March 18, 1924. 1,487,593

L. P. PATTON

CUT-OUT VALVE

Filed April 25, 1923

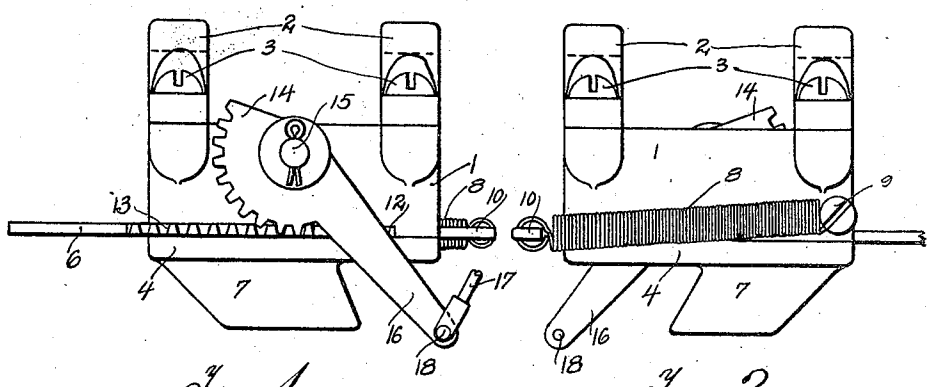


Fig. 1.

Fig. 2.

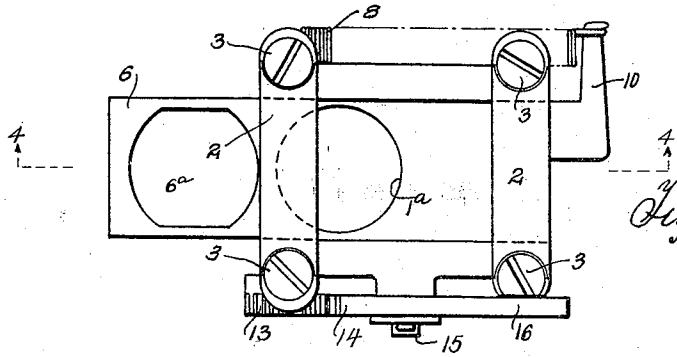


Fig. 3.

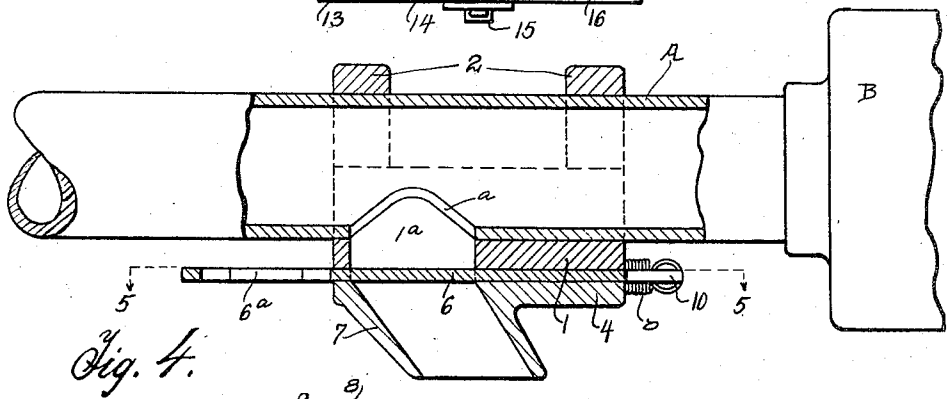


Fig. 4.

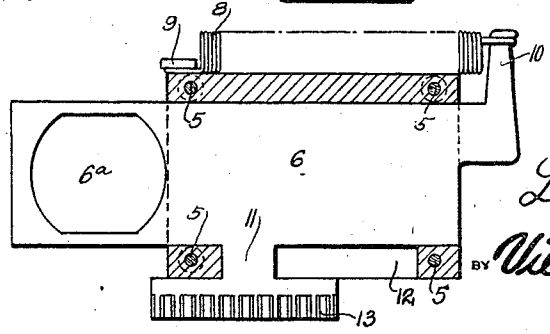


Fig. 5.

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UNITED STATES PATENT OFFICE.

LESTER P. PATTON, OF BUCYRUS, OHIO.

CUT-OUT VALVE.

Application filed April 25, 1923. Serial No. 634,583.

