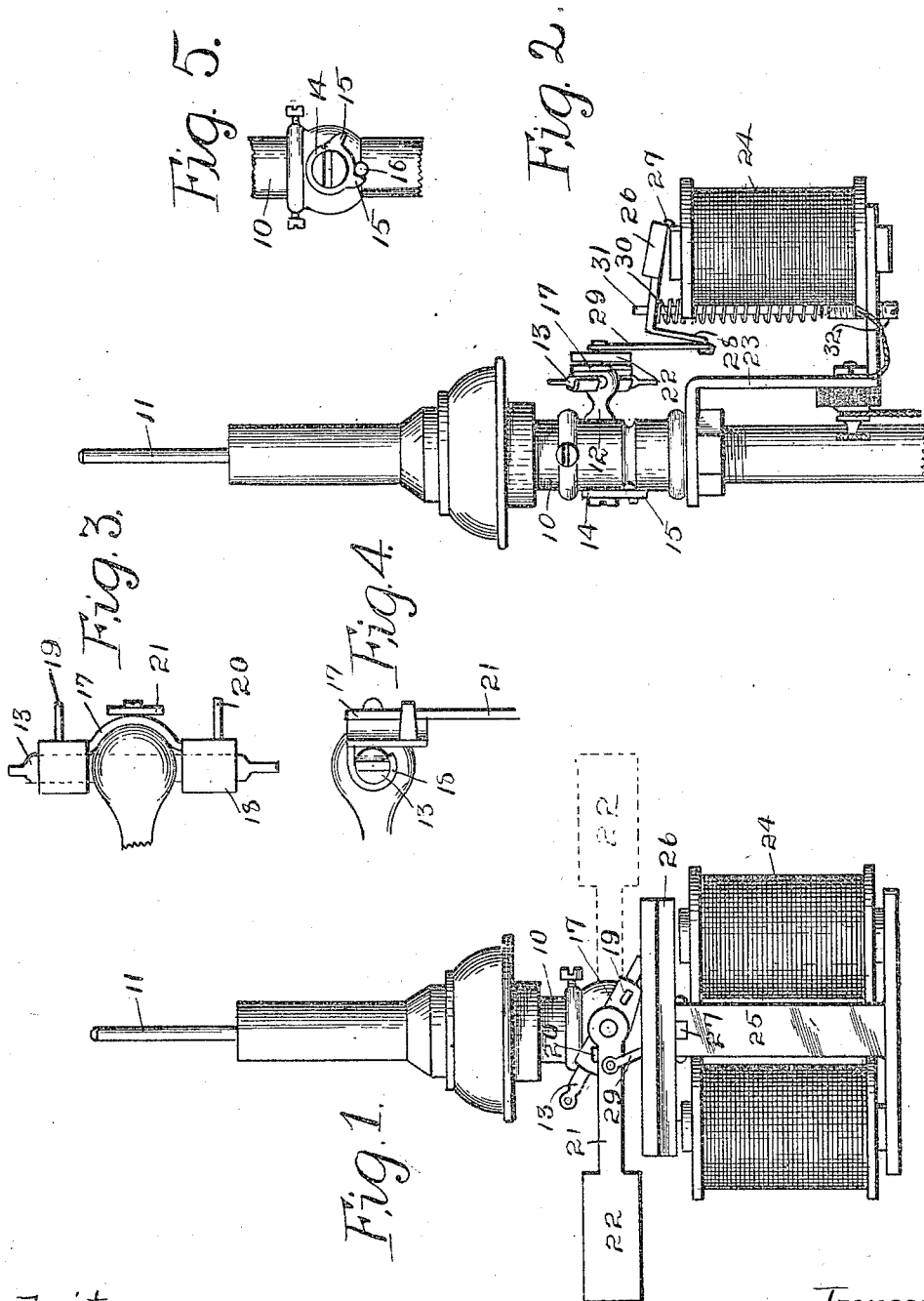


A. T. WILSON.
ELECTRIC VALVE CONTROLLER.
APPLICATION FILED JUNE 8, 1908.

960,757.

