A. COUTURE.

CONTROL FOR ROTARY OIL BURNERS.

APPLICATION FILED SEPT. 15, 1919.

1,330,788.

Patented Feb. 17, 1920.

2 SHEETS—SHEET 1.

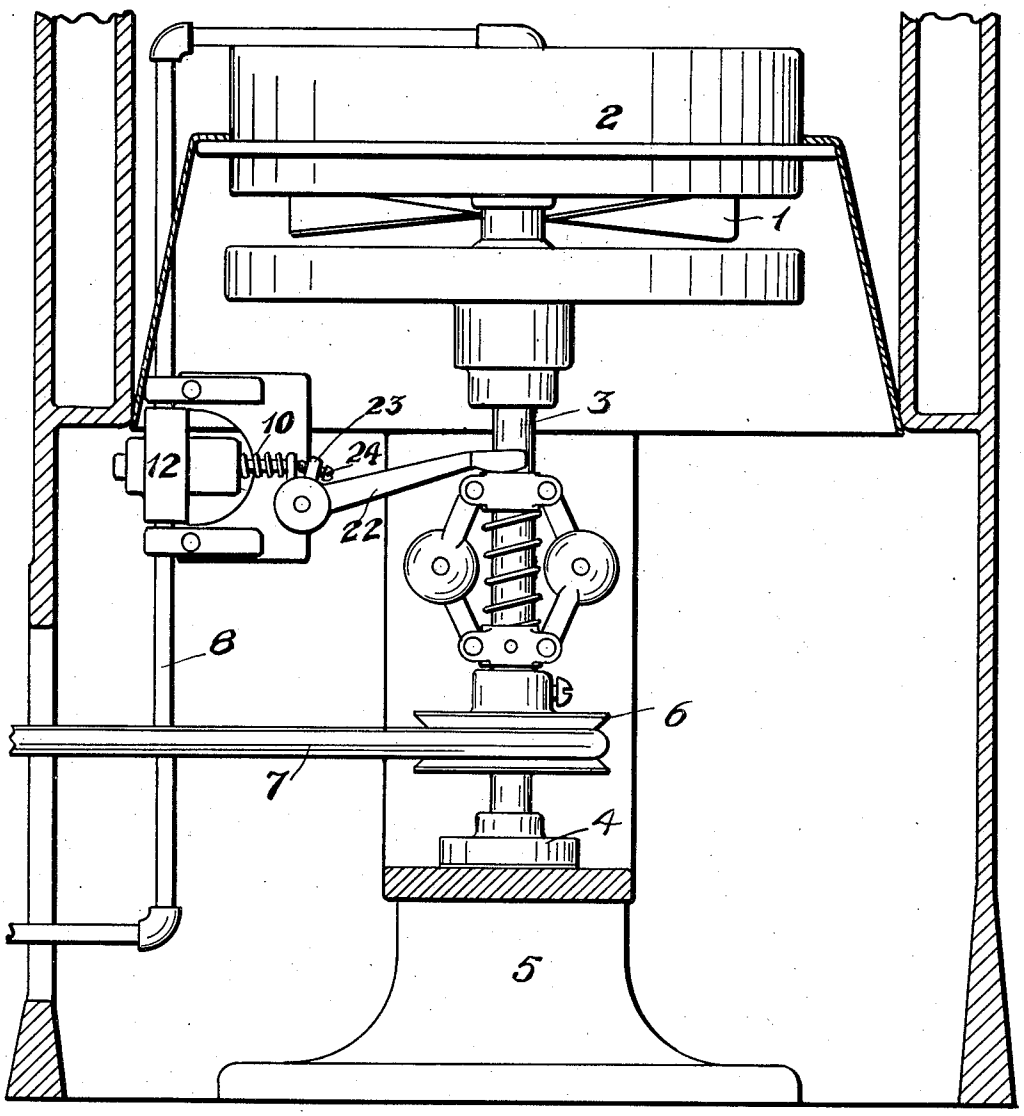


FIG. 1.

INVENTOR.

Adelard Couture

by Joseph A. Miller

ATTORNEY.

