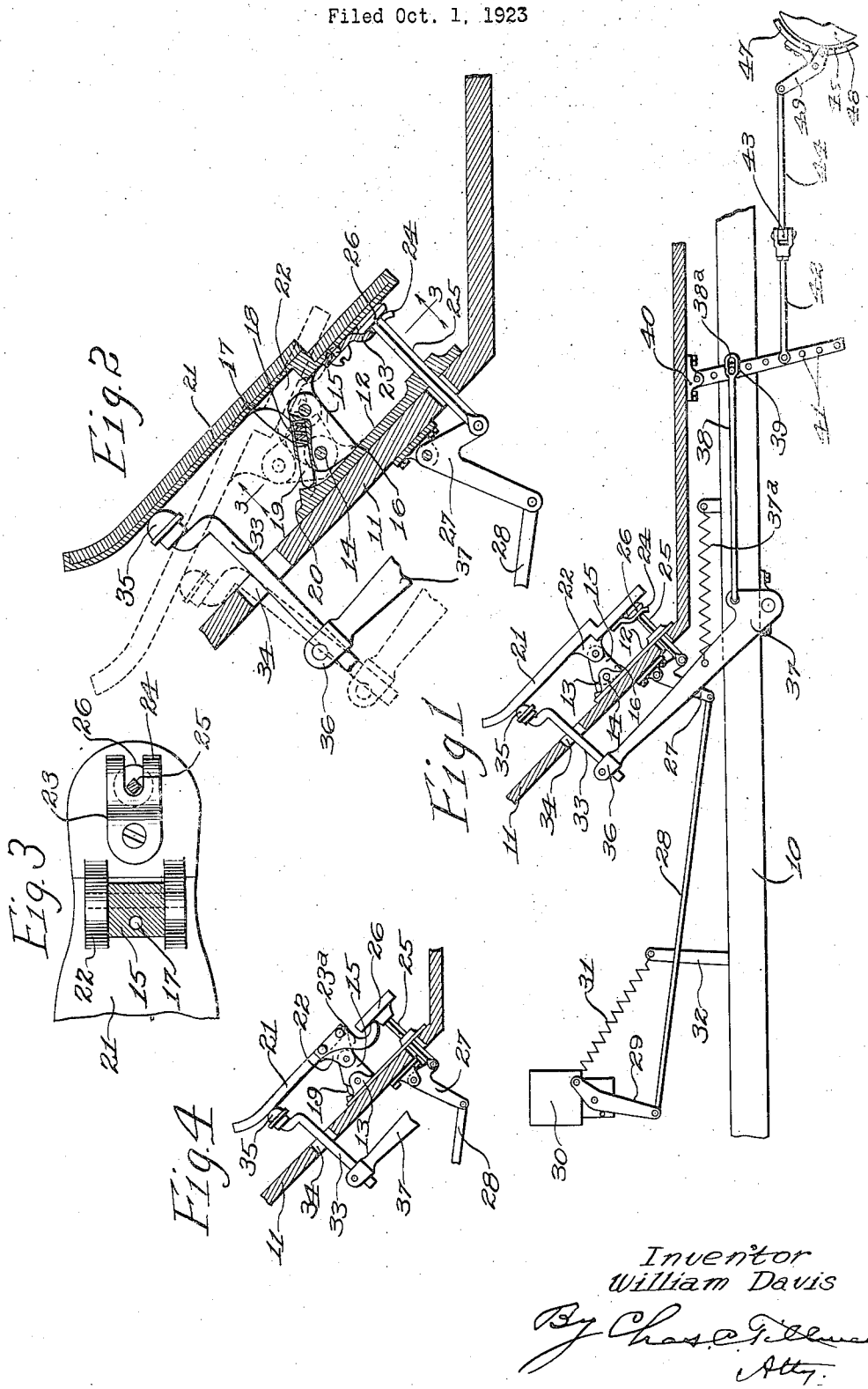
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BRAKE AND ACCELERATOR OPERATING MECHANISM

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BRAKE AND ACCELERATOR OPERATING MECHANISM.

