No. 741,837. PATENTED OCT. 20, 1903.

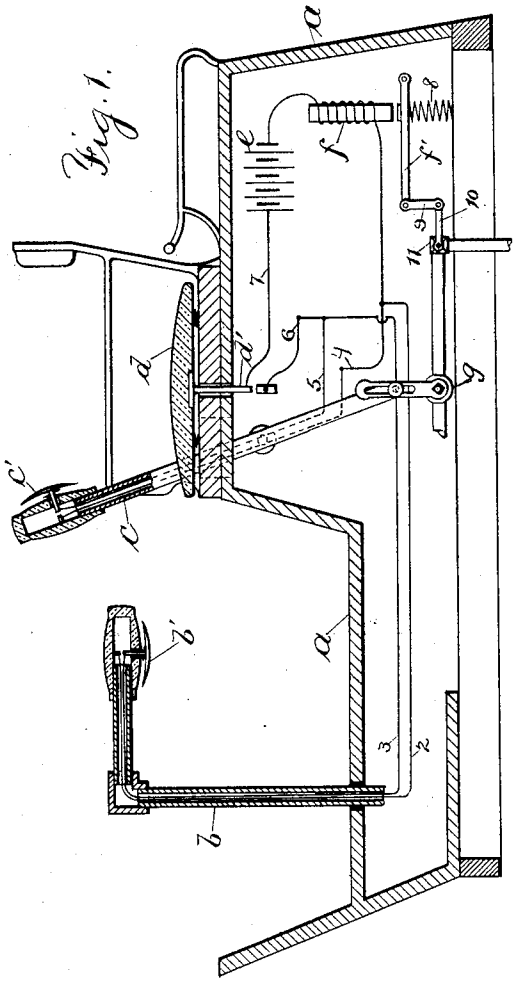
J. SACHS.

CONTROLLING DEVICE FOR MOTOR VEHICLES.

APPLICATION FILED APR. 21, 1900.

NO MODEL. 2 SHEETS—SHEET 1.

Fig. 1.



WITNESSES

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NO MODEL. 2 SHEETS—SHEET 2.

Fig. 2.

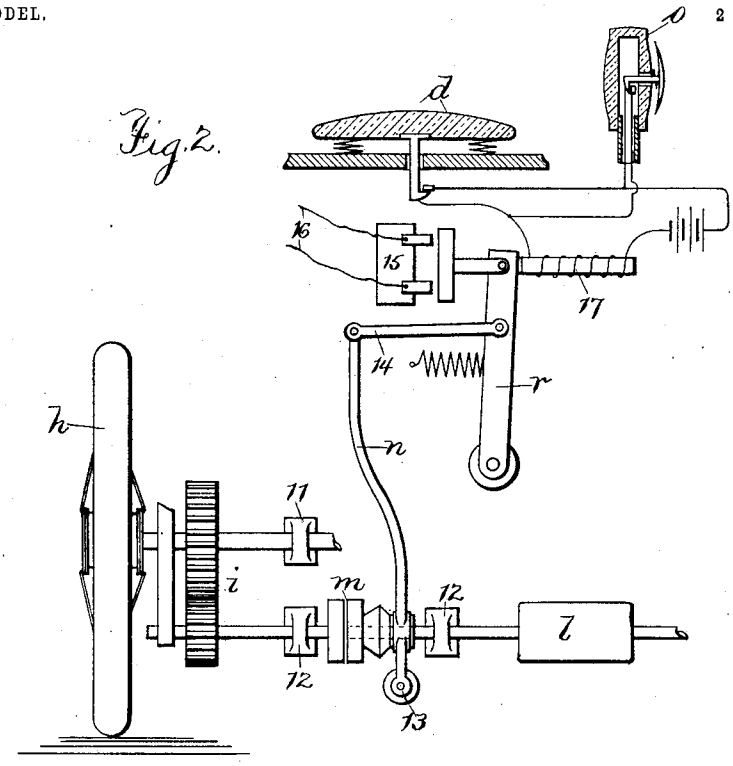


Fig. 4.

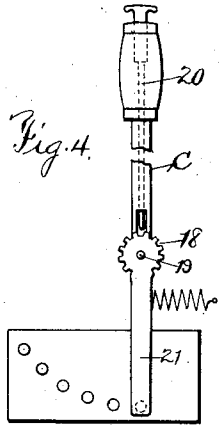


Fig. 3.

