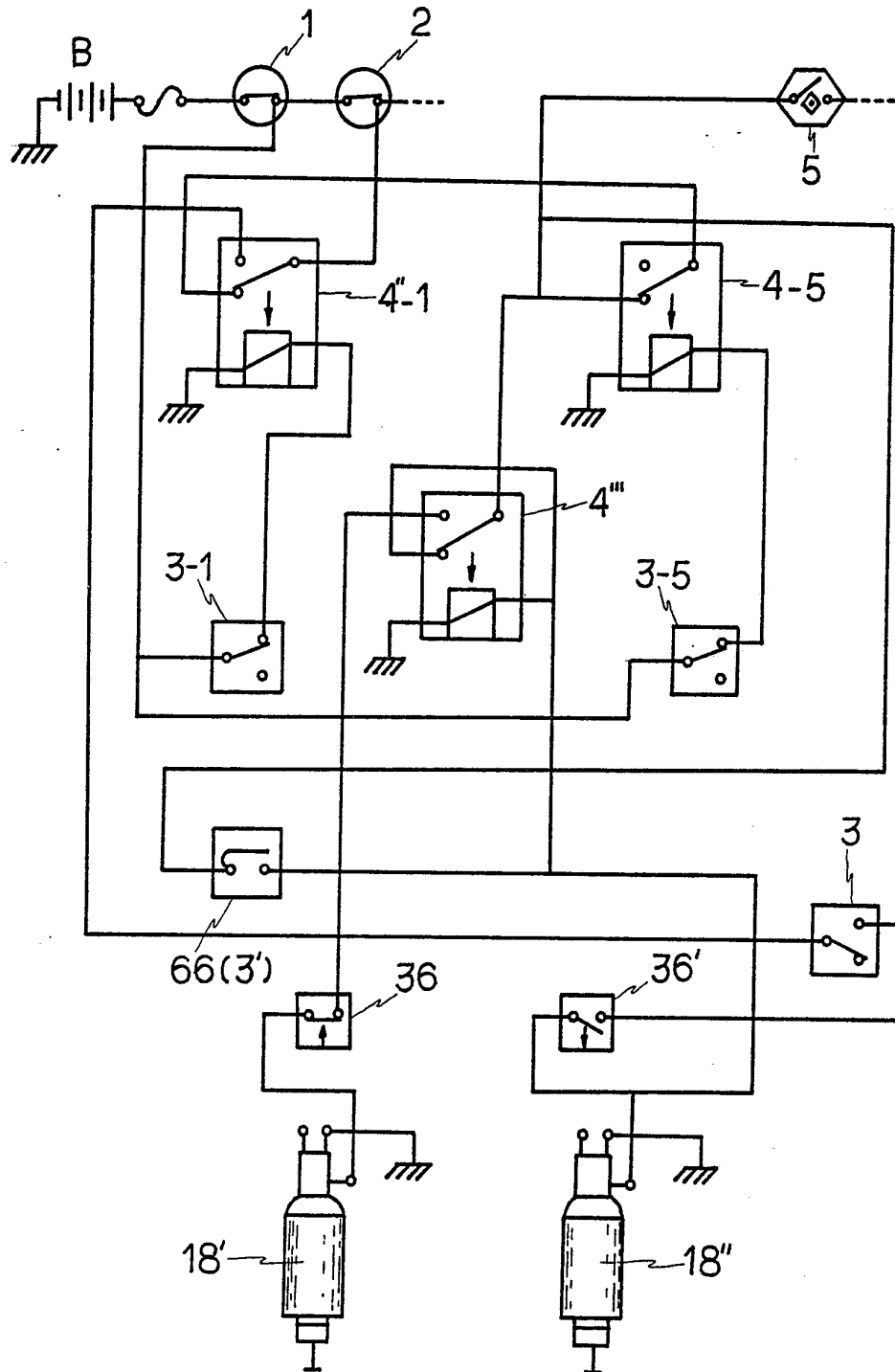


FIG. 30

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FIG. 31



## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 92/00015

## A. CLASSIFICATION OF SUBJECT MATTER

Int.Cl.<sup>5</sup>: B 60 R 25/02, 25/04, 25/08

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

Int.Cl.<sup>5</sup>: B 60 R

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US, A, 4 151 509 (WINICZEI) 24 April 1979 (24.04.79), see fig. 4.	1,5
A	US, A, 3 947 693 (ESKENAS) 30 March 1976 (30.03.76), see fig. 4.	1,5
A	US, A, 3 697 945 (COMBER) 10 October 1972 (10.10.72), see fig. 1.	1,5
A	US, A, 3 514 556 (LAFRANCE) 26 May 1970 (26.05.70), see fig. 4,8.	1,5
A	US, A, 3 430 058 (YOSHIDA) 25 February 1969 (25.02.69), see fig. 1.	1,5
A	GB, A, 2 175 646 (BARROW) 03 December 1986 (03.12.86), see fig. 1.	1,5
A	DE, A1, 2 733 816 (PONTES) 02 February 1978 (02.02.78), see figure.	1,5

 Further documents are listed in the continuation of Box C. See patent family annex.

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Date of the actual completion of the international search

22 September 1992 (22.09.92)

Date of mailing of the international search report

23 September 1992 (23.09.92)

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Authorized officer

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## INTERNATIONAL SEARCH REPORT

International application No.

PCT/KR 92/00015

## C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
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A	AT, B, 180 204 (BITTERMANN) 25 November 1954 (25.11.54), see figure.	1,5
Y	DE, C, 856 999 (SCHELLE) 27 November 1952 (27.11.52), see fig. 1.	3
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A	EP, A1, 232 974 (GOSKER) 19 August 1987 (19.08.87), see fig. 3,4.	6
A	DE, A1, 3 132 016 (DAIMLER-BENZ), 03 March 1983 (03.03.83), see fig. 1,2.	6
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INTERNATIONAL SEARCH REPORT  
Information on patent family members

International application No.

PCT/KR 92/00015

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US A 4151509	24-04-79	keine - none - rien	
US A 3947693	30-03-76	keine - none - rien	
US A 3697945	10-10-72	keine - none - rien	
US A 3514556	26-05-70	keine - none - rien	
US A 3430058	25-02-69	keine - none - rien	
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DE B 1116553		keine - none - rien	
DE 856999		keine - none - rien	
US A 4907427	13-03-90	keine - none - rien	
DE 350897		keine - none - rien	
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EP A1 185817	02-07-86	DE C0 3473136 EP B1 185817	08-09-88 03-08-88
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