

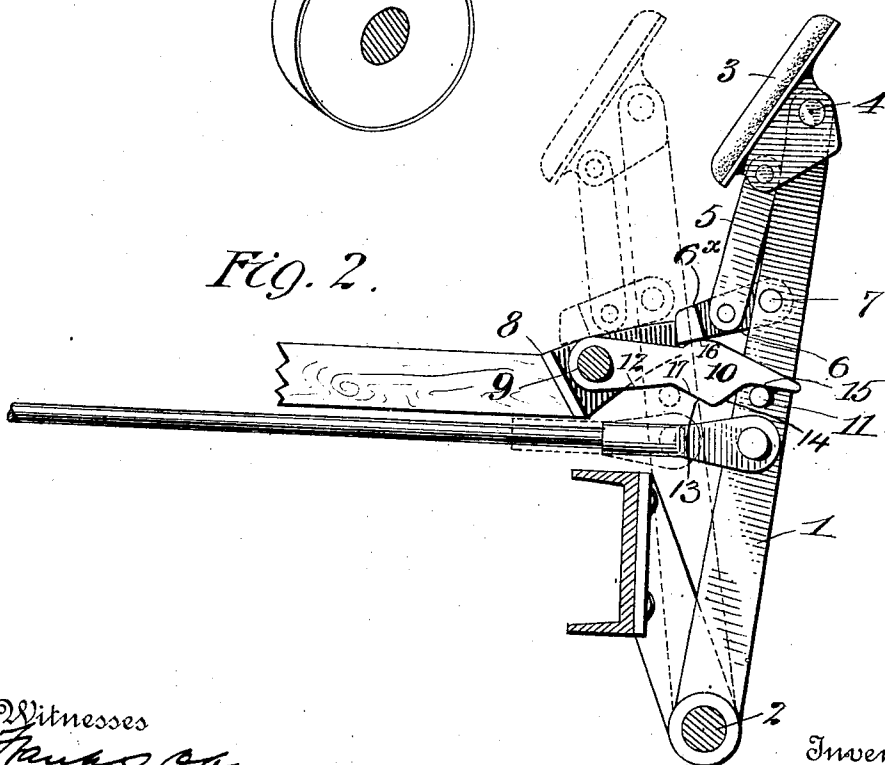
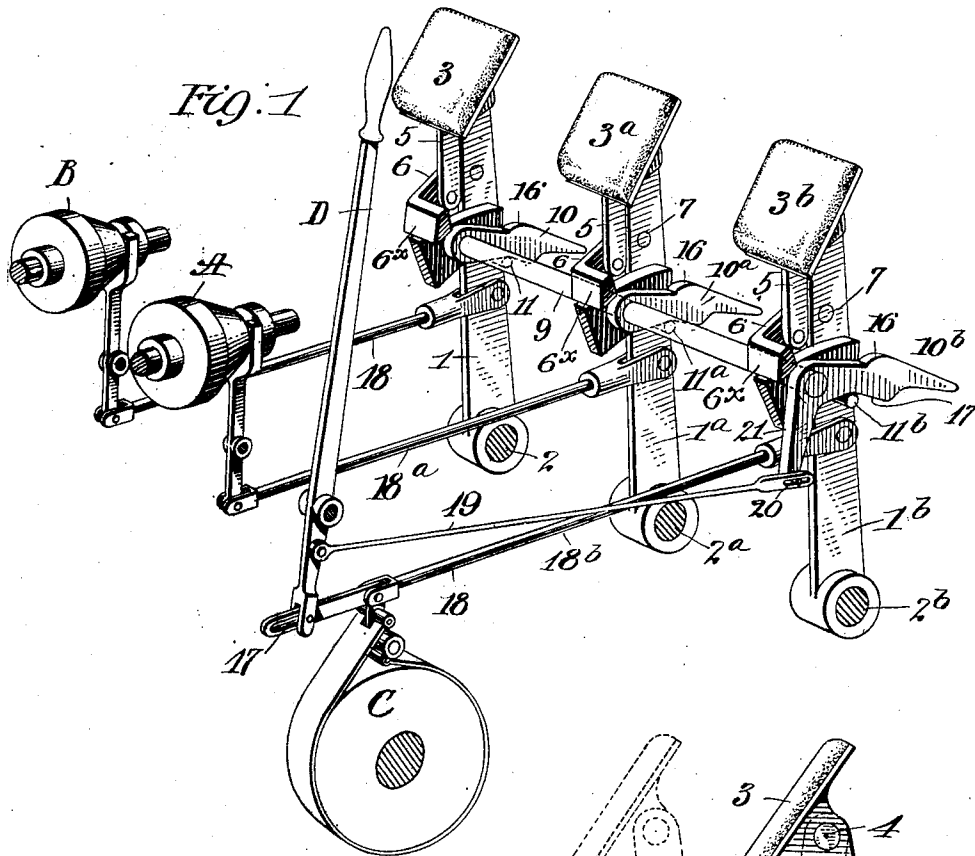
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C. O. SNYDER.

