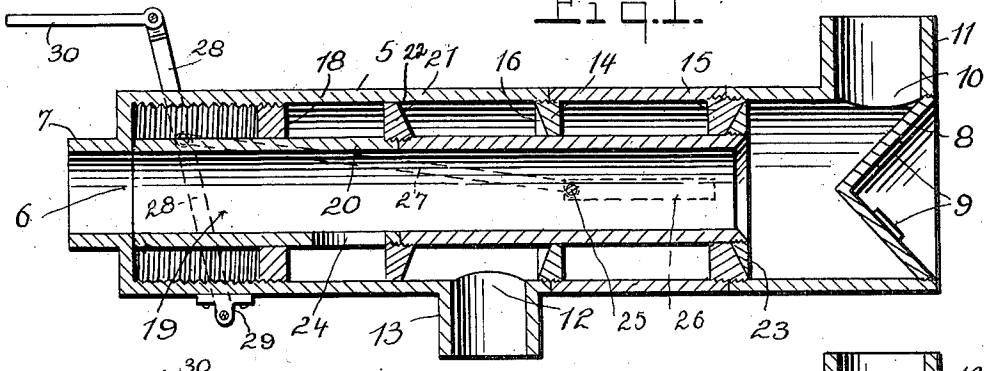
G. L. EWALT.

VALVE.

APPLICATION FILED MAR. 11, 1913.

1,092,984. Patented Apr. 14, 1914.

Fig. 1.



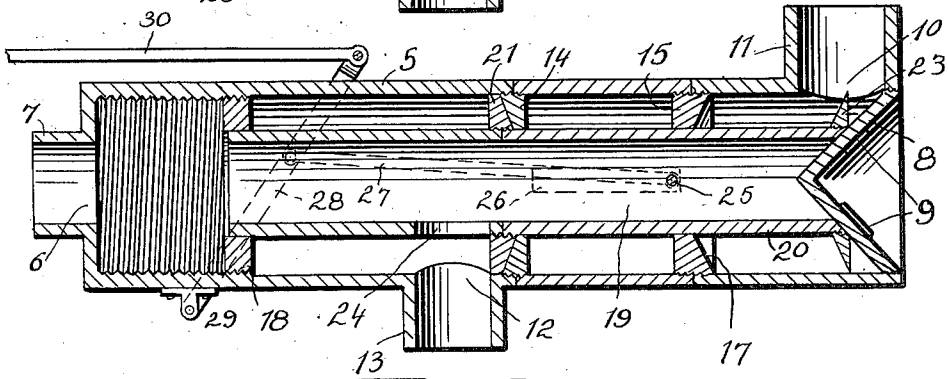
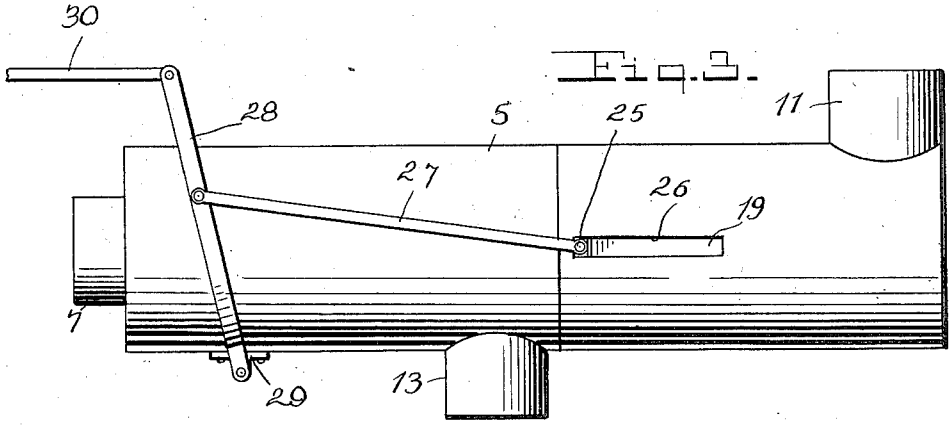


Fig. 2.

Fig. 3.



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UNITED STATES PATENT OFFICE.

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VALVE.

1,092,984. Specification of Letters Patent. Patented Apr. 14, 1914.

Application filed March 11, 1913. Serial No. 753,619.

To all whom it may concern:

Be it known that I, GUY L. EWALT, a citizen of the United States, residing at Sykes, in the county of Custer and State of Montana, have invented certain new and useful Improvements in Valves; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention comprehends improvements in valves and relates more particularly to those of the cut-out type whereby the path of the exhaust after coming from the engine, may be altered so as to cause said exhaust to flow in different directions.