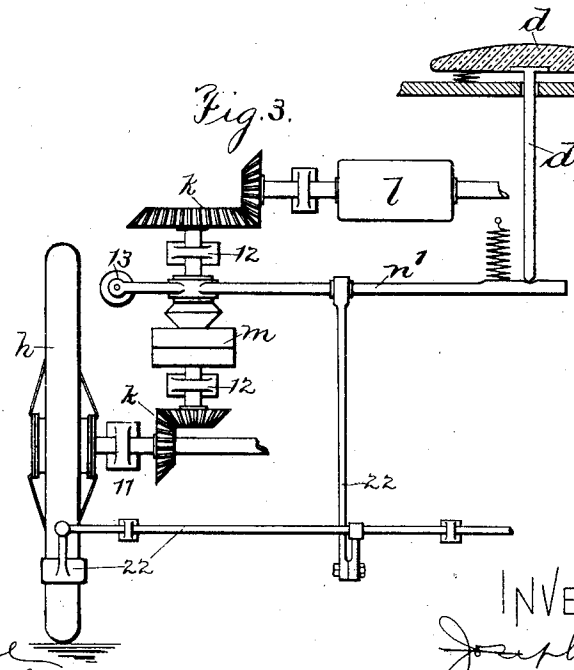
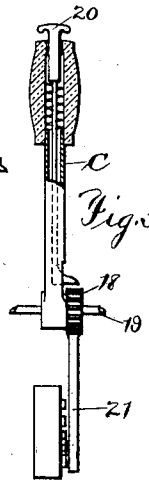


Fig. 5.



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UNITED STATES PATENT OFFICE.

JOSEPH SACHS, OF HARTFORD, CONNECTICUT.

CONTROLLING DEVICE FOR MOTOR-VEHICLES.

SPECIFICATION forming part of Letters Patent No. 741,837, dated October 20, 1903.

Application filed April 21, 1900. Serial No. 13,712. (No model.)

To all whom it may concern:

Be it known that I, JOSEPH SACHS, a citizen of the United States, residing at Hartford, in the county of Hartford and State of Connecticut, have invented an Improvement in Controlling Devices for Motor-Vehicles, of which the following is a specification.

My invention relates to means for controlling the action of the power devices operating motor-vehicles. Heretofore it has not been safe to leave such vehicles unattended, because mischievous and curious persons have frequently tampered with the mechanism and have caused runaways and serious accidents. Drivers or motormen have also been thrown from their seats upon such vehicles, with the result that the vehicles have continued their movements and accidents have resulted; and the object of my invention is to overcome these objections and make it nearly impossible for accidents to occur.

In carrying out my invention and in addition to the devices employed for operating the motor-vehicle and guiding the same I provide means, mechanically or electrically operated, by which the vehicle cannot be started until the driver or motorman occupies his operative position upon the vehicle and which devices go out of action the moment the driver or motorman leaves his position. These mechanically or electrically operated devices must be brought into action before the vehicle can be started and the moment they go out of action are the medium for causing the vehicle to stop. Thus if a mischievous person were to start the vehicle and not be able to control it and be thrown from it the said devices going out of action would stop the vehicle instantly and there would be no runaway, and the liability of accident would be reduced to a minimum. Likewise if the motorman should be thrown from his seat the vehicle would be caused to stop.

My invention is applicable to a motor-vehicle operated by any of the means known in the art.

In the drawings, Figure 1 represents my improvement by a diagrammatic longitudinal section of the body of a motor-vehicle. Fig. 2 is a diagrammatic view of a modified form, showing electrically-controlled mechanical devices. Fig. 3 is a diagrammatic view showing mechanical controlling devices actuated by the seat. Fig. 4 is an elevation, and Fig. 5 a partial section and side elevation, of the motor-actuating handle.