CONTROLLING MECHANISM FOR MOTOR VEHICLES.

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CONTROLLING MECHANISM FOR MOTOR-VEHICLES.

No. 826,198.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, CHARLES O. SNYDER, a citizen of the United States, residing at the city of New York, in the borough of Manhattan and State of New York, have invented certain new and useful Improvements in Controlling Mechanism for Motor-Vehicles, of which the following is a full, clear, and exact description.

My invention relates to controlling mechanism for motor-vehicles. In apparatus of this class the control of the various parts, and particularly the clutches and brake mechanism, is generally effected through levers and pedals within reach of the chauffeur. A convenient arrangement which is employed in practice is to have a plurality of pedals connected, respectively, to the brake mechanism, to the low and to the high speed clutches, so that the motive power of the vehicle is entirely controllable by the feet of the operator, leaving his hands free for steering. Additional means for setting the brake, such as a hand-lever, is, however, generally provided, because in an emergency the brake should be operated in the most direct and positive way and with a high leverage and power.

With the above arrangement a difficulty sometimes arises in practice on account of the tendency of the chauffeur when confused or hurried to forget to release the holding-pawl of one of the pedals when another is depressed, so that it may happen that the brake and one of the clutches is in operation at the same time, or both of the clutches, which would be likely to damage the mechanism.

It is the purpose of my invention to devise a structure by which the holding-pawl of any depressed pedal is released when any other pedal of the controlling series is depressed.

A further object of my invention is to provide a hand-brake which will serve to release all of the pedals whenever it is applied.

A further object of my invention is to devise a construction which is simple and easy to construct, efficient in operation, and having a minimum number of parts.

With these and other objects in view my invention consists in the construction, combination, location, and arrangement of parts, all as will be more fully hereinafter set forth, as shown in the accompanying drawings, and finally particularly pointed out in the appended claims.

Figure 1 is a perspective view showing a series of foot-pedals having a construction embodying the principles of my invention and also showing diagrammatically the various devices which they respectively operate. Fig. 2 is a detail side elevation of one of the pedals, showing it in its normal and in its depressed position.

Referring now to the drawings, and to the views and reference-signs appearing thereon, wherein the same signs designate like parts wherever they occur, 1, 1^a, and 1^b denote pedal arms or levers journaled to a fixed portion of the frame at 2, 2^a, and 2^b and having heads or pads 3, 3^a, and 3^b thereon. I prefer to construct each of the pedals in substantially the same way, and I have shown a convenient form of construction for this purpose which is particularly illustrated in Fig. 2. In this figure the head 3 is pivoted to the arm 1 at 4 and has attached thereto a depending link 5, which is connected to a pawl 6, pivoted at 7 on the arm 1. 8 denotes a stationary fixture upon the frame of the machine, which has an upper surface concentric with the pivot 2 and an end wall or shoulder behind which the pawl 6 is adapted to drop when the pedal 3 has been fully depressed. By this means the pedal is locked and held in its depressed position until it is released by the action of the operator, who moves his foot to turn the head 3 and raise the pawl 6, after which any suitable spring (not shown) becomes effective to return the pedal to its normal position. Such normal position is illustrated by the dotted lines in Fig. 2, the full lines illustrating the depressed position thereof. The mechanism thus far described is of the ordinary and well-known construction and forms no part of my present invention.

