

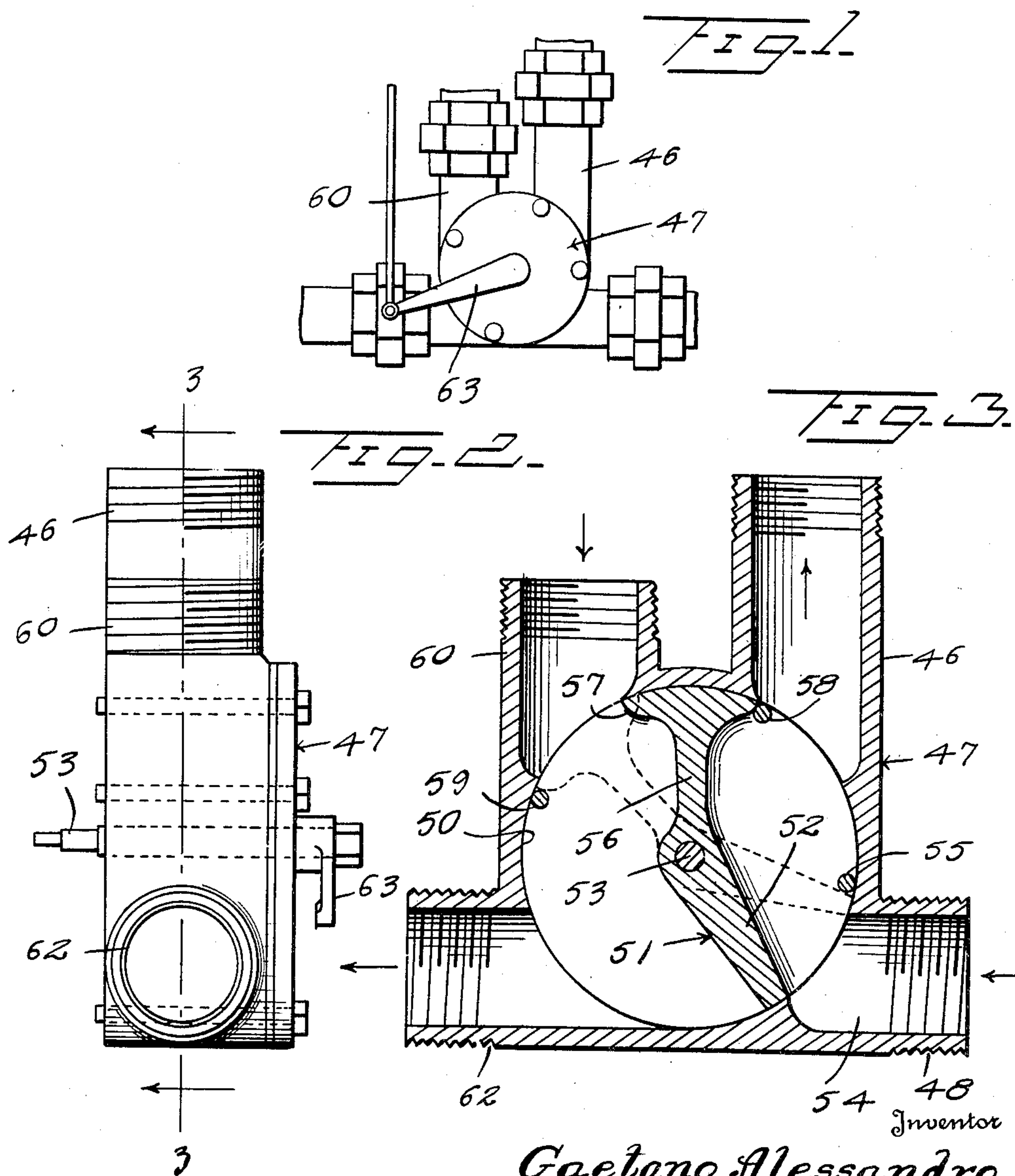
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2,540,229

VALVE

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UNITED STATES PATENT OFFICE

2,540,229

VALVE

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Original application October 19, 1945, Serial No. 623,228, now Patent No. 2,526,923, dated September 26, 1950. Divided and this application June 28, 1946, Serial No. 680,241

2 Claims. (Cl. 251—108)

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This invention relates to valves and is a division of my copending application, Serial Number 623,228, dated October 19, 1945, now Patent No. 2,526,923, dated September 26, 1950, for cooking and heating apparatus for vehicles.

