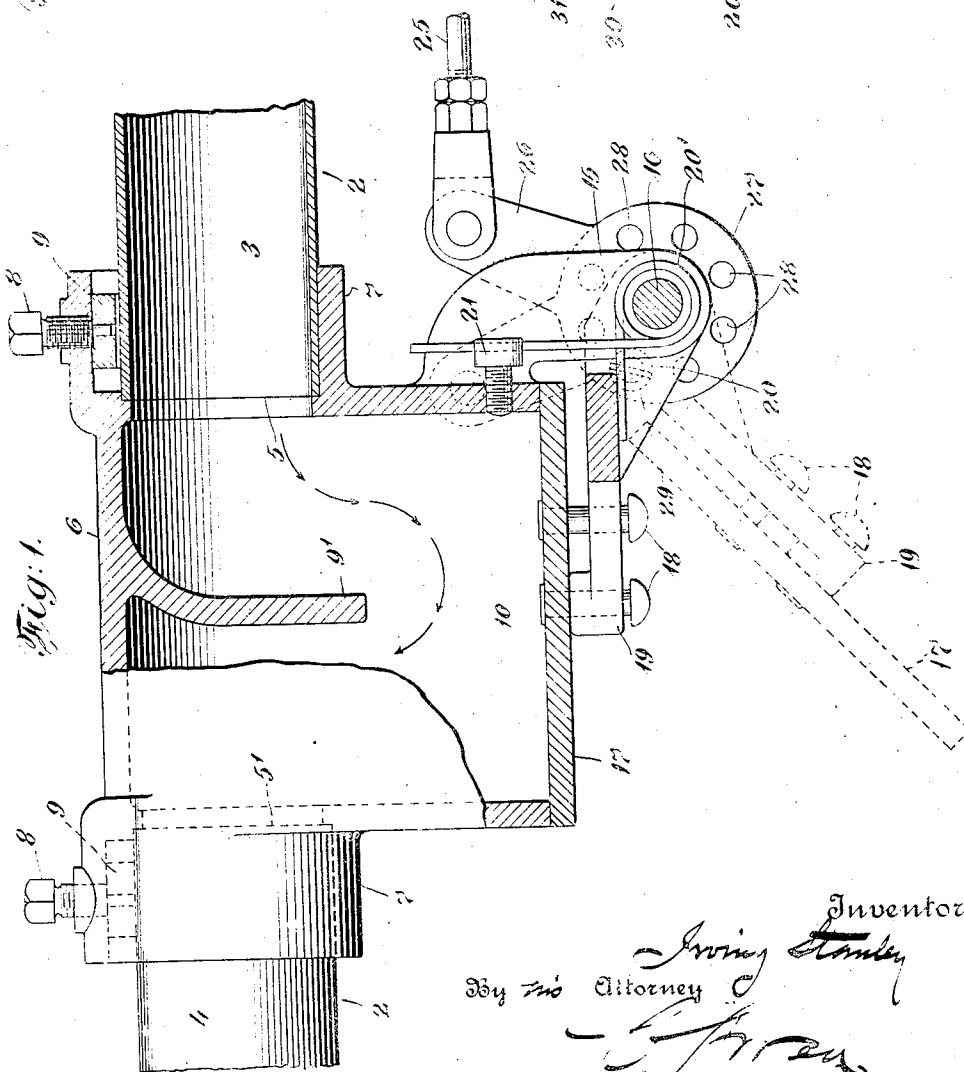
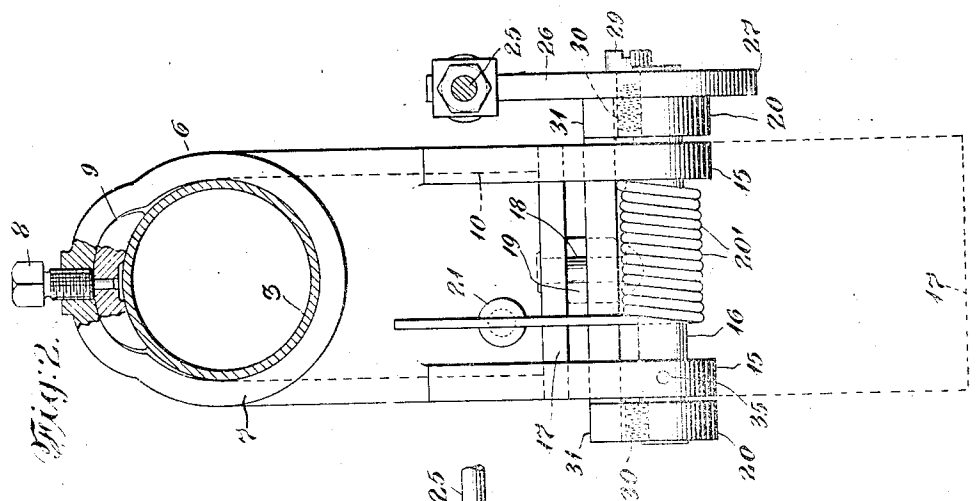


