C. E. COX.

TRANSMISSION CONTROLLER.

APPLICATION FILED JUNE 10, 1908.

941,407. Patented Nov. 30, 1909.

Fig. 1.

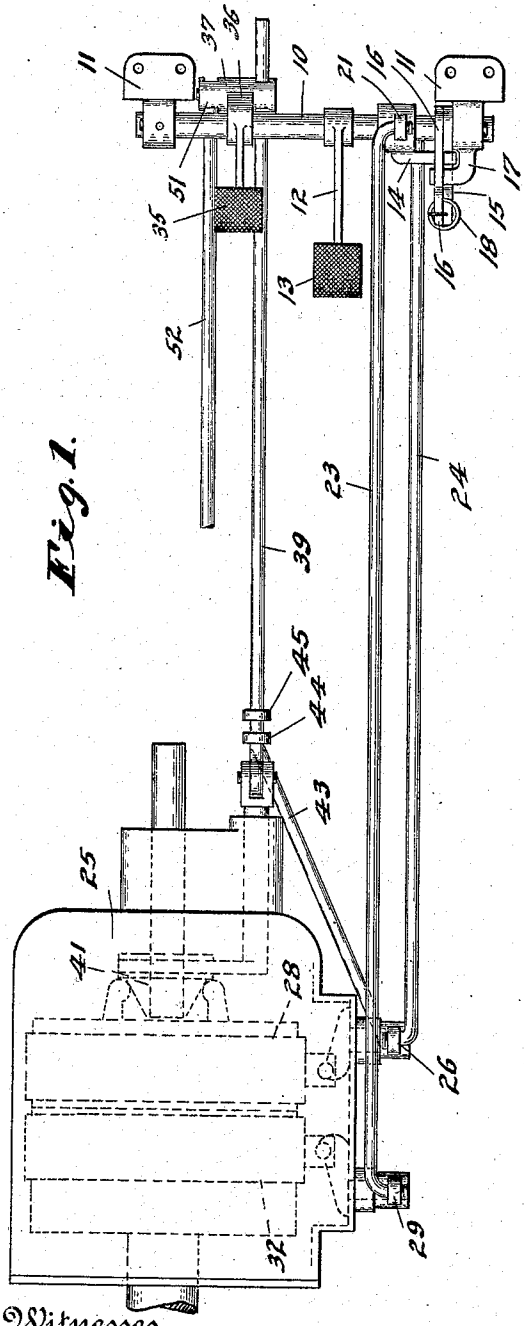
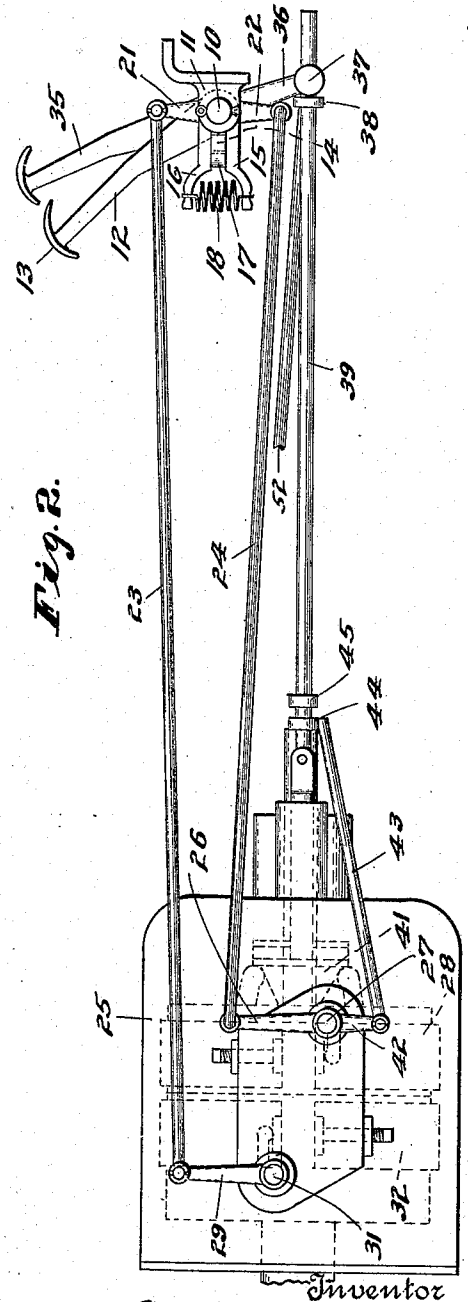


Fig. 2.



