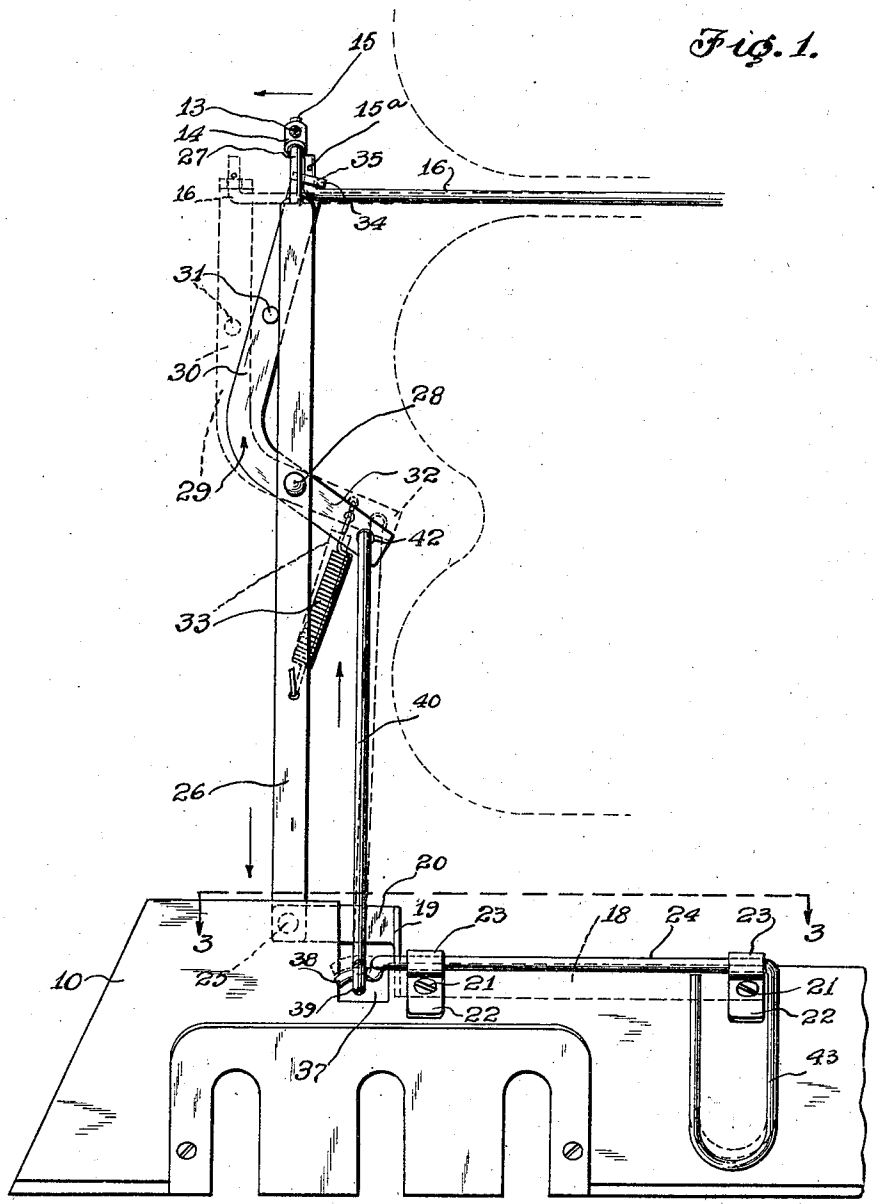
March 18 , 1924. 1,487,090

J. B. COLLINS

ACCELERATOR

Filed Feb. 3, 1923 2 Sheets-Sheet 1

Fig. 1.




Inventor

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By Watson E. Coleman

Attorney

March 18, 1924.