In the device shown in Fig. 1 the body of the vehicle is represented at a, the steering handle or lever at b, the starting-lever at c, and the seat for the driver or motorman at d. The post of the steering-handle b is preferably made tubular, and through the same I place two electric wires 2 3, one wire passing to the fixed post in the interior of the handle and the other wire to the stem of the movable spring-actuated plate b'. The starting-lever is tubular, and through the same I place two wires 4 5, one of which passes to a fixed post in the interior of the handle and the other to the stem of a spring-actuated plate c'. The seat d is vertically movable and rests upon springs and is provided with a stem d'. An electric wire 6 passes to a fixed post beneath the stem d' and the wire 7 to the stem d'. Wires 2 and 4 are connected, and the wires 3 and 5 are also connected, the seat-contact being in series with the handle-contacts, and in said circuit I have shown a battery e and an electromagnet f. Operating in connection with the electromagnet f is a pivoted arm f', having thereon a bar to be attracted by the electromagnet and a spring 8 to draw the bar away from the magnet. For the purpose of illustrating an operative device I have connected a link 9 to the free end of the bar f', and a lever 10 is also pivoted to said link and extends to the stem of a valve 11, and a valve g is provided adjacent to the valve 11, and a pipe connects the valves and extends from the valve g in one direction and from the valve 11 in another direction. These valves are simply illustrative and would be employed, for instance, in case of a motor-vehicle operated by steam, the pipe to the valve g coming from the boiler and the pipe from the valve 11 going to the engine. If the vehicle were electrically operated, the valves would be replaced by switches. The various electrical connections to the handles of the controlling-levers and the seat are illustrative to the extent that the contact in either one of the handles is sufficient to close the circuit when the seat-contact a' is closed, the idea being that if the motorman sits upon

the seat d the weight bearing the same down closes the contact, and then by closing either handle-contact the electromagnet is energized to operate and move the bar f', link 9, and lever 10 and open the valve 11. This action may be effected before the motorman actuates the starting-lever c to open the valve g, to which the same is to be connected. It is obvious that both these handle-contacts are not necessarily connected, as either one of them may be omitted and the electric circuit still be operative through the contact retained. In grasping the handle of the starting-lever the plate c' is pressed toward the handle and the circuit therein is completed. A similar effect is obtained when the handle of the steering-lever is grasped, the circuit therein being made so that in the opening of the valve 11 the vehicle is ready to start as soon as the lever c is actuated to open the valve g, the passage then being clear through the said valves for the steam, if the same is employed, to pass from the boiler to the engine. The action of the electrical devices is to keep the valve 11 open as long as the circuit is complete through the devices shown in the drawings; but as soon as the said parts are freed by the hands removed from the steering-handle and starting-lever or the weight of the motorman released from the seat the circuit is broken and the spring 8 draws down the bar f', closing the valve 11 and shutting off the supply to the engine, and this is accomplished without in any way disturbing the position of the starting-lever c and would be the position of the parts in case the motorman were thrown from the vehicle. The vehicle would thus be stopped even if the valve g were open. A person could sit on the seat and grasp the handles and complete the electric circuit and open the valve 11 without causing the vehicle to start so long as the starting-lever c was not actuated to open the valve g.

While I have illustrated in the drawings a battery e as a means of supplying the electric current, it is obvious that in an electrically-operated device the current may be supplied from any other source of electric energy; but these are details of the device that bear no essential relation to the invention.