Journaled within any stationary part of the frame and preferably within the fixtures 8 I have arranged a rock-shaft 9, which extends across the entire series of pedals and has cam-arms 10, 10^a, and 10^b secured thereto. These cam-arms are adapted to lie in the path of a toe or projection 6^x upon each of the pawls 6. While I have arranged the cam 10 to act directly upon the pawls in this way, it is obvious that any intermediate connection may be made in lieu thereof and still fall within the principles and scope of my invention.

11, 11^a, and 11^b indicate pins upon each of

the pedal-arms 1, 1^a, and 1^b, which are disposed beneath the cam-arms 10, 10^a, and 10^b so as to contact therewith, and these cams are formed with inclined surfaces upon their lower sides to cooperate with the pins and be raised thereby when any pedal is depressed.

A convenient form of cam, which I have adopted in practice, is illustrated in Fig. 2, and comprises an initial lower surface 12, an incline 13, and a second reverse incline 14, culminating in a flat portion 15. 16 shows a projection on the upper surface of each cam-arm, which is adapted to lie directly beneath the toe 6^x of each pawl 6 when the pedal carrying that pawl has been depressed.

For the purpose of rendering my invention more easily understood I have made a diagrammatic showing of the high and low speed clutches and the brake mechanism of an automobile, of which (referring to Fig. 1) A denotes the high or first speed clutch, and B the second or low speed clutch, while C indicates the usual brake mechanism, which may include reversing means for the vehicle as well. It is to be distinctly understood that these parts, as shown in Fig. 1 of the drawings, are of purely diagrammatic representation, their construction and disposition in an actual machine being varied to satisfy the conditions and taste of any particular designer. It is merely essential for the purpose of my invention that some sort of connection be provided between such devices and the operating levers or pedals. Also in diagrammatic representation is the hand-brake lever D, which is connected to the brake C through any sort of slotted link connection 17. Attached at some point on the hand-brake mechanism D, I arrange a link 19, having a slotted end engaging a pin 20 upon an arm 21, extending from the rock-shaft 9. The arm 21 may, if desired, be integral with the cam-arm 10^b. 18, 18^a, and 18^b indicate links which are respectively connected to the arms 1, 1^a, and 1^b and extend in any suitable or desired manner to the clutches B A and the brake C, or other mechanism, if necessary.

The operation of my device will be understood from the preceding description. Any pedal having been depressed is locked in such relation by its pawl 6^x. When now another pedal—as, for example, the pedal 3^b—is depressed, the pin 11^b slides along the lower surface of the cam-arm 10^b and coming in contact with the inclined surface 13 raises the cam-arm and with it turns the rock-shaft 9. This is effective to rock all of the other cam-arms 10 and 10^a, and should any pedal of the series happen to be already depressed the projection 16 will contact with the toe 6^x of such pedal and lift it out of engagement with its fixture 8, whereupon the pedal will be returned to normal position by its usual spring. (Not shown.) It is apparent that whatever

pedal is depressed all of the rest will be re-

turned by the action of the rock-shaft 9. In any case the pin 11 of the pedal which is being operated finally drops behind the incline 14 onto the flat surface 15 of the corresponding cam, whereupon its pawl 6 is not further disturbed and is effective to hold that pedal depressed. When the foot-pedal 3^b is depressed, the brake is operated through the connection 18^b, and the hand-lever D remains idle by virtue of the slotted link connection 17. When the hand-lever D is operated, the link 19 is thrust forward and engaging the pin 20 rocks all of the cam-arms upward, releasing all of the foot-pedals. The slotted link connection 19 permits the normal operation of the pedals, however, when it is desired not to manipulate the handle D.

What I claim is—

1. A controlling system for motor-vehicles comprising a plurality of pedals and means connected to each of the pedals for releasing a plurality of the remaining pedals of the series when it is depressed.

2. In a controlling system for motor-vehicles, a plurality of pedals, pawls connected thereto and engaging a stationary part of the frame, connections to each pedal-head for releasing its pawls, and additional connections for releasing all of them simultaneously.