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UNITED STATES PATENT OFFICE.

CLAUDE E. COX, OF INDIANAPOLIS, INDIANA.

TRANSMISSION-CONTROLLER.

941,407. Specification of Letters Patent. **Patented Nov. 30, 1909.**

Application filed June 10, 1908. Serial No. 437,639.

To all whom it may concern:

Be it known that I, CLAUDE E. COX, a citizen of the United States, residing at Indianapolis, in the county of Marion and State of Indiana, have invented certain new and useful Improvements in Transmission-Controllers, of which the following is a specification.

The object of my invention is to provide a mechanism for controlling the speed changing gearing and the brake mechanism of an automobile by means entirely operable by the foot of the operator.

The accompanying drawings illustrate my invention, applied to an ordinary planetary speed changing gearing, all portions of the automobile frame being omitted.

Figure 1 is a plan; and Fig. 2 a side elevation.

In the drawings, 10 indicates a rock shaft journaled in suitable bearings 11 adapted to be secured to the foot board or frame of an automobile. Secured to shaft 10 is a foot lever 12 provided at its upper end with a foot piece 13 which is curved substantially as shown and lever 12 is so arranged with relation to the seat (not shown) that the operator may apply force to the lever with his foot to drive the said lever in either direction from its normal position.

In order to hold the foot lever 12 in its normal position I secure to shaft 10 a finger 14 which lies between a pair of arms 15 and 16 which are sleeved freely upon the shaft 10 and straddle a stationary finger 17 carried conveniently by one of brackets 11. The two arms 15 and 16 have their free ends connected by a spring 18 so that they are normally held in position against finger 17 upon opposite sides thereof, and therefore serve to hold finger 14 normally in the plane of finger 17, the arrangement being such that, when lever 12 is depressed, finger 14 will be brought into engagement with arm 15 so as to extend the spring 18 downwardly. Immediately upon the release of pressure the finger 15 serves to bring finger 14, and consequently lever 12, back to normal position. When the lever 12 is pushed forward finger 14 is brought into engagement with arm 16 and spring 18 is extended upwardly.

Secured to shaft 10 are two oppositely extending arms 21 and 22 which are connected by rods 23 and 24 respectively with separate portions of the speed controlling gearing 25. It will be readily understood that the form illustrated in the drawings is merely one of many forms which might be utilized. In the form illustrated the link 24 is connected to a lever 26 carried by the rock shaft 27 which controls the reverse speed mechanism 28, while link 23 is connected to lever 29, carried by the rock shaft 31 which controls the low-forward speed mechanism 32. Journaled upon shaft 10 is a lever 35 similar to lever 12 but extended beyond shaft 10 with a short arm 36 provided with a head 37 adapted to engage a collar 38 to drive rod 39 in one direction only, said rod connecting with the high speed controlling mechanism 41 of the transmission.

In order to insure the withdrawal of the high speed gearing mechanism from operative position before the low-forward speed gear is thrown in, I attach to shaft 27 an arm 42 which is connected to a link 43 having an eye 44 at its forward end which eye slips upon rod 39 and is adapted to be brought into engagement with collar 45 carried by said rod, the arrangement being such that when the high speed gearing is in operative position, as shown in Fig. 2, any attempt to move lever 12 so as to throw the low-forward speed into gear will operate to throw rod 39 to the right (Fig. 2) so as to withdraw the high speed gear from operative connections. Arm 36 also carries a head 51 which is pivotally connected to a rod 52 adapted to be connected to a brake mechanism so that the downward movement of the lever 35 will serve to apply the brake.

The engagement between shaft 27 and the reverse control should be such as to permit a free movement of lever 26 to the left (Fig. 2). When lever 12 is moved downwardly the reverse mechanism is brought into action and when said lever moves upwardly the reverse is thrown out, the low forward gear thrown in, and the high forward gear thrown out.