To all whom it may concern:

Be it known that I, LESTER P. PATTON, a citizen of the United States, residing at Bucyrus, in the county of Crawford and State of Ohio, have invented new and useful Improvements in Cut-Out Valves, of which the following is a specification.

This invention relates to cut-out valves, and more particularly to a valve specially adapted for use in connection with automobile engines.

One of the main objects of the invention is to provide a device of the character stated of simple construction and operation which may be readily applied to the exhaust pipe of an automobile engine without weakening the pipe or necessitating any material changes in the same. A further object is to provide a device which can be produced at small cost and can be quickly and easily applied. Further objects will appear from the detailed description.

In the drawings:—

Figure 1 is a side view of the device;

Figure 2 is a side view taken from the side opposite to Fig. 1;

Figure 3 is a top plan view;

Figure 4 is a section taken substantially on line 4—4 of Fig. 3 showing the device as applied;

Figure 5 is a section taken substantially on line 5—5 of Fig. 4.

The device includes a body 1 of substantially semi-cylindrical shape which is adapted to fit snugly about the lower portion of exhaust pipe A of an automobile engine in advance of muffler B. Strap members 2 are secured to body 1 by means of screws 3, or in any other suitable or preferred manner, and serve to secure the body tightly in position on exhaust pipe A. A bottom plate 4 is secured on the lower portion of body 1 by means of screws 5, or in any other suitable or preferred manner, and the bottom of body 1 is recessed to slidably receive a valve plate 6 of elongated rectangular shape, this plate fitting snugly against the bottom of body 1 and operating between the body and bottom plate 4. An exhaust nipple 7 depends from bottom plate 4 and the upper end of this nipple is normally closed by valve plate 6 which is held in closed position by a tension spring 8 one end of which is secured to a screw 9 threaded into body 1 at one end thereof, the other end of this spring being secured about an arm 10 which extends from plate 6 at right angles thereto. Movement of plate 6 in either direction is positively limited by a neck 11 which extends from one side of the plate through a slot 12 provided in the lower edge of the side wall of body 1, contact of this neck with the end walls of the slot limiting movement of the plate.

Neck 11 carries, at its outer end, a rack bar 13 with which meshes a segmental gear 14 rockably mounted on a stub-shaft 15 projecting from the side wall of body 1. An arm 16 extends from gear 14 and an operating rod 17 is pivotally secured at 18 to the outer end of this arm. By raising arm 16 by means of rod 17 plate 6 is moved into its rearmost position so as to bring opening 6^a provided through the forward end of the plate into alignment with the upper end of exhaust nipple 7 and with exhaust opening 1^a provided through the bottom wall of body 1. This permits the exhaust gases to be discharged through nipple 7 into the atmosphere thus cutting out muffler B. By releasing rod 17 plate 6 is returned to normal position by spring 8 thus closing the upper end of exhaust nipple 7. This provides a very simple and efficient device which may be readily applied to exhaust pipes of standard construction and can be produced at small cost.

What I claim is:—

1. In a device of the character described, a body adapted to be secured about an exhaust pipe and provided with an outlet opening through its bottom wall, a bottom plate secured on the body, and provided with an outlet opening in alignment with the opening through the bottom wall of the body, a valve plate slidable between the body and the bottom plate, said valve plate being provided with an opening, means for normally holding the valve plate in position with the opening thereof out of alignment with the opening through the bottom wall of the body, a rack carried by the valve plate, and a gear rockably mounted on the body and meshing with said rack for moving the valve plate into position to bring the opening thereof into alignment with the openings through the bottom plate and the bottom wall of the body when the gear is rocked in one direction.

2. In a device of the character described,

a body adapted to fit about an exhaust pipe and provided with an opening through its bottom wall, a bottom plate secured on the body and provided with an outlet opening in alignment with the opening through the bottom wall of the body, said body being provided with a slot through one lateral wall, a valve plate slidable between the body and said bottom plate, said valve plate being provided adjacent to one end thereof with an opening, the valve plate being also provided with a neck extending through said slot and with a rack carried by the neck at the outer end thereof, an arm extending from the other end of the valve plate, a tension spring connecting said arm and the body and acting to hold the valve plate in position with the opening thereof out of alignment with the openings through the bottom plate and the bottom wall of the body, and a gear rockably mounted on the body and meshing with said rack for moving the valve plate into position to bring the opening thereof into alignment with the openings through the bottom wall of the body and the bottom plate when the gear is rocked in one direction.

In testimony whereof I affix my signature.

LESTER P. PATTON.