Feb. 6, 1923. 1,444,185

R. H. HIATT

ACCELERATOR

FILED APR. 24, 1922

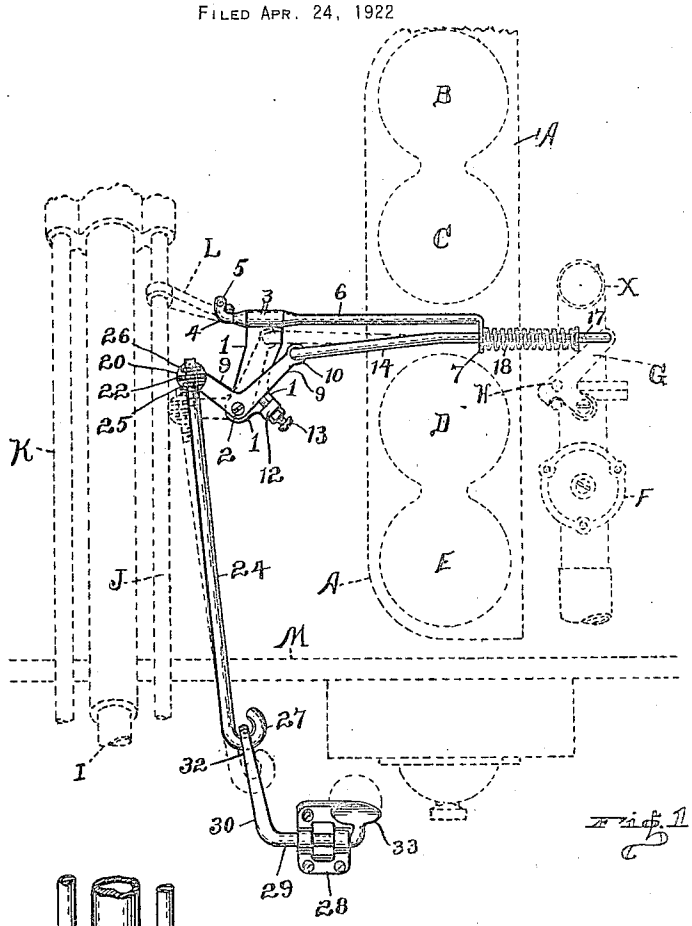


Fig. 1.

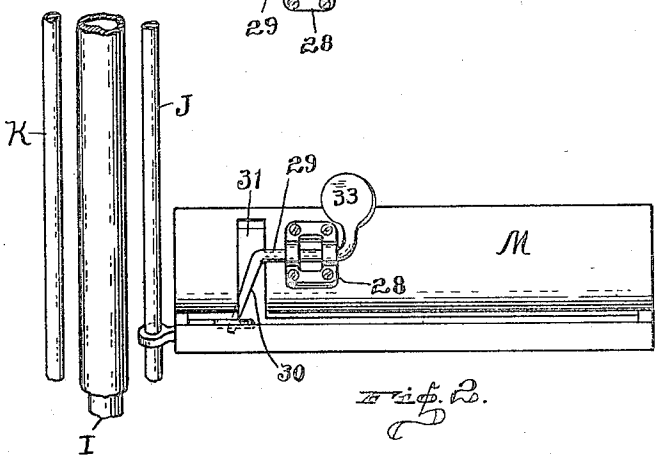


Fig. 2.

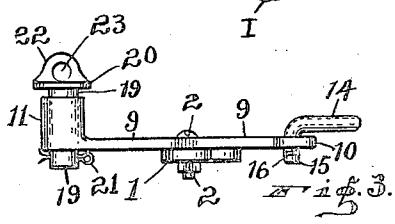


Fig. 3.

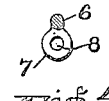


Fig. 4.

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Patented Feb. 6, 1923. 1,444,185

UNITED STATES PATENT OFFICE.

ROSCOE H. HIATT, OF GREENS FORK, INDIANA.

ACCELERATOR.

Application filed April 24, 1922. Serial No. 556,257.

To all whom it may concern:

Be it known that I, ROSCOE H. HIATT, a citizen of the United States, residing in the town of Greens Fork, in the county of Wayne, State of Indiana, have invented a new and useful Accelerator, of which the following is a full, clear, and comprehensive specification and exposition, the same being such as will enable others to make and use the same with exactitude.

First it should be understood that my invention is especially intended for Ford automobiles, or the like, wherein it has heretofore been impracticable to employ a foot operative accelerator, the control being by means of a lever located near the steering wheel and adapted to be operated by hand only.

The primal object of my invention is to provide a foot actuated accelerator mechanism which can be installed and operated without discontinuing the availability and use of the usual hand throttle speed control.