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To all whom it may concern:

Be it known that I, WILLIAM DAVIS, a citizen of the United States, and a resident of Chicago, county of Cook, and State of Illinois, have invented certain new and useful Improvements in Brake and Accelerator Operating Mechanism, of which the following is a specification.

This invention has particular relation to improvements in mechanism for operating brakes and accelerators of motor driven vehicles, and especially of automobiles, but it is applicable for use as a foot-operated mechanism for actuating other parts, for example, those operatively connected to valves and other movable contrivances, without a departure from the spirit thereof, and it consists in certain peculiarities of the construction, novel arrangement and combinations of its various parts, as will be hereinafter more fully set forth and specifically claimed.

One of the objects of my present invention, is to provide a foot-operated mechanism of the above mentioned character, which shall be of such construction and arrangement of its parts as to afford a comfortable foot rest for the user at all times, but particularly, while the parts remain in their normal positions, yet, so as to enable the user to instantly actuate parts thereby without removing his foot from the foot rest, in such a way, as to independently operate the connections at the rear or front portion of said rest, or more specifically to operate the brake applying mechanism without operating or interfering with the accelerator mechanism, or vice versa.

Another object of the invention, is the provision of means whereby operative connection between the foot rest of the device and the reciprocatory rod of the accelerator mechanism co-operating directly with said rest, will be removed upon slight movement of the foot rest in the operation of applying the brake mechanism, thereby preventing accidental operation of both brake and accelerator mechanism at the same time.

Still another object is to provide means for automatically causing operative connection between the foot rest and the said reciprocatory rod of the accelerator mechanism, after the forward movement of the foot rest in operating the brake mechanism.

Other objects and advantages of the invention will be disclosed in the following description and explanation.

In the accompanying drawing, which serves to illustrate an embodiment of the invention,—

Fig. 1 is a view partly in section and partly in elevation of the front part of an automobile frame and its body, showing a mechanism embodying one form of the invention mounted thereon with its parts in their normal position.

Fig. 2 is an enlarged fragmental view similar to that shown in Fig. 1 with portions of the parts illustrated in Fig. 1 omitted, and illustrating by dotted lines about the position the parts of the mechanism will occupy when the brake device has been actuated to apply the brake mechanism with full force.

Fig. 3 is an enlarged bottom plan view partly in section, taken on line 3—3 of Fig. 2, of a portion of the foot rest of the form shown in Figs. 1 and 2, and

Fig. 4 is a similar view to Fig. 2 but illustrating a modification in the form of the foot rest.

Corresponding numerals of reference refer to like parts throughout the different views of the drawing.

The reference numeral 10 designates a portion of the chassis or frame of an automobile, on which is mounted in the usual or any well known way the body of the automobile, the front portion 11 only of which is shown in the drawing. Mounted on this front portion 11, or the upwardly and forwardly inclined foot rest part thereof, is a plate 12, which has on its upper surface near its longitudinal middle, a pair of spaced and apertured brackets 13, which extend upwardly and are transversely apertured for the purpose of receiving a pivot pin 14 for pivotally securing the lower end of a link 15 to said brackets. The lower rear portion of the link 15 is extended downwardly a sufficient distance below the pivot of said link as at 16 to contact with the plate 12 and thereby act as a stop to restrict the rearward movement of said link. In front of its pivot 14 the link 15 is provided with an upwardly and rearwardly inclined socket 17, see Fig. 2, for the reception of a coil spring 18 which rests at one of its ends against the upper end of said socket and co-acts at its other end with a plunger 19 located at its upper end in the lower portion of said socket and adapted to rest at its lower end against an upwardly inclined portion 20 on the front part of the upper surface of the plate 12 as is clearly

shown in Fig. 2 of the drawing. By this arrangement it is manifest that the link 15 will be automatically held in its normal position, as shown by continuous lines in Fig. 2.

Pivotally or longitudinally mounted on the upper end of the link 15 for tiltable movement, is the foot rest 21 of the device. This foot rest has secured thereto just forwardly of its heel portion a depending bracket 22, which bracket is pivotally connected to the upper end of the said link. Secured to the lower surface of the rear part of the foot rest 21 is a plate 23 which is deflected at its rear portion from the foot rest and is provided at said portion with a pair of prongs 24 for the purpose of striding one of the reciprocatory controlling rods 25 of the device and for engaging a head 26 on the upper end of said rod.