Patented June 7, 1910.



Witnesses
A. E. Haque
F. C. Caswell

Inventor
A. T. Wilson
by Orvig & Lane Attys

UNITED STATES PATENT OFFICE.

ALONZO T. WILSON, OF DES MOINES, IOWA, ASSIGNOR OF ONE-HALF TO WILLIAM H. NICHOLAS, OF DES MOINES, IOWA.

ELECTRIC VALVE-CONTROLLER.

960,757.

Specification of Letters Patent.

Patented June 7, 1910.

Application filed June 8, 1908. Serial No. 437,308.

To all whom it may concern:

Be it known that I, ALONZO T. WILSON, a citizen of the United States, residing at Des Moines, in the county of Polk and State of Iowa, have invented a certain new and useful Electric Valve-Controller, of which the following is a specification.

The object of my invention is to provide a device of simple, durable and inexpensive construction, designed to be used in the nature of an attachment especially designed to be applied to the valve of a gas burner, whereby the operator may, by moving an electric switch, cause the valve to be turned from an open to a closed position, or vice versa.

More particularly, it is my object to provide a device of this kind especially designed for use in connection with that class of gas burners in which the valve is provided with a lever having two chains attached to it, and so arranged that by pulling alternately upon said chains, the valve may be opened and closed, said attachment being so arranged that it may be applied to valves of this kind without screws or rivets or other similar fastening devices; and further to provide an attachment of this kind in which the electric current required for operating the valve will be applied only for a very short period of time and then immediately cut off to thereby prevent waste of the electric current.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claims and illustrated in the accompanying drawings, in which—

Figure 1 shows a front view of a gas burner having my improvement applied thereto as in practical use. The dotted lines in said view show the position of the operative parts when the valve has been moved from its open to its closed position. Fig. 2 shows an edge view of same. Fig. 3 shows an enlarged detail plan view, illustrating the supporting bracket attached to the operating lever of the valve. Fig. 4 shows an edge view of same, and Fig. 5 shows a detail view of the limiting device on the end of the valve stem opposite from the lever.

Referring to the accompanying drawings, I have used the reference numeral 10 to indicate a gas burner. This burner is prefer-

ably of the class having a pilot light tube 11. The burner is also provided with a valve 12 having on its stem a lever 13. Valves of this class are usually so arranged that by pulling down a short distance on one end of the lever, the valve is opened, and then by pulling down a short distance on the other end of the lever, the valve will be closed. The pilot light is so arranged that when the valve is in its closed position a small quantity of gas will flow through it into the tube 11, so that the pilot light may burn when the valve is closed. On the end of the valve stem opposite from the lever 13 is a collar 14 having limiting lugs 15 thereon designed to engage a stop 16 fixed to the valve casing to thereby limit the movement of the valve. Burners of this class are now in common use, and hence, further description of the burner itself is unnecessary.

My attachment comprises a bracket, consisting of a body portion 17 having arms 18 at its ends made of a material that may be easily bent around the ends of the lever 13 to thereby secure the bracket to said lever without screws, bolts, or similar fastening devices. Projecting forwardly from the bracket 17 are two lugs 19 and 20. Pivoted to the central portion of the bracket 17 is an arm 21 having a weight 22 fixed to its lower end. The weighted arm is so arranged that when in a substantially horizontal position at one side of its movement, it will engage the lug 20 and hold the lever 13 at one limit of its movement; then when it is swung to a substantially horizontal position at the other limit of its movement, it will engage the lug 19 and turn the lever 13 to position with the valve at its opposite limit of movement.

The reference numeral 23 indicates a bracket fixed to a stationary support and having an electromagnet 24 supported thereon. This bracket is also provided with an upwardly extending arm 25 to which an armature 26 is connected by means of a hinge 27. Attached to the armature 26 is an arm 28 connected by a link 29 with the weighted arm 21, said parts being so arranged that when the weighted arm 21 is in a substantially horizontal position at either limit of its movement, a downward movement of the armature toward the magnet will cause the weighted arm to be drawn downwardly.

