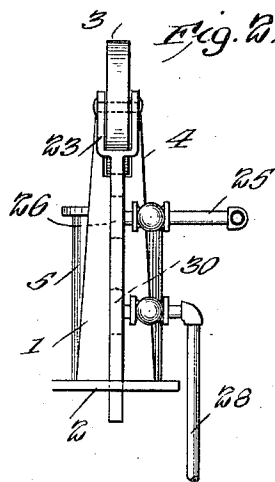


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UNITED STATES PATENT OFFICE.

WALTER EMULE FISHER, OF NEW IBERIA, LOUISIANA.

OIL-BURNER.

1,018,893.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that I, WALTER E. FISHER, a citizen of the United States, and a resident of New Iberia, in the parish of Iberia, State of Louisiana, have invented a new and useful Improvement in Oil-Burners, of which the following is a specification.

My invention is an improvement in oil burners, and has for its object the provision of a simple sensitive device for regulating the feed of oil and steam to the burner, operated by the pressure of steam generated which will retain the pressure at practically a constant predetermined level, and where-
in the said level may be varied.

In the drawings: Figure 1 is a vertical section of the improvement; Fig. 2 is an end view.

In the present embodiment of the invention a standard 1 is supported on the base 2, and a lever or walking beam 3 is pivoted intermediate its ends between the arms of a fork 4 on the upper end of the standard. A cylinder 5 is secured to the base adjacent to one end of the beam 3, and the piston 6 of the cylinder is connected to the adjacent end of the beam by means of a rod 7 having its lower end connected to the piston and having a fork 8 at its upper end whose arms embrace the beam end, and are pivoted thereto by means of a pin 9. The piston is provided with packing rings 10, and the cylinder has a pipe 11 connected to its lower end. A discharge valve 12 leads from the bottom of the cylinder, extending through the base 2. A bracket 13 is connected to the base adjacent to the cylinder, and the upper end of the bracket is provided with an angular portion 14. A rod 15 is slidable in an opening in the angular portion, and the upper end of the rod has a fork 16, whose arms pass on each side of the beam and are pivoted thereto by a pin 17. The lower end of the rod is threaded at 18 and passes through a boss 19 in the base. A spring 20 encircles the rod between the angular portion 14 and a nut 21 on the rod. The spring acts normally to pull the adjacent end of the beam downward, and consequently acts to hold the piston at the bottom of the cylinder. The tension of the spring and the amount of pull on the beam may be regulated by adjusting the spring by means of the nut.

A rack bar 22 is provided with a fork 23

at its upper end, and the arms of the fork are pivoted to the opposite end of the beam from the cylinder by means of a pin 24. The steam inlet pipe 25 to the burners is controlled by a valve 26, which is operated to increase or decrease the extent of opening of the valve by means of a pinion 27 in engagement with the rack bar.

The oil supply pipe 28 for the burner is provided with a valve 29 for controlling the flow through the pipe, and the valve is operated by a pinion 30 in mesh with the rack bar 22. The pipe 11 communicates with the steam line 31 by means of a T 32 interposed in the said line 31, the pipe 11 communicating with the lateral branch of the T.

Whenever the steam pressure passes above or below a predetermined level, determined by the tension of the spring, the piston is lifted or lowered. When the piston is lifted, the feed of the steam and the oil is cut down by means of the beam 3 and the rack bar, and when the piston is lowered the feed of both is increased.

It will be evident that by varying the tension of the spring 20 the feed of oil and steam may be held to a practically constant valve.

The device is very sensitive and is so simple that it requires no particular attention, except to adjust for different pressures and to relieve from water of condensation occasionally by means of the valve 12.

I claim:

In combination with the oil and the steam feeding pipes, and the steam line, of a cylinder connected at its lower end with the said line, a piston in the cylinder, a lever pivoted intermediate its ends, a rod connecting one end of the lever with the piston, valves for controlling the oil and the steam feed pipes, a pinion connected to each valve for operating said valves, a rack bar pivoted to the opposite end of the lever and meshing with both pinions, a bracket adjacent to the cylinder, a rod slidable vertically in the bracket and having its lower end threaded, a spring encircling the rod, a stop on the bracket against which the upper end of the spring bears, and a nut on the rod for engaging the other end of the spring.

WALTER EMULE FISHER.

Witnesses:

JACOB FISHER,
GEORGE CESTIA.