This controlling rod has its head 26 interposed between the prongs 24 and the lower surface of the heel portion of the foot rest 21 and is extended between said prongs and through suitable openings in the plate 12 and automobile body portion 11 for slidable movement. The lower end of the rod 25 is pivotally connected to the shorter arm of a bell crank lever 27 which is fulcrumed on the part 11 in front of said rod and has pivotally connected to its longer arm the rear end of a rod 28 the front end of which is pivotally connected to a throttle valve arm 29 of a carburetor 30 of a well known type, which carburetor is located and supported in the usual place or manner on the automobile. As is well known, the throttle valve operating mechanisms of the ordinary construction, are each equipped with a spring for normally closing the throttle valve, the action of which spring is sufficient to restore the parts 25, 27, 28 and 29 to their normal positions as shown in the drawing, after they have been actuated by the proper movement of the foot rest 21 and after pressure has been removed from said rest. However, to insure the return of the parts to their normal positions, a coil spring 31 secured at one of its ends to the valve arm 29 and at its other end to a projection 32 on the frame 10 rearwardly of said arm, may be employed.

The other controlling rod of the device is designated by the numeral 33 and is located in a slot 34 of the part 11 of the automobile body for vertical and back and forth movement. The upper portion of the rod 33 is provided with an offset having a rounded terminal head 35 to rest against the lower surface of the front portion of the foot rest 21, by means of which said rod is actuated in one direction. The lower portion of the rod 33 is secured by means of a clamp 36 on the front end of the longer arm of a bell crank lever 37, which lever is fulcrumed to the frame 10 of the automobile at a suitable point preferably below the rear portion of the foot rest 21, as is shown in Fig. 1 of the drawing. The shorter arm of the lever 37 has pivotally connected thereto one end of a link 38, the other end of which is pivotally, loosely, and adjustably connected to an arm 39 which is pivotally mounted at one of its ends on a bracket 40 secured to the lower surface of the body portion of the automobile rearwardly of the fulcrum of the lever 37. This arm is provided with spaced openings, 41 to permit of the adjustment with respect to its pivot, of the link 38 as well as of similar adjustment of another link 42 which has one of its ends pivotally and adjustably connected to the arm 39 and its other end pivotally connected to the equalizing bar 43 at about the middle of said bar. Extended rearwardly and horizontally from each end of the equalizing bar 43 is a brake rod or link 44 each of which is connected to a brake band operating mechanism designated as a whole by the numeral 45 which mechanism may be of the ordinary or any well known type, one of the same being shown fragmentally and diagrammatically in Fig. 1 of the drawing.

As is well known, the operating mechanism for the brake bands are each usually provided with a spring to normally hold the band 47 out of contact with the drum 48 in such a way that the lever 49 to which one end of the brake operating rod 44 is pivotally secured, will be normally held in about the position shown in Fig. 1 of the drawing. The action of the spring for thus positioning the brake band and said lever as above mentioned, is usually sufficient to cause the bell crank lever 37 and the controlling rod 33 to normally assume the positions shown in Fig. 1 of the drawing. However, to insure the return movement of the lever 37 and controlling rod 33 to their normal positions after they have been depressed by the foot rest 21, a coil spring, 37^a, connected at one of its ends to the lever 37 and at its other end to the frame 10 rearwardly of said lever may be employed.

In Fig. 4 of the drawing a modification in the construction of the foot rest 21 is illustrated, which modification consists in omitting the heel portion thereof and the plate 23 for engagement with the head 26 of the controlling rod 25 and in substituting therefor another engaging member 23^a for the head 26 of said controlling rod. As shown in Fig. 4, the member 23^a is secured to the rear portion of the foot rest 21 and is extended downwardly, rearwardly, and then upwardly therefrom to contact with the lower surface of the head 26 so that when the foot rest is tilted downwardly at its

front end, the controlling rod 25 will be raised by means of the member 23a, thereby actuating the lever 27 and its connections with the accelerator.