An object of this invention is to provide an improved regulating valve structure for interposing in the exhaust system of an internal combustion engine, whereby the exhaust gases may be selectively directed to the heating or cooking element or may be directed straight through to the muffler associated with the engine.

Another object of this invention is to provide, in a valve structure of this kind, an improved rotary valve plug which is so designed that it will withstand the hot gases from the engine exhaust without becoming unduly corroded and without sticking within the valve housing.

A further object of this invention is to provide a valve of this kind which is of simple construction so that it can be manufactured at small cost.

With the above and other objects in view, my invention consists in the arrangement, combination and details of construction disclosed in the drawings and specification, and then more particularly pointed out in the appended claims.

In the drawings,

Figure 1 is a detail side elevation of a valve constructed according to an embodiment of this invention,

Figure 2 is a detail end elevation of the valve,

Figure 3 is a sectional view taken on the line 3—3 of Figure 2.

Referring to the drawings, the numeral 47 designates generally a valve housing which is formed with a circular chamber 50 therein. The housing 47 has connected therewith an intake nipple 48 communicating with the chamber 50, and a right angularly disposed outlet nipple 46. A second intake nipple 60, parallel with the outlet nipple 46 is carried by housing 47, communicating with the chamber 50. A second outlet nipple 62 is carried by the housing 47 and is disposed in substantial alignment with the first intake nipple 48.

A valve plug generally designated as 51 is rotatably mounted in the chamber 50 and includes a tapered blade 52 which is secured to a shaft 53 journaled in the housing 47. A second blade 56 is formed integral with the blade 52, extending at an obtuse angle relative to the blade 52 and the second blade 56 has formed integral therewith a head 57. The head 57 is of such width that when the valve plug 51 is rotated to the dotted line position, shown in Figure 3, the head 57 will close the second inlet 60.

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A stop member 58 is carried by the housing 47, which is adapted to limit the rotation of the valve plug in one direction, and is adapted to dispose the valve plug in a position where the fluid passing through the housing will enter the inlet 48, pass through a portion of the chamber 50, exhaust through the outlet 46, and this fluid or additional fluid may then enter the housing through the intake nipple 60, enter the chamber 50, and exhaust through the outlet 62.

When the valve plug 51 is rotated to the position closing the inlet 60, the valve plug is stopped by means of a pair of stop members 55 and 59. The blade 52 is adapted to engage the stop member 55 and the head 57 when in dotted line position is adapted to engage the stop 59. A crank or lever 63 may be secured to one end of the shaft 53 so that this shaft may be rotated to the desired regulating position of the valve plug.

The valve plug 51 is designed particularly for use with hot exhaust gases and is therefore, made relatively heavy and of such material that the hot exhaust gases will not burn the plug. As an exhaust, this valve structure has been particularly designed for use in a combined heater and cooker, such as disclosed in my copending application supra.

I do not mean to confine myself to the exact details of construction herein disclosed, but claim all variations falling within the purview of the appended claims.

What I claim is:

1. A regulating valve for exhaust gases comprising a housing having a cylindrical valve chamber, aligned inlet and outlet nipples extending from said housing, a second pair of parallel inlet and outlet nipples carried by said housing, said second pair of nipples being disposed at right angles to said first named nipples, a valve plug rotatable in said housing and including an obtusely angled plate said valve having a pivot means disposed above the plane of said aligned nipples, a head on one end of said plate adapted in the cutoff position of said plug to close the inlet nipple of said second pair of nipples and to communicate said aligned nipples, said plug in a second position thereof communicating said first named inlet nipple with said second named outlet nipple and simultaneously communicating said second named inlet nipple with said first named outlet nipple, and stops disposed above said aligned nipples and carried by said housing for limiting the adjustment of said plug to said two positions.

2. A regulating valve for exhaust gases comprising a housing having a cylindrical valve

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chamber; aligned inlet and outlet nipples extending from said housing, a second pair of parallel inlet and outlet nipples carried by said housing, said second pair of nipples being disposed at right angles to said first named nipples, a transverse shaft in said cylindrical valve chamber disposed above the plane of said aligned nipples, a valve plug rockably mounted on said shaft having integrally formed blades obtusely disposed relative to each other, a head on one end of said blades adapted in the cutoff position of said plug to close the inlet nipple of said second pair of nipples and to communicate said aligned nipples, said plug in a second position thereof communicating said first named inlet nipple with said second named outlet nipple and simultaneously communicating said second named inlet nipple with said first named outlet nipple, and stops spaced around the periphery of said cham-

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ber for engagement with the ends of said valve blades positioned above the plane of said aligned nipples.

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