I. STANLEY.
MUFFLER CUT-OUT.
APPLICATION FILED OCT. 30, 1916

Patented May 20, 1919.

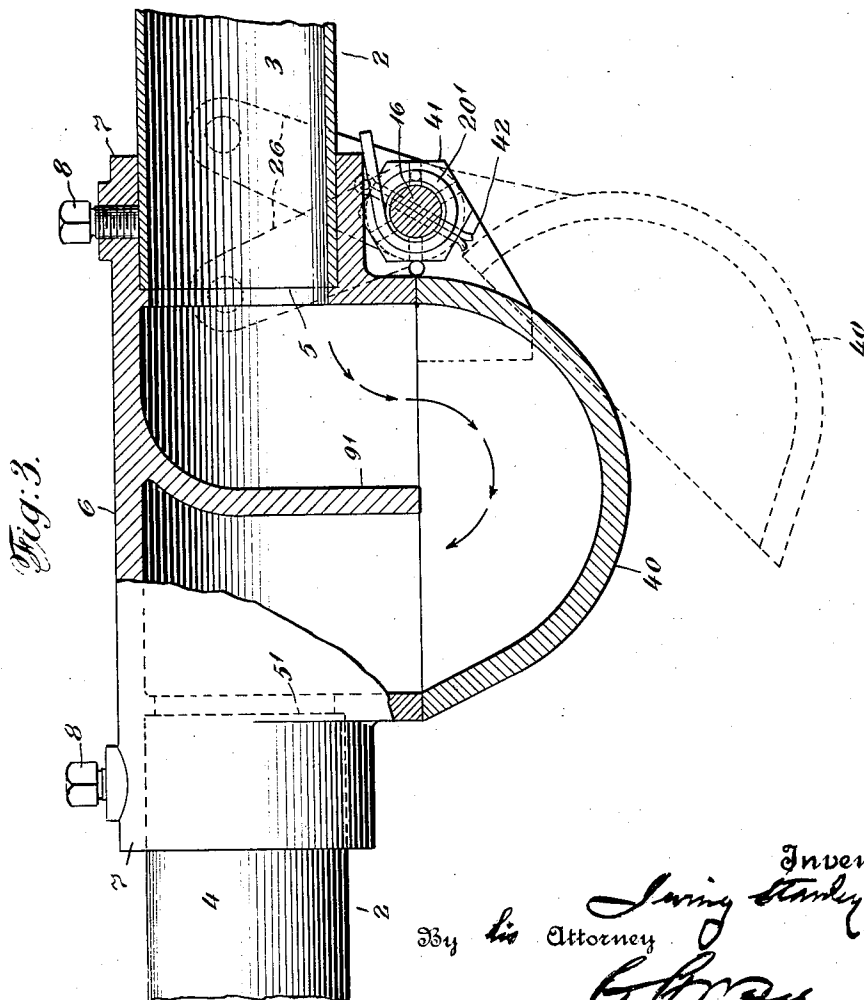
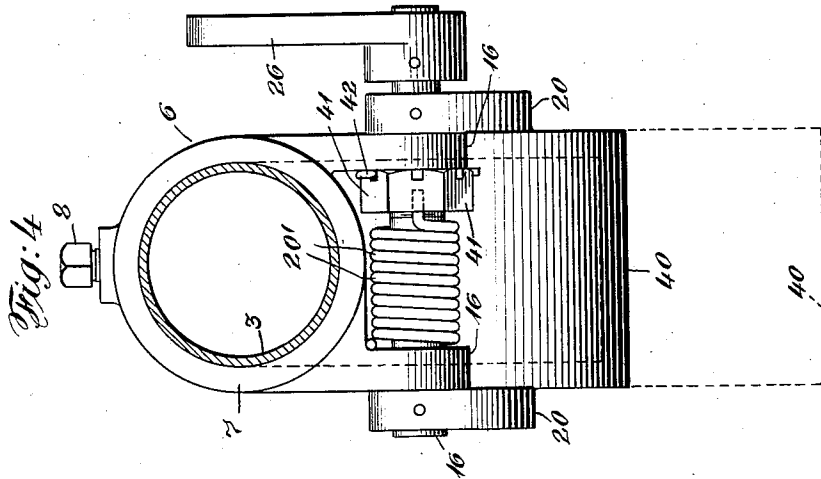
2 SHEETS—SHEET 1.