From the foregoing, and by reference to the drawing, it will be readily understood and clearly seen that by moving the foot rest 21 bodily in a forward direction, the engaging device for the controlling rod 25, whether it be of the kind shown in Figs. 1 and 2 or the modified form shown in Fig. 4, will be disengaged from said rod and its head, when by depressing the front portion of the foot rest 21, the brake mechanism can be actuated. Upon removing pressure from the foot rest it is manifest that the link 15 will be caused to return to its normal position shown by continuous lines in Fig. 2 by reason of the action of the spring 18 and its plunger 19, and it is also obvious that the foot rest 21 will be restored to its normal position through the action of the spring or springs which actuate the brake mechanism and its connections with the rod 33 which operates said mechanism. In assuming these last named positions, it is apparent that the engaging device on the rear portion of the foot rest 21 will automatically engage the rod 25 through its head 26, in such a way, that by a very slight downwardly and forwardly tilt of the foot rest, (not enough to actuate the brake mechanism sufficiently to apply the brakes) the rod 25 will be raised to an extent to actuate the accelerator mechanism.

To permit of the above mentioned "play" or idle movements of the parts of the mechanism leading from the foot rest to the brake mechanism, a loose or slidable connection is provided between one end of the link 38 and the depending bar 39 by forming a slot 38a in said link for the reception and operation of the pivot which connects said link to said bar, which is clearly shown in Fig. 1 of the drawing.

What I claim is:—

1. In a device of the class described, the combination with a link pivotally mounted at one of its ends to a support, of a member tiltably mounted on the other end thereof, controlling rods mounted for reciprocation near the opposite ends of said member and adapted to be moved each in one but opposite directions by said tiltable member, co-acting detachably engaging means on one of said rods and on the adjacent end of said member, and means operatively connecting each of said rods to a part to be operated thereby.

2. In a device of the class described, the combination with a spring actuated link pivotally mounted at one of its ends to a support, of a member tiltably mounted on the other end thereof, controlling rods mounted for reciprocation near the opposite ends of said member and adapted to be moved each in one but opposite directions by said tiltable member, co-acting detachably engaging means on one of said rods and on the adjacent end of said member, and means operatively connecting each of said rods to a part to be operated thereby.

3. In a device of the class described, the combination with a spring actuated link pivotally mounted at one of its ends to a support and having a stop to engage said support to restrict its movement in one direction, of a member tiltably mounted on the other end thereof controlling rods mounted for reciprocation near the opposite ends of said member and adapted to be moved each in one but opposite directions by said tiltable member, co-acting detachably engaging means on one of said rods and on the adjacent end of said member, and means operatively connecting each of said rods to a part to be operated thereby.

4. In a device of the class described, the combination with a link having a longitudinally disposed socket near one of its edges and provided at the lower portion of its opposite edge with a stop to engage a part for the purpose of restricting the movement of the link in one direction, said link pivotally mounted at its end adjacent said stop, of a spring actuated plunger operable in said socket and adapted to contact at its outer end with a support, a member tiltably mounted on the other end of said link, controlling rods mounted for reciprocation near the opposite ends of said member and adapted to be moved each in one but opposite directions by the said tiltable member, co-acting detachably engaging means on one of said rods and on the adjacent portion of said member, and means operatively connecting each of said rods to a part to be operated thereby.

5. In a device of the class described, the combination with a link pivotally secured at one of its ends to a support and having on one side of its pivot a longitudinally disposed socket and on the opposite side of said pivot a stop to engage the support for restricting the movement of the link in one direction, of a spring actuated plunger operable in said socket and adapted to contact at its outer end with the support, a member tiltably mounted on the other end of said link, controlling rods mounted for reciprocation near the opposite ends of said member and adapted to be moved each in one but opposite directions by said member, a head on the end of one of said rods adjacent said member, means on the adjacent portion of the tiltable member to the last named rod to detachably engage its head, and means operatively connecting each of said rods to a part to be operated thereby.

WILLIAM DAVIS.