Broadly speaking, my object is to provide a foot controlled accelerator mechanism which is simple in character, positive in action, easily operated and controlled, adapted to be easily and quickly installed, and which can be manufactured and sold at a comparatively low price.

Other objects and particular advantages of the invention will suggest themselves in the course of the following specification, and that which is new will be correlated in the appended claim.

The preferred means for carrying out the principles of my invention in a practicable manner is shown in the accompanying drawings in which—

Figure 1 is a plan view, showing my invention as applied in actual practice in connection with parts which are old as shown in dotted lines. Figure 2 is a front elevation of the operating pedal and portions of the steering post and the control shafts. Figure 3 is a detail view of my bell-crank and its connections. And Figure 4 is a face view of the ear formed by the right angular portion of one of the operating rods.

Similar indices denote like parts throughout the several views.

In order that the construction, the operation, and the several advantages of the invention may be more fully understood and appreciated, I will now take up a detailed description thereof, in which I will set forth the same as fully and as clearly as I may.

Referring first to the ordinary parts of an automobile with which my invention is to be connected, the same being shown merely to make clear the application of my invention thereto. Letter A denotes the cylinder block or crank-case, the same carries the cylinders, which are denoted by letters B, C, D and E.

At the right of the member A is the carburetor F, the vapor therefrom to the cylinders passes through the manifold X, the passage of the vapor to the cylinders being controlled by a valve (not shown) which is operable by the lever G, which is pivoted at at H. The speed of the engine or motor being adapted to be controlled by movements of said lever G, as in the usual manner.

Letter I denotes the steering post, which is disposed at an angle extending from below the level of the cylinders, projecting rearward and upward, with a steering wheel (not shown) mounted on its upper rear end within reach of the driver, and by which the post I may be rotated for guiding the direction of the vehicle.

Located near to and on the right and the left of the post I and parallel therewith, is the throttle-shaft J and the spark advance and retard shaft K, respectively, each of which is adapted to be rotated by its respective throttle-lever and spark control lever (not shown), which are located near said steering wheel.

Letter M denotes the foot-board which is in reach of the feet of the driver, and through which extend the usual control pedals (not shown).

Rigidly secured to and extending inward at right-angles from the shaft J is the usual finger L.

Ordinarily a rod (not shown) connects the end of the finger L with the lever G, whereby the operation of the throttle will rotate the shaft J, thereby turning the lever G for opening and closing the manifold, but with the installation of my invention the said rod is dispensed with, in fact said rod is the only original member that I remove.

My construction proper includes the flat base member 1, with its rear end having a pivot bolt 2 disposed vertically therethrough. The forward end of the base 1 merges into the swell portion 3, which is disposed sub-

stantially horizontally and transversely. Extending out from the left end of the swell 3 is the angular clevis 4 to which is movably attached, by the pin 5, the free end of the finger L. Extending from the left end of the swell 3 is the comparatively long rod 6. The right-hand end portion of the rod 6 is flattened and turned rearward at right-angles forming the ear 7 having an eye 8 formed therethrough.

Numeral 9 denotes a right-angular bell-crank, which is mounted near its central portion on the pivot 2. The free end of the longer portion of the bell-crank terminates in the swell portion 10 through which is formed an eye for the purpose hereinafter set forth. The free end of the shorter portion of the bell-crank terminates in the tubular bearing 11. Extending upward from the rear left-hand edge of the member 1 is the ear 12 having a threaded aperture formed horizontally therethrough to receive the set-screw 13 whose point is adapted to contact with the edge of the bell-crank 9, whereby various adjustments may be formed.

Numeral 14 denotes the connecting rod, whose outer end portion is bent at right angles thereto forming the pivot portion 15, which is mounted in the eye of the swell 10, where it is secured by the cotter-pin 16. Said connecting rod 14 is disposed loosely through the eye 8, and its inner (right) end portion is bent down at right angles and is located in an eye formed through the end portion of the longer arm of the lever G.

Near the right-hand end of the connecting rod 14 a key or stop 17 is secured therethrough. Coiled about the connecting rod 14, and with one end thereof pressing against the key 17, and with its other end pressing against the ear 7, is the helical spring 18.

Rotatably mounted in the bearing 11 is the pintle 19, which has a flat head 20 on its upper end which prevents it from sliding downward through the bearing 11, and it is prevented from being moved upward out of the bearing 11 by means of the cotter-pin 21 which is disposed through the lower end portion of the pintle 19.

Formed integral with the head 20, rising thereabove, and extending across the center thereof, is the ear 22, which has an aperture 23 formed through the center thereof.