1,304,113.



Inventor
Irving Stanley
By His Attorney
E. J. Ryan

Patented May 20, 1919.
2 SHEETS—SHEET 2.



Inventor
Spring Stanley
By his Attorney
C. Bray

UNITED STATES PATENT OFFICE.

IRVING STANLEY, OF NEW YORK, N. Y.

MUFFLER CUT-OUT.

1,304,113.

Specification of Letters Patent.

Patented May 20, 1919.

Application filed October 30, 1916. Serial No. 128,379.

To all whom it may concern:

Be it known that I, IRVING STANLEY, a citizen of the United States, residing at New York city, in the county of New York and State of New York, have invented certain new and useful Improvements in Muffler Cut-Outs, of which the following is a specification.

This invention relates to muffler cut-outs for gas engines such as those commonly used for automobiles, although it is well adapted for all classes of gas engines where a muffler cut-out is used, the object of the invention being to provide an inexpensive and efficient muffler cut-out which can be quickly and readily applied and when applied will effectively perform the work for which it is intended.

In the drawings accompanying and forming part of this specification Figure 1 is a partly longitudinal sectional view of this improved muffler cut-out; Fig. 2 is an end view of Fig. 1 looking toward the left and showing the pipe and its clamp in section; Fig. 3 is a similar view of Fig. 1, illustrating a somewhat different form of the improvement; and Fig. 4 is a partly cross-sectional view of Fig. 3 showing the pipe in section.

Similar characters of reference indicate corresponding parts in the different figures of the drawings.

The exhaust pipe 2 leading from the engine to the muffler is shown made in two parts, the part 3 leading from the engine and the part 4 leading to the muffler. In other words when the exhaust pipe is made in one continuous member a piece is cut therefrom to form a pair of spaced ends 5 and 5' and upon these ends this improved muffler cut-out is located. In the preferred form thereof herein shown and described, the cut-out comprises a casing or casting 6, having a pair of sleeved ends 7 for the reception of the spaced ends of the pipe to which it may be secured by bolts 8 in any suitable way. In the form shown in Figs. 1 and 2 it is secured thereto by means of clamps 9 shaped to conform to the top of the pipe. The casing 6 is so constructed as to provide a large depending chamber 10, and between the spaced ends of the pipe is located a wall 9' supported in position in any suitable way. In the present instance this wall is shown as a depending or downwardly projecting wall carried by the upper

wall of the casing, and it projects sufficiently into the casing to have its lower end well below the lower wall of the pipe, thereby forming an efficient baffle plate to deflect the gases so that they will more effectively pass into the open air when the cut-out is open, and prevent any appreciable part thereof from passing to the muffler. When the cut-out is closed this baffle plate will cause the exhaust gases to pass through the casing and around the plate in substantially the manner shown by the arrow in the figures of the drawings.