I have provided for normally holding the armature 26 in its elevated position by means of an extensible coil spring 30 mounted on a rod 31, the lower end of said spring being in engagement with an adjustable screw 32 and the upper end being in engagement with an arm 28. Said spring is of such resilience that when the armature 26 is drawn downwardly the spring will be compressed and the weighted arm be permitted to swing to a substantially vertical position. The momentum of the weight will be such that the arm 21 will move past a vertical position and then if the armature 26 is released by its magnet the spring 30 will elevate the weighted arm to its opposite limit of movement.

In practical use, it is obvious that my improvement may be readily, quickly and easily applied to any ordinary gas burner of the general type set forth.

I have not herein illustrated the electric switch device for controlling the current for actuating the electromagnet as this switch forms no part of my present invention. It is obvious, however, that if a current is established through the electromagnet 24 for an instant, then the armature will be drawn toward the magnet and the weighted arm swung downwardly, then if the current is shut off quickly enough, the armature will be released in time to permit the spring 30 to elevate the weighted arm to its opposite position, hence when the valve is open the establishment of an electric current through the magnet will cause the device to move the valve to its closed position; and in the event that the valve is first in its closed position the establishment of a current through the electromagnet will cause the device to open the valve.

The device is especially adapted for use in connection with gas burners. It may, however, obviously be applied for controlling any kind of a valve, and therefore, the following claims are not to be construed as limited to the use of the device in connection with any particular kind of valve.

I claim as my invention.

1. In a device of the class described, the combination of a valve, a weighted arm pivoted to the valve stem and capable of movement from a substantially horizontal position at one side to a similar position on the other side, said valve being so arranged with relation to the weighted arm that it will be closed in one of said positions of the weighted arm and open in the other, an electromagnet, an armature for the magnet, a link connecting the armature with the weighted arm, and a spring operatively connected

with the armature for holding it in a direction away from its magnet and also for normally holding said weighted arm in a substantially horizontal position at either side of its movement for the purposes stated.

2. In a device of the class described, the combination with a valve, of an arm connected to the valve stem and capable of movement from a substantially horizontal position at one side of the valve to a similar position at the other side, an electromagnet, an armature arranged in operative position relative to the magnet, and means for connecting the armature with said arm, for moving the arm downwardly when at either of its limits of movement, upon a movement of the armature toward the magnet, and a spring arranged for elevating the arm of the valve when the armature is released from the magnet.

3. In a device of the class described, the combination of a valve, a plate fixed to the valve stem and having lugs on opposite sides thereof, a weighted arm pivoted to the valve stem and designed to engage said lugs, said weighted arm being capable of movement from a substantially horizontal position at one side to a similar position on the other side, an electromagnet, an armature arranged in operative position relative to the magnet, a link connecting the armature with the weighted arm, and a spring connected with the weighted arm for normally elevating it for the purposes stated.

4. In a device of the class described, the combination of a gas burner a valve therefor and a pilot light attachment, a plate fixed to the valve, lugs on the plate, a weighted arm pivoted to the valve and designed to engage the lugs, an electromagnet, an armature arranged in operative position relative to the magnet, a link connecting the armature and the weighted arm, and an adjustable spring for normally elevating the weighted arm.

5. In a device of the class described, the combination of a valve a lever fixed to one end thereof, a bracket comprising a body portion having extensions at its ends bent around said lever for attaching the bracket to the valve, lugs fixed to opposite sides of said bracket, a weighted arm pivoted to the bracket, an electromagnet, an armature arranged in operative position relative to the magnet, and means for connecting the armature with said weighted arm.

Des Moines, Iowa, June 4, 1908.

ALONZO T. WILSON.

Witnesses:

J. RALPH ORWIG,
W. H. NICHOLAS.