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2 Sheets-Sheet 2

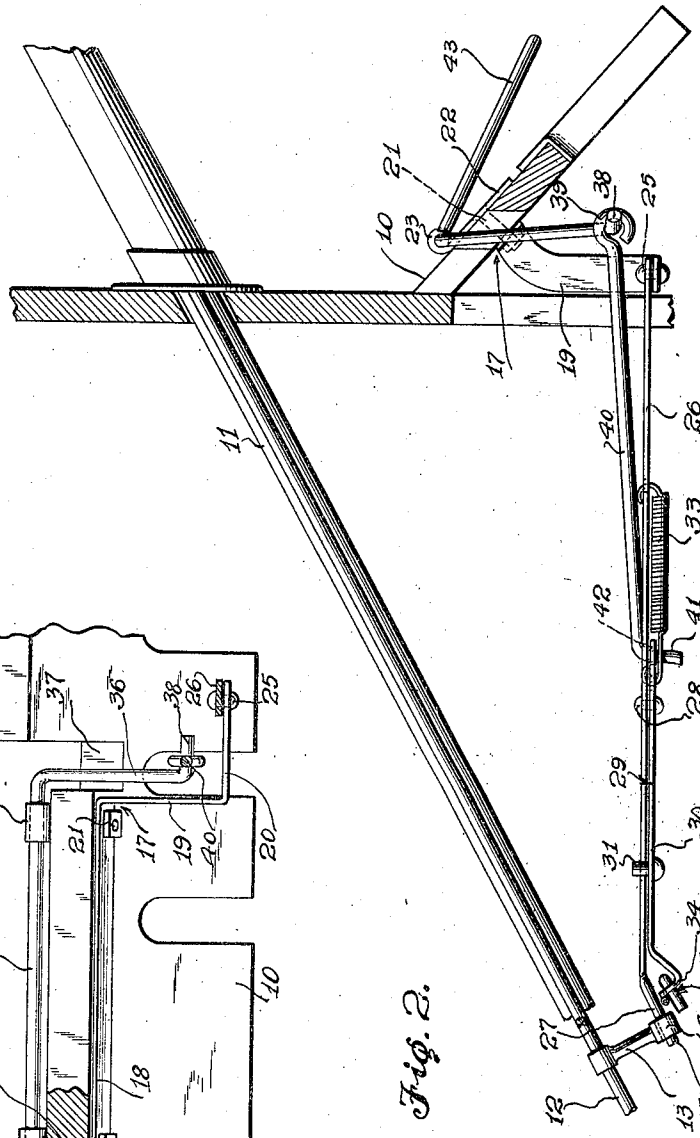


Fig. 2.



Fig. 3.

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Patented Mar. 18, 1924. 1,487,090

# UNITED STATES PATENT OFFICE.

JAMES B. COLLINS, OF TULSA, OKLAHOMA.

## ACCELERATOR.

Application filed February 3, 1923. Serial No. 616,726.

*To all whom it may concern:*

Be it known that I, JAMES B. COLLINS, a citizen of the United States, residing at Tulsa, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Accelerators, of which the following is a specification, reference being had to the accompanying drawings.

This invention relates to improvements in accelerators or foot pedal throttle operating mechanism and has for an important object thereof the provision of a throttle control of this character which may be mounted upon the foot boards of an automobile and all parts of which are demountable as a unit with the foot board.

A further object of the invention is to provide a device of this character which is extremely simple in its construction and which may be readily operated and which at the same time does not in any manner interfere with the normal control of the throttle.

A still further object of the invention is to provide a device of this character which may be sold as a unit ready to be mounted upon the car and which may be mounted by a person having but a slight knowledge of mechanics.

These and other objects I attain by the construction and arrangement shown in the accompanying drawings wherein for the purpose of illustration is shown a preferred embodiment of my invention and wherein like reference characters designate like parts throughout.

In the drawings:—

Figure 1 is a side elevation of an accelerator constructed in accordance with my invention;

Figure 2 is a plan view thereof including a diagrammatic showing indicating the position of the throttle rod with relation to the engine cylinders; and

Figure 3 is a section on the line 3—3 of Figure 2.

Referring now more particularly to the drawings, the numeral 10 designates the floor boards of a car, 11 the steering post and 12 a throttle control rod paralleling the steering post and having rigidly secured thereto an arm 13 having in its free end an eye 14 in which the angular end 15 of a throttle valve operating link 16 is usually engaged for operation. The opposite end of this link is, as is well known to those familiar with the art, connected with the throttle valve of the carbureter, which forms no part of my invention and which accordingly is not herein shown. The rod 12 is provided at its upper end with means whereby it may be rotated and such rotation will cause oscillation of the arm 13 to shift the link 16 and open or close the valve.