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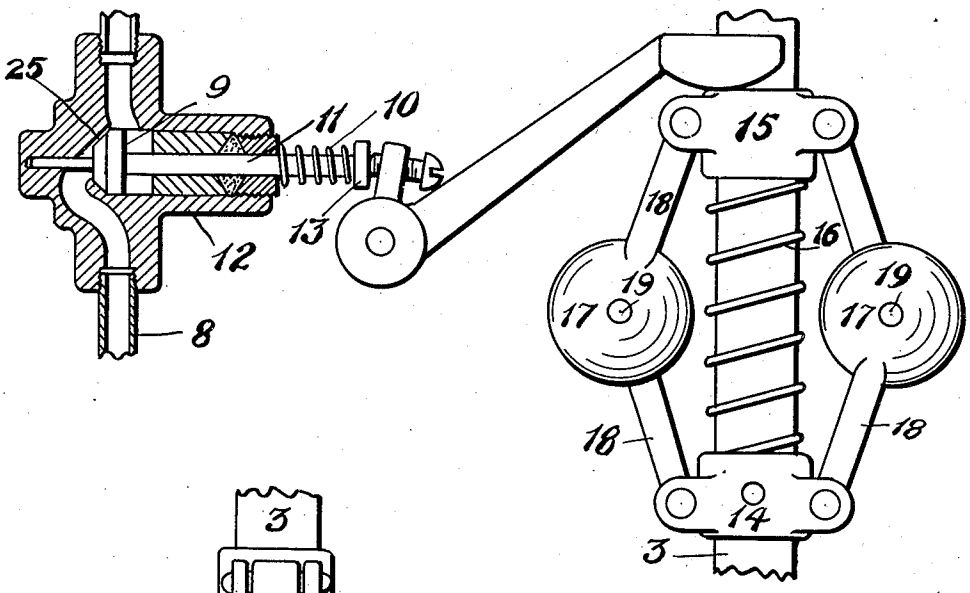


FIG. 2.

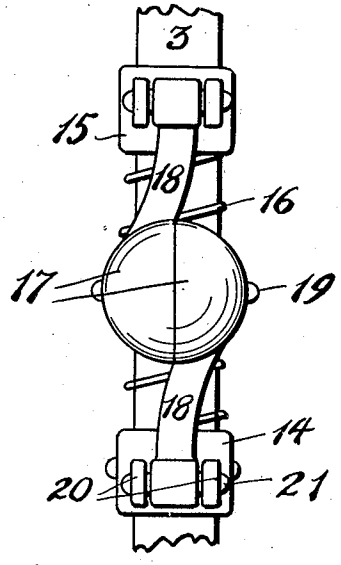


FIG. 3.

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UNITED STATES PATENT OFFICE.

ADELARD COUTURE, OF ARCTIC, RHODE ISLAND.

CONTROL FOR ROTARY OIL-BURNERS.

1,330,788. Specification of Letters Patent. Patented Feb. 17, 1920.

Application filed September 15, 1919. Serial No. 323,891.

To all whom it may concern:

Be it known that I, ADELARD COUTURE, a citizen of the United States, residing at Arctic, in the county of Kent and State of Rhode Island, have invented new and useful Improvements in a Control for Rotary Oil-Burners, of which the following is a specification.

This invention relates to certain new and useful improvements in a control for rotary oil burners, and more particularly to means for controlling the flow of oil to the burner.

The primary object and aim of the invention is to provide governor controlled means for shutting off the oil when the motor which drives or rotates the burner is stopped, the said flow controlling means for the oil providing for a limited passage of oil thereby so that a small flame or pilot flame may be maintained to ignite the full supply of oil when the motor is again turned on.

A further object of the invention resides in the governor construction and the arrangements and combinations of parts hereinafter described and claimed, reference being made to the accompanying drawings wherein—

Figure 1 is an elevation of a rotary oil burner equipped with the present invention;

Fig. 2 is a fragmental view showing the oil controlling valve in section; and

Fig. 3 is a side elevation of the governor.

Referring more in detail to the drawings, the numeral 1 designates the fan blade and 2 the burner both mounted on the upper end of a vertical shaft 3 supported in a base bearing 4 on the standard 5, said shaft also carrying a fixed pulley 6 which is driven from an electric motor (not shown) by means of the belt 7. The fuel oil is delivered to the burner in the current of air created by the fan, through a pipe 8 having a valve 9 interposed in the pipe system, the said valve being normally seated, when the mechanism is at rest. A spring 10 encircling the outer end of the valve stem 11 and compressed between the valve casing 12 and a collar 13 on the outer extremity of the stem operates to open the valve 9 according to the action of the governor.