From the foregoing it will be thus observed that the casing is considerably larger by reason of its depending portion than the exhaust pipe, and that the baffle plate is longer than the diameter of the pipe so that any tendency of the exhaust gases to pass from one end of the pipe to the other is effectively interrupted, while the enlarged casing permits the ready expansion of the gases and the quick passage thereof to the atmosphere when the cut-out is open, owing to the large opening, thus obtained at the under side of the casing; and thus materially reduces the noise usually present in cut-outs.

The casing is provided with a pair of depending lugs 15, formed to carry the pintle or pivot pin 16 of the closure or by-pass which in the form shown in Figs. 1 and 2 comprises a flat plate 17, adapted to close the lower end of the casing. This plate is carried by a pair of aligned rivets or bolts 18, which secure it to a bracket arm 19 having a pair of projections 20 for the reception of the pintle 16. This bracket 19 is loosely supported relatively to the by-pass or valve plate, so as to insure a more effective seating of the valve upon its seat. This is obtained by having the rivets sufficiently long to permit the bracket and plate to have a relative movement. A suitable coiled spring 20' is carried by the pintle, one end being attached by a suitable screw 21 to the casing, while the other end projects under the valve plate bracket 19 to maintain the valve seated. The screw 21, to which one end of the spring is connected, is adjustable for increasing or relieving the tension on the spring. For manipulating the valve, any suitable means may be used. In the present instance this is shown as a rod 25 connected to one end of a lever 26 carried by an adjustable circular plate 27 having a series of openings 28 there-

in for the reception of a bolt or screw 29. Each of these openings is located in position to register with a single opening 30 formed in each of the hubs 31 of the projections 20 of the valve plate bracket. The plate may be adjusted circumferentially by removing the screw and replacing it in any one of the openings of the circular plate when shifted into position to register with the opening in the hub, thus permitting the lever to be adjusted into different positions to correspond to the position of the foot lever which may be used for manipulating the cut-out and to which the connecting rod hereinbefore referred to is usually connected. Carried by one of the lugs of the casing is a pin 35 in position to engage the valve pintle to prevent the latter from moving endwise.

In the form shown in Figs. 3 and 4, the construction is similar except that the enlargement of the casing is obtained by giving the valve 40 a bowl-shaped formation. Thus the casing has substantially the same depending enlarged portion as the casing shown in Fig. 1, and the baffle plate projects into substantially the same position with relation to the exhaust pipe. By thus forming the valve in the manner shown the exhaust gases are deflected practically along the rear length of the pipe when the valve is open, which prevents them from raising dust on the road. In this form of the improvement the coiled spring for the valve has one end secured to a castellated nut 41 turned on the pintle and maintained in position by a cotter-pin 42 and by means of which castellated nut the tension of the spring may be adjusted.

It will be observed in the structure shown in Figs. 1 and 2, that each hub 31 is provided with a single opening 30, so that should it be desired to reverse the direction of the rod 25, it is merely necessary to remove the screw or bolt 29 and the circular plate 27 and slip it on the opposite end of the pintle in juxtaposition with the left hand hub as shown in Fig. 2. Thus, in this improvement I provide not only an adjustable connection between the foot pedal and the closure therefor but a reversible one.

I claim as my invention:

1. The combination with an exhaust pipe having a pair of spaced ends; of a muffler cut-out comprising a casing secured to such ends and having a chamber of greater diameter than the diameter of the pipe, said chamber having a non-movable baffle plate therein extending transversely of the pipe, a hinged closure for the chamber, and means for swinging said closure.

2. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber, said chamber having a non-movable baffle plate therein

extending transversely of the pipe a distance at least substantially equal to the diameter of the pipe, a hinged closure for said chamber, and means operative at a point remote from said closure for swinging it.

3. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber, said chamber having a baffle plate therein projecting from the upper wall of the casing to a point below and transversely of the pipe, a hinged closure for said chamber, and means for swinging it.

4. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends, and having a depending chamber having greater diameter than the diameter of the pipe and having an outlet at that part furthest removed from the pipe, a pivotally supported closure for said outlet, and means for swinging said closure.

5. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a depending chamber having greater diameter than the diameter of the pipe, and a swinging closure for the chamber located at the bottom thereof, said chamber also having a non-movable baffle plate therein extending transversely of the pipe.

6. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a depending chamber, having greater diameter than the diameter of the pipe, and a swinging closure for the chamber located at the bottom thereof, and means for swinging said closure from a point remote therefrom, said chamber also having a non-movable baffle plate extending transversely of the pipe and of greater lineal dimension than the diameter of the pipe.

7. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber of greater diameter than the pipe and provided with a fixed transverse baffle, a closure for the casing, and means for supporting said closure, said supporting means and closure having a movement one relatively to the other and also together.

8. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber of greater diameter than the pipe and provided with a fixed transverse baffle, a closure for such casing, and means for shifting said closure and including means for adjusting the shifting means into different positions relatively to the closure.

9. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber of greater diameter than the pipe and provided with a fixed transverse baffle, a closure for such casing, and means for shifting said closure and including means for adjusting the shifting means into different positions relatively to the closure and comprising an adjustable plate having a series of openings therein and adapted to register with an opening fixed relatively to said closure.

10. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber of greater diameter than the diameter of the pipe, a non-movable baffle plate within said chamber located between said spaced ends, a closure for the chamber, means for supporting said closure, and means for actuating the closure, the supporting means and actuating means having an adjustment relative one to the other.

11. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends and having a chamber of greater diameter than the diameter of the pipe, a non-movable baffle plate within said chamber located between said spaced ends, a closure for the chamber, means for supporting said closure, and means for actuating the closure, the supporting means and actuating means having an adjustment relative one to the other, and comprising a circular plate carried by one of said parts and having a series of openings, and adapted to register with a fixed opening carried by another of said parts.

12. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing, having sleeves for the reception of such ends and having a depending chamber of greater diameter than the diameter of the pipe, and also having a depending baffle plate having its lineal dimension substantially equal to the diameter of the pipe, a closure at the lower end of said chamber, means for supporting said closure, said closure and its supporting means having movement one relative to the other, means for operating said closure, the said supporting means and operating means having one a circular adjustable plate having a series of openings, and the other a fixed

opening adapted to register with any one of the openings of the circular plate.

13. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out having a casing secured to such ends and having a shiftable closure, the casing and closure forming a chamber of greater diameter than that of the pipe and the closure having a diameter equal to that of one side of the chamber, and a non-movable baffle plate located in said casing.

14. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out having a casing secured to such ends and having a shiftable closure, the casing and closure forming a chamber of greater diameter than that of the pipe, and a fixed baffle plate located in said casing and having a diameter substantially equal to that of the pipe.

15. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends, a shiftable closure at the under side of said casing and forming with the casing an enlarged chamber of at least substantially twice the diameter of the pipe, a depending baffle plate within said chamber and of greater lineal dimension than the diameter of the pipe, and means for shifting said closure.

16. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends, a closure for such casing, means for shifting said closure and including a reversible connecting means, and means for adjusting the shifting means into different positions relative to the closure.

17. The combination with an exhaust pipe having a pair of spaced ends, of a muffler cut-out comprising a casing secured to such ends, a closure for such casing, means for shifting said closure, and including a reversible connecting means, and means for adjusting the shifting means into different positions relative to the closure, said reversible and adjusting means comprising a removable plate having a series of openings therein and adapted to register with an opening fixed relative to said plate.

Signed at New York city, in the county and State of New York, this 28th day of October 1916.

IRVING STANLEY.