In accordance with my invention I provide upon the under surface of the foot boards at the forward edge thereof a support member 17 comprising a body 18 flatly engaging the under surface of the foot boards, a downwardly extending angular arm 19 and a horizontally extending terminus 20. The body portion 18 of the support 17 is preferably secured to the foot boards by means of bolts 21 extending through this body portion, the foot boards 10 and clips 22 provided with bearings 23 in which is rotatably mounted a rod 24, hereinafter more particularly to be described.

The free end of the terminus 20 is in approximate longitudinal alignment as respects the vehicle with the eye 14 of the throttle rod arm 13 and has pivotally connected thereto, as at 25, the rear end of a main arm 26 formed from a flat strip of metal and having at its forward end a rounded angularly directed reduction 27 directed through this eye. Pivotally connected to the arm 26 intermediate the ends thereof, as indicated at 28, is a bell crank lever 29, one arm 30 of which is substantially co-directional with the arm 26 and is provided with a stop member 31 adapted to engage against the side face of the arm 26 adjacent the end thereof bearing the reduction 27. The opposite arm 32 of the bell crank extends at substantially right angles to the arm 26 and is connected with the arm 26 by a spring 33 engaging the arm 26 and arm 32 of the bell crank at points spaced from the pivot 28 and acting to maintain the stop 31 in engagement with the arm 26. The end of the arm 30 is provided with an angular extension 34 substantially paralleling the body of the eye 14 and having an opening 35 formed therein through which the angular end 15 of the link 16 may be engaged. This angular end may be held in engaged position by means of a cotter pin

15[a] passed therethrough, an opening being normally provided in such angular end for the reception of the cotter pin.

The rod 24 hereinbefore referred to is formed at one end with an angular extension 36 operating through a notch 37 which must be formed in the foot board, which angular extension has at its lower end a horizontally disposed hook 38 engaging through an eye 39 formed upon the rear end of a link 40, the forward end of which has an angular portion 41 downwardly directed through an opening 42 formed in the end of the arm 32 of the bell crank 29. The link 40 and accordingly the lower end of the extension 36 of the rod 24 is normally held in a rearward position by the spring 33. The opposite end of the rod 24 has formed thereon or secured thereto as may be desired, a foot pedal 43. In the present instance I have illustrated this foot pedal as formed by bending the last named end of the rod 24 to form an open loop directed at right angles to the rod 24 and overlying the foot boards, and the free end of which is in spaced relation to the foot boards when the lower end of the extension 36 is in rearward position. This foot pedal is normally held elevated by the reason that the action of the spring maintains the extension in such rearward position, as hereinbefore set forth.

In Figure 1, I have illustrated by an arrow the direction of movement of the throttle arm 13 to advance the throttle. It will be noted that the stop pin 31 of the bell crank arm 30 is disposed in the path of movement of the arm 26 when moved in such direction and accordingly the bell crank is held against relative movement with relation to the arm by its pivotal engagement and the engagement of the stop pin and accordingly upon movement of the arm 13 in this direction the operating link 16 will be shifted to open the throttle in the usual manner. If the rear end of the pedal 43 is depressed, the link 40 will be moved by the extension 36 of the rod 24 in the direction of the arrow in this figure against the action of the spring 33 upon the bell crank and accordingly the bell crank will be rotated and the bar 26 remain stationary, again resulting in an operation of the link 16 in the direction to open the throttle valve. Upon release of the pressure applied to the foot pedal 43, the spring 33 will act to return the bell crank to its normal position with the stop pin 31 in engagement with the arm. Particular attention is directed to the fact that with the structure above recited, movement of the foot throttle is resisted by the spring but this spring applies no resistance whatever to the movement of the arm 26 under influence of the arm 13 of the throttle rod 12, the bell crank and rod moving as a unit and the only resistance added being that slight resistance afforded by the friction of the arm 26 and rod 24 with their pivots. It will be seen that with the device attached to the floor boards as hereinbefore set forth, all that will be necessary to remove the same from the car as a unit with the floor boards will be to disengage the hooked end 15 of the link 16 therefrom and to remove the floor board, the reduced extension 27 having merely a sliding engagement in the eye 14 of the arm 13.

It will be obvious that the principle of construction hereinbefore set forth is capable of a wide range of modification as regards the structural features thereof, and I accordingly do not limit myself to such specific structure as hereinbefore recited except as hereinafter claimed.