The governor comprises a lower collar 14, fixed on the burner shaft 3, an upper collar 15, slidable on the shaft above the fixed collar, an interposed spring 16 coiled about the shaft and tending to hold the collars separated, and the expanding medium which, in this instance, consists of the ball weights 17 and means connecting the same to the collars. The weights are sectional, each section comprising a semi-spherical body having an integral arm 18 extending therefrom and providing means of connection with the respective collar. The weight sections are pivotally connected or joined together by a pin or rivet 19, and the arms are slightly deflected inwardly and have their free ends pivoted between straddling ears 20, on the collars, by means of the pivot pins 21. This construction of governor weight necessitates only one pattern, four similar parts forming the complete weight system which readily responds to the centrifugal force imparted thereto by the rotation of the burner shaft.

Riding on the upper face of the slidable collar 15 is the rounded end of a bell crank lever 22 which has its shorter arm 23 equipped with a take-up screw 24 bearing on the collar 13 of the valve stem. Obviously then, when the motor is rotating the burner shaft, the governor weights will be thrown outwardly to pull down the upper collar of the governor and thereby permit the spring 10 to open the valve accordingly. Now, should the motor be turned off, the valve will close and also shut off the supply of oil, thereby extinguishing the burner flame and necessitating a re-lighting of the burner when the motor is again started.

To obviate the necessity of re-lighting the burner every time the motor is shut off, either unathorizedly or not, and thereby preventing a loss of oil flowing through an unlighted burner, a by-pass 25 is provided in the valve seat of sufficient size to permit the flow of oil for the maintenance of a small igniting or pilot flame at the burner.

Consequently, should the power to the motor be shut off, the governor, by reason of the spring 16, will lift the bell lever and seat the valve to shut off an operative supply of oil except such as escapes through the by-pass which is only sufficient to keep the oil burning in the nature of a pilot light. When the power again comes on and the motor is started up the valve will open up the oil supply and, by reason of the pilot flame, the burner will become in normal operative condition.

Having thus described my invention, what

I claim as new and desire to secure by Letters Patent is:—

1. In combination with the rotary burner shaft of an oil burner and the fuel oil supply pipe, of a valve in the pipe, and means for maintaining a pilot flame on the burner and shutting off the operative supply of oil thereto when the shaft becomes at rest.

2. A rotary oil burner including an oil supply pipe, and a valve therein automatically closing upon stopping of the rotary movement and embodying a by-pass for fuel to maintain a pilot flame.

3. A rotary oil burner comprising an oil supply pipe, a valve therein, a by-pass around the valve for maintaining a pilot flame when the valve is shut off, and means for automatically shutting off the valve when the burner has come to rest.

4. A rotary oil burner comprising an oil supply pipe, a rotary burner shaft, a governor on the shaft, and means operable by the governor when the shaft has come to rest for shutting off the normal operative supply of oil but permitting a smaller quantity of oil to pass for maintaining a pilot flame.

5. A rotary oil burner including an oil conduit having a valve seat formed with a by-pass, and a governor controlled valve engageable on the seat, said by-pass permitting a supply of oil to flow by the valve for the maintenance of a pilot flame when the valve is seated.

6. In a rotary burner, a rotary burner shaft, a fuel valve having a stem, a governor on the shaft, a bell crank lever connected to the governor, and a set screw borne by one arm of the lever and engaged with the valve stem, said bell-crank and valve being formed so that when the governor is rotated the valve will be opened and when the governor is at rest the valve will allow oil to flow therepast for maintaining a pilot flame.

7. In a rotary burner, a rotary burner shaft, a fuel valve, a seat therefor, said valve and seat being formed so that when the valve occupies the seat sufficient oil can flow past the valve and seat to maintain a pilot flame, and means operated by the shaft for opening the valve upon rotation of the shaft and for effecting seating of the valve upon the shaft coming to a state of rest.

8. In combination with a rotary oil burner having a shaft, and means to effect rotation of the burner shaft, means to supply oil to the burner, and means whereby to automatically increase the supply of oil upon rotation of the shaft and to shut-off the supply except as to a sufficient quantity to maintain a pilot flame when the shaft is quiescent.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

ADELARD COUTURE.

Witnesses:
B. P. TOOMEY,
J. A. MILLER.