I have shown in Figs. 2, 3, 4, and 5 modifications which embrace mechanically-operated devices, in which h represents the wheel of the vehicle. In Fig. 2, i represents the spur-gears connecting the shaft of the wheel with the shaft of the motor l, 11 and 12 being bearings for the shafts. A friction disk clutch m is interposed in the motor-shaft, and a lever n, pivoted at 13, is employed to connect the friction-clutch m, so that the power of the motor is communicated to the wheel h. In Fig. 3 bevel-wheels k, in pairs, connect the shaft of the wheel h to the motor-shaft, and a similar friction disk clutch m is interposed in the vertically-placed shaft of two of the bevel-gears, a spring-actuated lever n' being employed to connect the friction disk clutch. In the device Fig. 2 a link 14 connects the free end of the lever n with a spring-actuated lever r, and I have herein shown a switch 15 with leads 16 to the motor, the free end of the lever r being constructed for engagement with the said switch 15 in one position and in the other position being drawn away from the switch by the electromagnet 17, in the circuit of which are a battery and wires passing to contacts made by the seat d and the handle o. In the position of the parts Fig. 2 the seat is unoccupied and the handle is not grasped by the hand. Consequently the contacts are made and the currents established through the magnet drawing the spring-actuated lever r toward the magnet and opening the switch 15. This would be the position of the parts when the vehicle is unoccupied or in case the driver of the vehicle were thrown from his seat. With the parts as shown the vehicle would be in a state of rest, because the friction clutch-disk m is separated. If the seat d is occupied, the circuit therein is broken, but is not broken by the handle o, and, vice versa, if the handle o is operated and the seat unoccupied the circuit is still not broken, it being necessary for the seat to be occupied and the handle to be grasped to break the circuit in order that the spring-actuated lever r may go toward and make contact with the switch to complete the circuit to the motor and operate the mechanism. In the part shown in Fig. 3 the lever n' is spring-actuated, and the seat d is made with a seat-rod d^2 passing through the motor-vehicle and resting upon the said lever, so that the weight of the driver upon the seat will move the lever n' and bring into engagement the friction disk clutch m. In this device I prefer to employ in connection with the handle c a pawl-rod 20, a ratchet device 18, and spring-actuated electric contact-arm 21, the parts of which in the drawings are shown as disconnected and at the normal point, Figs. 4 and 5. The movement of the handle c upon the shaft 19 has no effect whatever until the pawl-rod 20 in the handle is depressed to engage the ratchet mechanism to swing the electric contact-arm 21, so as to move the same from the normal point and throw the motor into operation. When the pawl-rod is released, the electric device is returned by the spring to the normal position. The electric contact-arm is progressively advanced to throw more energy into the motor, and it is necessary to hold the same in place while the vehicle is in operation.

I have shown in Fig. 3 and prefer to employ a brake mechanism 22, connected to the pivoted lever n', so that when the seat is occupied and the clutch-disks engaged the brake is released and when the seat is unoccupied the brake is applied to the wheel.

I claim as my invention—

1. In a motor-vehicle, the combination with a motor, and means for actuating the same, of devices adapted to be engaged and moved by hand for controlling the vehicle, and means connected with said controlling devices which must be actuated to make it possible to operate the motor and by it the vehicle.

2. In a motor-vehicle, the combination with a motor, means for actuating the same and a device actuated by the weight of the motorman, of devices adapted to be engaged and moved by hand for controlling the vehicle, and means connected with said controlling devices and the device operated by the weight of the motorman which must be actuated in order to make it possible to operate the motor and by it the vehicle.

3. In a motor-vehicle, the combination with the motor, and means for actuating the same, of devices adapted to be engaged and moved by hand for controlling the vehicle, and electrical devices having contacts at the controlling devices where the circuit is made or broken by actuating the first-named devices and the devices connected therewith, substantially as specified.

4. In a motor-vehicle, the combination with the motor, and means for actuating the same, of lever devices adapted to be engaged and moved by hand for controlling the vehicle, and electrical devices for starting and stopping the motor, having contacts at the lever devices where the circuit is made or broken by actuating the lever and the devices connected therewith, substantially as specified.

5. In a motor-vehicle, the combination with a motor, of a vertically-movable driver's seat, hand-operated devices controlling the vehicle, and devices associated respectively with the seat and the aforesaid hand-operated devices and brought into operation by their movement for starting, regulating and stopping the vehicle at the pleasure of the motorman.

6. In a motor-vehicle, the combination with the motor, of a vertically-movable driver's seat, hand-operated devices controlling the vehicle, electric-circuit devices associated with the seat devices and handles, and means connected to one or more handles, the operation of which may be effected when the handles are grasped by the hand by which the making or breaking of the electric circuit is made possible at the will of the motorman.

7. In a motor-vehicle, the combination with the motor, of a vertically-movable driver's seat, hand-operated devices controlling the vehicle, electric-circuit devices associated with the seat devices and handles, and spring-actuated contacts connected to one or more handles, the operation of which may be effected when the handles are grasped by the hand by which the making or breaking of the electric circuit is made possible at the will of the motorman.

8. In a motor-vehicle, the combination with the motor, of hand-operated devices controlling the vehicle, and devices associated with the aforesaid hand-operated devices and brought into operation by their employment for starting, regulating and stopping the vehicle at the pleasure of the motorman.

Signed by me this 13th day of April, 1900.

JOSEPH SACHS.

Witnesses:

GEO. T. PINCKNEY,

BERTHA M. ALLEN.