The primary object of the invention is to provide a valve of this nature, which shall be of extremely simple construction, efficient in operation, and which will direct the exhaust either directly to the atmosphere or through the stack of a threshing or similar machine.

Another and more specific object of the invention resides in the provision of an exhaust valve comprising a cylindrical casing having an intake opening in one end, an outlet opening adjacent the other end, and a second outlet opening intermediate its ends, and a tubular member slidable within said casing to direct the exhaust through one or the other of said outlet openings.

With these and other objects in view, as will become more apparent as the description proceeds, the invention consists in certain novel features of construction, combination, and arrangement of parts, as will be hereinafter described and claimed.

For a complete understanding of my invention, reference is to be had to the following description and accompanying drawings, in which,

Figure 1 is a longitudinal sectional view through a valve constructed in accordance with my invention, Fig. 2 is a similar view showing the sliding member at the opposite end of the valve casing, and Fig. 3 is a side elevation of my improved valve, showing the operating means therefor.

Referring in detail to the drawings by numerals, 5 designates, generally, a cylindrical valve casing having an intake opening 6, formed in one end thereof, said opening being surrounded by an annular flange 7, which is adapted to connect with the exhaust pipe coming from the engine. The other end of the casing is adapted to be closed by a conical cap 8 which is threaded into engagement with the interior of said casing and which is provided with the turning projections 9. An outlet opening 10 is formed in the wall of the casing adjacent the last mentioned end and is surrounded by a flange 11. The casing is further provided intermediate its ends with a second outlet opening 12, which is encircled by an outwardly projecting flange 13. The casing is formed in three sections which are secured in proper alinement by means of the guide rings 14 and 15. The peripheries of these rings are threaded for engagement with the threaded ends of the various casing sections, as is clearly shown in Figs. 1 and 2. The faces 16 and 17, respectively, of said rings are inclined toward the longitudinal center of the valve in opposite directions, as is clearly shown in the drawings, and the purpose of the structure will be hereinafter explained. A third guide ring 18 is threaded into the rear section of the valve casing to a position intermediate the openings 6 and 12.

A valve, generally designated 19, is slidable through the aforementioned guide rings and is fitted to the internal diameters thereof. This valve comprises a tube 20 open at each end and formed in two sections, said sections being secured together by a collar 21 which is threaded into engagement with the opposed ends thereof. The collar is fitted to the internal diameter of the casing and is provided with a beveled or inclined forward face 22, which is adapted for engagement with the face 16 of the ring 14. A frusto-conical flange or collar 23 is threaded onto the tube 20 which is adapted to seat upon the face 17 of the ring 15. The tube is formed with an opening 24 positioned to the rear of the collar 21 and adapted to register with the opening 12. Pins 25 are secured to the exterior of the tube 20 at diametrically opposite points and are adapted to slide through longitudinal slots 26 formed in the valve casing. Connecting rods 27 are pivotally secured to said pins and to a yoke 28, the latter being pivotally secured, as indicated at 29, to the valve casing, and adapted to be actuated by a lever 30. When the valve is at the inner end of the casing, as shown in Fig. 1, the exhaust coming from the engine, will flow through the entire length thereof

and out through the opening 10 which may be in communication with the stack of a threshing or similar machine. When it is desired to conduct the exhaust directly to the atmosphere, the lever 30 is moved forwardly which causes the valve to seat against the conical cap 8. The exhaust will then flow through the openings 24 and 12.

From the foregoing description taken in connection with the accompanying drawings, it will be seen that I have designed an exhaust valve of extremely simple construction, capable of being easily assembled, easily operated, and one which is very well adapted for the object in view.

It is to be understood that while I have shown and described the preferred embodiment of my invention, I do not wish to be limited to this exact construction, combination, and arrangement of parts, but may make such changes as will fall within the spirit and scope of the invention.

Having thus described my invention, what I claim is:—

A valve comprising a sectional cylindrical casing, said casing provided with an intake port, and an outlet port adjacent one end of said casing, and a second outlet port intermediate the ends of the casing, flanges surrounding said ports, a conical-shaped cap secured to one end of said casing and extending inwardly, adjacent one of the outlet ports, a plurality of guide rings provided with screw threads on their outer surfaces intermediate of the outlet ports securing the sections of the casing together, said guide rings having faces inclined toward the longitudinal center of the casing, a tubular member mounted in said rings and adapted to slide therein, and to abut against said conical-shaped cap, means for operating said tube, said tube provided with an aperture intermediate its ends, frusto-conical flanges secured to the tube and adapted to abut against said inclined faces of the guide rings whereby movement of the tubular member may open or close either outlet port.

In testimony whereof I affix my signature in presence of two witnesses.

GUY L. EWALT.

Witnesses:
S. D. WILLIAMS,
A. H. LONG.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."