I claim:—

1. In combination with a throttle rod having a throttle arm adapted at its free end for engagement with a throttle link, of a support arranged in spaced relation to the throttle arm, a rigid member pivoted at one end to the support and having its opposite end engaged with the throttle link receiving end of the throttle arm to be shifted thereby, a lever pivoted to the member adjacent the last named end thereof and adapted for the reception of the throttle link, means limiting the pivotal movement of the lever in one direction, means connecting the lever and member urging the lever in said direction, a depressible foot pedal, and a connection between the lever and foot pedal shifting the lever against the action of said means when the foot pedal is depressed.

2. In combination with a throttle rod having a throttle arm adapted at its free end for engagement with a throttle link, of a rigid member pivoted at a point spaced from the throttle link at one end and having its opposite end engaged with the throttle link receiving end of the throttle arm to be shifted thereby, a lever pivoted to the member adjacent the last named end thereof and adapted for the reception of the throttle link, means limiting the pivotal movement of the lever with respect to the member in one direction, a spring connecting the lever and member, urging the lever in said direction, and means for shifting the lever against the action of said spring.

3. In combination with a throttle mechanism including a throttle link and an oscillatory throttle arm adapted for the reception of the link, of an arm pivoted at one end and having its opposite end engaged in the throttle arm, a lever pivoted upon the arm adjacent the last named end thereof and having the free end disposed adjacent such last named end and adapted for the reception of the throttle link, a stop upon said lever adapted to engage against said arm, a

spring connecting the arm and lever and maintaining said stop in engagement with said arm, and means for rotating said lever upon the pivot thereof against the action of said spring.

4. In combination with the foot boards, throttle link and oscillatory throttle arm for receiving the throttle link, an arm pivotally supported at one end by the foot boards and having at its opposite end a portion slidably directed through the link receiving opening of the throttle arm, a lever pivoted upon the arm adjacent the last named end thereof and having the free end disposed adjacent the free end of the arm, said free end having an opening for the reception of the throttle link and in which the throttle link is engaged, a stop limiting pivotal movement of the lever upon the arm in one direction, a spring normally maintaining the lever at such limit of pivotal movement, and means for shifting said lever against the action of said spring.

5. In combination with the foot boards, throttle link and oscillatory throttle arm for receiving the throttle link, an arm pivotally supported at one end by the foot boards and having at its opposite end a portion slidably directed through the link receiving opening of the throttle arm, a lever pivoted upon the arm adjacent the last named end thereof and having the free end disposed adjacent the free end of the arm, said free end having an opening for the reception of the throttle link and in which the throttle link is engaged, a stop limiting pivotal movement of the lever upon the arm in one direction, a spring normally maintaining the lever at such limit of pivotal movement, and means for shifting said lever against the action of said spring, said arm, lever and the last named means being removable as a unit with the foot board.

6. In combination with a throttle link and oscillatory throttle arm having an opening for receiving the link, an arm pivoted at one end at a point remote from said throttle arm and engaging the throttle arm at its opposite end to be oscillated thereby, a bell crank lever pivoted to the arm adjacent the last named end thereof and having the end of one arm thereof extending adjacent said last named end and having an opening for receiving the throttle link and in which the throttle link is engaged, a stop for limiting movement of the lever with relation to the arm in one direction, a spring engaging the opposite arm of the lever and with the arm normally holding the lever at such limit of its movement, and means engaged with said lever for shifting the lever against the action of said spring.

7. In combination with the foot boards, throttle link and throttle arm of a vehicle, a throttle arm having an opening for the reception of the throttle link, the throttle link having an angular end for engagement in such opening, a support abutting the under surface of the foot board and maintained in position thereon by securing elements extending through the foot board, an arm pivoted at one end upon said support and having its opposite end engaged in the opening of the throttle link, a lever pivoted upon the arm adjacent the last named end thereof and having a free end extending adjacent such free end, the free end of the lever having an opening formed therein adapted for the reception of the angular end of the throttle link, coacting means upon the lever and arm for limiting pivotal movement of the lever upon the arm in one direction, a spring connecting the lever and arm and urging the lever in said direction, bearings supported by the foot board and secured thereto by the securing elements of said support, a rod mounted in said bearings and having an angular end, a link connecting said angular end and the lever, and a foot pedal secured to the rod.

In testimony whereof I hereunto affix my signature.

JAMES B. COLLINS.