3. In a controlling system for motor-vehicles, a plurality of pedals having heads, pawls on said pedals, connections between said heads and pawls, fixtures for engaging said pawls, and a rock-shaft operated by the depression of any pedal for releasing said pawls.

4. In a controlling system for motor-vehicles, a plurality of pedals, pawls on said pedals, fixtures for engaging said pawls, a rock-shaft having cam-arms arranged to contact with said pawls, and means for turning said rock-shaft when any pedal is depressed.

5. In a controlling system for motor-vehicles, a plurality of pedals, pawls upon said pedals, fixtures having lugs or shoulders to engage said pawls, a rock-shaft, cam-arms upon said rock-shaft having inclines on their lower surfaces, and means upon the pedals for riding upon said inclined surfaces.

6. In a controlling system for motor-vehicles, a plurality of pedals having locking-pawls, a rock-shaft, cam-arms extending from said rock-shaft adjacent to each of the pedals, projections upon the pedals formed to engage said cam-arms, said arms being arranged to contact with and raise said pawls when lifted.

7. In a controlling system for motor-vehicles, a plurality of pedals, locking means for said pedals, a rock-shaft having cam-arms thereon, said cam-arms being formed with an inclined face on their lower side, and a depression beyond said face, and a part operated by the depression of each pedal for con-

tacting with said face and depression, whereby the cam-arm is first lifted and then depressed.

8. In a controlling system for motor-vehicles, a plurality of pedals having locking means for holding them in depressed relation, a rock-shaft connected to release said locking means, cam-arms thereon having inclined faces and depressions on said arms, and means upon the pedals contacting with the said face and depressions, whereby the arms are first lifted to release the locking means and then lowered.

9. In a controlling system for motor-vehicles, a plurality of pedals having locking means for retaining them in depressed position, a rock-shaft for releasing all of said locking means and having cam-arms thereon, and pins upon each of the pedals for contacting with each cam-arm when its pedal is depressed, to raise said cam-arm and release all the locking means, and then lower said cam-arm to relock the pedal which is depressed.

10. In a controlling system for motor-vehicles, a series of pedals having locking means for holding them in depressed position, a rock-shaft having means for releasing said locking means, cam-faces upon said rock-shaft, and means connected with each pedal for cooperating with said cam-faces to shift and then return said rock-shaft.

11. In a controlling system for motor-vehicles, a plurality of pedals having locking means for holding them in depressed position, and a hand-brake having a connection for releasing all of said locking means.

12. In a controlling system for motor-vehicles, a plurality of pedals having locking means for holding them in depressed position, a brake, a connection from one of said pedals to said brake, a hand-lever, and a slotted connection from said hand-lever to said brake.

13. In a controlling system for motor-vehicles, a plurality of pedals having locking

means for holding them in depressed position, a brake, connections from one of said pedals to said brake, a brake-handle, slotted link connections between said brake-handle and brake, and a second link having a slotted connection for releasing said locking means.

14. In a controlling system for motor-vehicles, a plurality of pedals, a first and a second speed-clutch and pedals connected thereto having means for locking the same in depressed position, a brake, a third pedal and connections between said brake and pedal including devices for releasing said locking means.

15. A controlling system for motor-vehicles, comprising clutches, a brake mechanism, pedals for operating said clutches and means for holding the pedal in depressed position, a brake-pedal and means for holding it in depressed position, a hand-lever, and means whereby the operation of any of said pedals or the hand-lever is made effective to release all the pedals.

16. In a controlling system for motor-vehicles, a plurality of clutches, pedals connected thereto, a brake, a hand-lever and a pedal connected thereto, said connection including means whereby the pedal may be actuated without the operation of the hand-lever and means for releasing all of the pedals when any of them or the handle is operated.

17. A controlling system for motor-vehicles comprising a plurality of operating devices, and means connected to each of the operating devices for releasing all or part of the remaining operating devices of the series when one is depressed.

In witness whereof I subscribe my signature in the presence of two witnesses.

CHAS. O. SNYDER.

Witnesses:

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