Numeral 24 denotes a pull-rod, the forward end portion of which is threaded to receive thereon the nuts 25 and 26. The nut 25 is first run on the threaded portion of the rod 24, after which the projecting portion is inserted loosely through the aperture 23, after which the nut 26 is run on said threaded portion, but the nuts 25 and 26 are not made tight against the ear 22 although they are quite near thereto, thereby permitting movement.

By the above it will be seen that the rod 24 is universally mounted in connection with the bell-crank 9.

The forward end portion of the rod 24 terminates in the hook 27.

Secured to the face of the foot-board M is the bearing-block 28 in which is rotatably mounted the horizontal portion of the pedal shaft 29, from the left end of which protrudes the crank-arm 30 which extends downward and outward, through the slot 31 in the foot board M, and terminates in the flattened end portion 32 in which latter is formed an eye in which the hook 27 is engaged.

The pedal 33 extends at an angle from the right-hand end of the shaft 29 with which it is integral, and it extends above the foot board M to position whereby it may be pressed by one's foot.

It is to be understood that the slot 31 may be the usual brake lever slot, therefore requiring no additional slot to be made especially for my invention.

We now have all of the parts required and the arrangement thereof is such as to provide for the movements by which I am able to accomplish the results which are the desideratum of this invention as reduced to its simplest form.

The operation is substantially as follows: Presuming the operator to be located in position to rotate the steering post I in the usual manner,—it is manifest that by operating the throttle lever thereby rotating the shaft J, that the finger L will be moved whereby the rod 6, the connecting rod 14, the member 1, the crank 9, and the forward end portion of the rod 24 will all be moved bodily to the right or the left, thereby moving the lever G and giving the same results as accomplished prior to the installation of my invention. But should the said throttle lever be in retarded position, or nearly so, then my invention may be brought into action without moving said throttle lever, as follows: By pressing upon the pedal 33 it is evident that the arm 30 will be turned rearward, pulling upon the rod 24, and it in turn operating the bell-crank 9, thereby pulling the connecting rod 14 to the left, and the latter in turn will move the lever G to open the valve controlled thereby and therefore speeding up the motor in the usual manner. It should be noticed that the moving of the connecting rod 14 to the left will not move the connecting rod 6, as the rod 14 will nearly slide through the eye 8, and then when the pedal 33 is released the spring 18 will expand and return said parts to their normal positions, or to the position at which the throttle lever is set.

The screw 13 may be run in or out to afford adjusting means, whereby the move-

ments of the bell-crank 9 may be limited to the requirements of the valve controlled by the lever G.

It should be observed that all movements of one's foot upon the pedal 33 acts to pull, in fine all movements are pulling movements rather than pushing movements.

Also all movements are positive, as there are no flexible connections, thereby making the operation positive.

By the above it is apparent that by the employment of my invention the speed of the motor may be controlled either by the hand throttle lever, or by the foot accelerator, at the will of the operator.

I desire that it be understood that various changes may be made in the several details of construction without departing from the spirit of the invention and without sacrificing any of the advantages thereof which are new and useful.

Having now fully shown and described my invention, what I claim and desire to secure by Letters Patent of the United States, is—

In combination with a carburetor and the usual hand throttle for operating the carburetor, a foot operated accelerator mechanism adapted to be used in place of the hand throttle at the will of the operator, and comprising a flat base member, a pivot-bolt disposed vertically through its rear end, a swell portion integral with the forward end of said base, an angular clevis extending out from one end of the swell portion, a finger, a pin for attaching the free end of said finger to said clevis, a comparatively long rod extending out from said swell, an ear formed on the right hand end portion of said rod the same being turned rearward at right-angles and having an eye formed therethrough, a bell-crank mounted near its center on said pivot-bolt, a swell formed on the free end of the longer portion of the bell-crank and having an eye formed therethrough, a tubular bearing formed on the free end of the shorter portion of the bell-crank, an ear extending upward from the rear left-hand edge of the base member and having a threaded aperture formed horizontally therethrough, a set-screw adapted to operate in said threaded aperture and to contact with the bell-crank whereby various adjustments may be made, a connecting rod, a pivot formed on the outer portion of the connecting rod and at right angles thereto and extending through the eye in the said swell portion of the bell crank, means for securing the connecting rod pivot in the eye of said swell portion of the bell-crank, said connecting rod being disposed loosely through the eye in the said ear carried by the comparatively long rod, the inner end portion of the connecting rod being bent down at right angles and located in an eye formed through the end portion of the longer arm, a stop located near the right hand end of the connecting rod, a coiled spring encircling the connecting rod with one end pressing against said stop and the other end against the ear of said long arm, a pull-rod, and means for universally mounting the pull-rod in connection with the bell-crank, all substantially as shown and described.

ROSCOE H. HIATT.