I claim as my invention:

1. A controller for automobiles comprising a lever adapted to be moved in either direction from a medial position, means con-

nected to said lever for connection with two speed controlling members of a transmission mechanism to alternately operate said two members by opposite movement of the lever, and means for normally yieldingly holding said lever in medial position, said means comprising a stationary abutment, a pair of fingers engaging said abutment on opposite sides thereof, means for yieldingly holding said fingers in engagement with the abutment, and a member connected to the lever and lying between said fingers for the purpose set forth.

2. A controller for automobiles comprising a lever adapted to be moved in either direction from a medial position, a pair of members connected to said lever for connection with two speed controlling members of a transmission mechanism to alternately operate said two members by opposite movement of the lever, and means for normally yieldingly holding said lever in medial position, said means comprising a stationary abutment, a pair of fingers engaging said abutment on opposite sides thereof, means for yieldingly holding said fingers in engagement with the abutment, and a member connected to the lever and lying between said fingers for the purpose set forth.

3. A controller for automobiles comprising a lever movable in opposite directions from a medial position, a fixed abutment, a pair of arms lying upon opposite sides of said abutment, a spring connecting the free ends of said arms and yieldingly holding said arms in engagement with the abutment, a finger connected to the lever and projected between said arms, and intermediate connections between said lever and the transmission mechanism.

4. A controller for automobiles comprising a lever movable in opposite directions from a medial position, a fixed abutment, a pair of arms lying upon opposite sides of said abutment, a spring connecting the free ends of said arms and yieldingly holding said arms in engagement with the abutment, a finger connected to the lever and projected between said arms, a pair of arms connected to said lever and extending in opposite directions from the axis, a pair of links connected to said lever, one adapted to be connected to a forward speed control of the transmission, and the other adapted to be connected to the reverse control of the transmission mechanism.

5. A controller for automobiles comprising a lever adapted to be moved in either direction from a medial position, means connected to said lever and adapted for connection with two speed controlling members of a transmission mechanism to alternately operate said two members by opposite movement of the lever, and means for normally yieldingly holding said lever in medial position, said means comprising a stationary abutment, a pair of fingers engaging said abutment on opposite sides thereof, means for yieldingly holding said fingers in engagement with the abutment, a member connected to the lever and lying between said fingers for the purpose set forth, a second lever movable in opposite directions from a medial position, a member adapted to connection between said lever and a forward speed control of the transmission mechanism, a member adapted to connection between said lever and a brake, and intermediate connections between the two levers preventing forward-speed-position of the second lever in forward-speed-position of the first lever.

6. A controller for automobiles comprising a lever adapted to be moved in either direction from a medial position, a pair of members connected to said lever and adapted for connection with two speed controlling members of a transmission mechanism to alternately operate said two members by opposite movement of the lever, and means for normally yieldingly holding said lever in medial position, said means comprising a stationary abutment, a pair of fingers engaging said abutment on opposite sides thereof, means for yieldingly holding said fingers in engagement with the abutment, a member connected to the lever and lying between said fingers for the purpose set forth, a second lever movable in opposite directions from a medial position, a member adapted to connection between said lever and a forward speed control of the transmission mechanism, a member adapted to connection between said lever and a brake, and intermediate connections between the two levers preventing forward-speed-position of the second lever in forward-speed-position of the first lever.

7. A controller for automobiles comprising a lever movable in opposite directions from a medial position, a fixed abutment, a pair of arms lying upon opposite sides of said abutment, a spring connecting the free ends of said arms and yieldingly holding said arms in engagement with the abutment, a finger connected to the lever and projected between said arms, members adapted for connections between said lever and the transmission mechanism, a second lever movable in opposite directions from a medial position, a member adapted to connection between said lever and a forward speed control of the transmission mechanism, a member adapted to connection between said lever and a brake, and intermediate connections between the two levers preventing forward-speed-position of the second lever in forward-speed-position of the first lever.

