

C. LEBHERZ.
REGULATING DEVICE FOR AUTOMOBILES.
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1,037,937.

Patented Sept. 10, 1912.

Fig. 1.

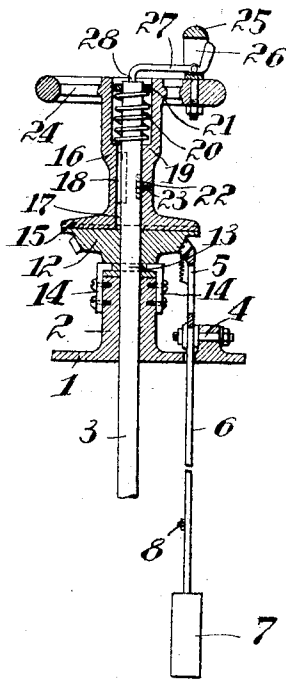
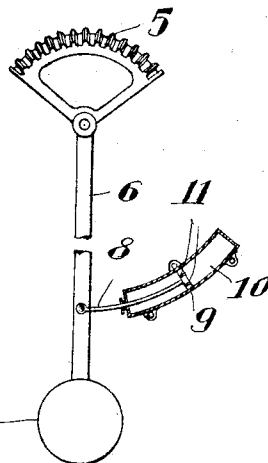


Fig. 2.



Witnesses:
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UNITED STATES PATENT OFFICE.

CHRISTIAN LEBHERZ, OF OBERSTENFELD, GERMANY.

REGULATING DEVICE FOR AUTOMOBILES.

1,037,937.

Specification of Letters Patent. Patented Sept. 10, 1912.

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To all whom it may concern:

Be it known that I, CHRISTIAN LEBHERZ, a subject of the Emperor of Germany, and resident of Oberstenfeld, Wurttemberg, Germany, have invented certain new and useful Improvements in Regulating Devices for Automobiles.

This invention has for its object a regulating device for automobiles, which has for its object to regulate the power or fuel supply of a motor according to the grade of the road.

In the accompanying drawing, Figure 1 is a longitudinal, sectional view of the device. Fig. 2 is a detail view, partly in section.

A base 1 is provided with a cylindrical bearing 2, in which is journaled a regulating shaft 3. A geared sector 5, oscillating on a pivot 4, carries a pendulum 6, provided on its extremity with a weight 7. To the rod of the pendulum 6 is fixed a curved piston rod 8 having a piston 9, (Fig. 2) which slides in a curved cylinder 10, filled with oil or any suitable liquid. The periphery of the piston has grooves 11. The sector 5 engages a bevel gear wheel 12 which, placed with its base on the bearing 2, rotates loosely on the shaft 3, and is provided on its upper surface with radial grooves of triangular cross section. The hub of the bevel gear 12 has a circular groove 13, engaged by lugs 14, fixed to the bearing 2. Into the radial groove of the gear 12, project triangular radial ribs of a disk 15, which rests on the gear 12 and has a sleeve 16, guided on the shaft 3, and keyed thereto by the groove 17, and a key 18. The bore of the sleeve 16 is enlarged at the upper end and has a shoulder 15 on which reposes a spring 20, which encircles the rod 3, and bears with its upper end against a regulating ring 21, fixed at the upper end of said rod.

23 is a screw which enters a longitudinal groove 22, of the rod 3, and limits movement of the sleeve 16 in an upward direction. The sleeve 16 is provided on its upper end with a hand wheel 24 having a vertical grasp 25, within an opening 26 in which oscillates a lever 27, bent at right angles. The end 28 of the horizontal arm of the lever engages the end of the rod 3, while its vertical arm projects from the opening 26.

If it is assumed that the rod 3 is operatively connected with the fuel admission valve of the motor of an automobile, the device works as follows: In order to open the admission valve for the starting of the motor, one grasps the handle 25 and presses the vertical arm of the lever 27 into the opening 26, so that the radial ribs of disk 15 leave the grooves of the bevel gear wheel 12, the rotation, of the hand wheel 24, is transmitted by groove 17, and key 18, to the regulating shaft 3, which opens the admission valve and permits the starting of the motor. If the said valve has been sufficiently opened, one releases the handle 25, so that the sleeve 16 is restored into its original position by the spring 20 and establishes engagement with the gear 12, the sector 5, and the pendulum 6. During passage of the automobile over grades of the road, the shaft 3 occupies an inclined position while the weight 7 maintains the sector 5 in its original position, rotation of the shaft 3 results, and consequently an increasing of the motor power, while on a descending slope, the opposite effect is obtained, i. e., a diminution of the motor power supply or even a total cut off. The oscillation of the weight, which would be produced in running over a rough road, is retarded by the piston 9, attached to the rod 6 and working within the liquid of cylinder 10.

I claim:

1. In combination with a regulator shaft for automobiles, of a manually operable sleeve keyed against independent rotation with respect to said shaft but longitudinally movable thereon, a gear rotatable on said shaft, said gear and sleeve having coacting coupling portions, a spring engaging said shaft to normally couple said sleeve and gear, a lever carried by said sleeve and engaging said shaft to uncouple the gear, and a pendulum having a tooth portion connecting with said gear, substantially as described.

2. In combination with a regulator shaft for automobiles, a manually operable member non-rotatably connected with but longitudinally movable with respect to said shaft, a rotatable but longitudinally fixed element adapted for coupling engagement with said

member, a spring normally maintaining said member and element in coupling engagement, means carried by said member for throwing the same out of coupling engagement with said element, and a pendulum operatively connected with said element, substantially as described.

In testimony whereof I have hereunto set my hand in presence of two witnesses.

CHRISTIAN LEBHERZ.

Witnesses:

JAKOB LEBHERZ,
I. LEBHERZ.