8. A controller for automobiles comprising a lever movable in opposite directions from a medial position, a fixed abutment, a pair of arms lying upon opposite sides of said abutment, a spring connecting the free ends of said arms and yieldingly holding said arms in engagement with the abutment, a finger connected to the lever and projected between said arms, a pair of arms connected to said lever and extending in opposite directions from the axis, a pair of links connected to said lever, members adapted for connections between one of said links and a forward speed control of the transmission mechanism, and between the other of said links and the reverse control of the transmission mechanism, a second lever movable in opposite directions from a medial position, a member adapted to connection between said lever and a forward speed control of the transmission mechanism, a member adapted to connection between said lever and a brake, and intermediate connections between the two levers preventing forward-speed-position of the second lever in forward-speed-position of the first lever.

9. A controller for automobiles comprising a pivoted lever capable of swinging in opposite directions from a medial position, a pair of arms connected to said lever, a pair of links extending from said arms, a pair of rock shafts connected to said links, means carried by said rock shafts for alternately actuating two portions of a transmission mechanism upon opposite movement of the lever, a fixed abutment, a pair of arms straddling said abutment, a spring yieldingly holding said arms in engagement with the abutment, and a finger connected to said lever and projecting between said arms.

10. A controller for automobiles comprising a pivoted lever capable of swinging in opposite directions from a medial position, a pair of arms connected to said lever and extending in opposite directions from the axis, a pair of links extending from said arms, a pair of rock shafts connected to said links, means carried by said rock shafts for alternately actuating two portions of a transmission mechanism upon opposite movement of the lever, a fixed abutment, a pair of arms straddling said abutment, a spring yieldingly holding said arms in engagement with the abutment, and a finger connected to said lever and projecting between said arms.

11. A controller for automobiles comprising a pivoted lever capable of swinging in opposite directions from a medial position, a pair of arms connected to said lever, a pair of links extending from said arms, a pair of rock shafts connected to said links, means carried by said rock shafts for alternately actuating two portions of a transmission mechanism upon opposite movement of the lever, a fixed abutment, a pair of arms straddling said abutment, a spring yieldingly holding said arms in engagement with the abutment, a finger connected to said lever and projecting between said arms, a second lever, a rod connecting said lever to a third portion of the transmission mechanism, and intermediate connections between said last mentioned rod and one of the rock shafts for driving said last mentioned rod in a direction opposite to that produced by the movement of its operating lever.

12. A controller for automobiles comprising a pivoted lever capable of swinging in opposite directions from a medial position, a pair of arms connected to said lever and extending in opposite directions from the axis, a pair of links extending from said arms, a pair of rock shafts connected to said links, means carried by said rock shafts for alternately actuating two portions of a transmission mechanism upon opposite movement of the lever, a fixed abutment, a pair of arms straddling said abutment, a spring yieldingly holding said arms in engagement with the abutment, a finger connected to said lever and projecting between said arms, a second lever, a rod connecting said lever to a third portion of the transmission mechanism, and intermediate connections between said last mentioned rod and one of the rock shafts for driving said last mentioned rod in a direction opposite to that produced by the movement of its operating lever.

13. A controller for automobiles comprising a pivoted lever capable of swinging in opposite directions from a medial position, a pair of arms connected to said lever, a pair of links extending from said arms, a pair of rock shafts connected to said links, means carried by said rock shafts for alternately actuating two portions of a transmission mechanism upon opposite movement of the lever, a second lever, a rod operable by said lever in one direction, said rod being adapted for connection to a third portion of a transmission mechanism, and intermediate connections between said rod and one of the rock shafts, operable in the direction opposite to the operation of the second lever on said rod, for the purpose set forth.

14. A controller for automobiles comprising a pivoted lever capable of swinging in opposite directions from a medial position, a pair of arms connected to said lever and extending in opposite directions from the axis, a pair of links extending from said arms, a pair of rock shafts connected to said links, means carried by said rock shafts for alternately actuating two portions of a transmission mechanism upon opposite movement of the lever, a second lever, a rod

operable by said lever in one direction, said rod being adapted for connection to a third portion of a transmission mechanism, and intermediate connections between said rod and one of the rock shafts, operable in the direction opposite to the operation of the second lever on said rod, for the purpose set forth.

In witness whereof, I have hereunto set my hand and seal at Indianapolis, Indiana, this sixth day of June, A. D. one thousand nine hundred and eight.

CLAUDE E. COX. [L.S.]

Witnesses:

KATHERINE C. FLETCHER,
THOMAS W. MCMEANS.