

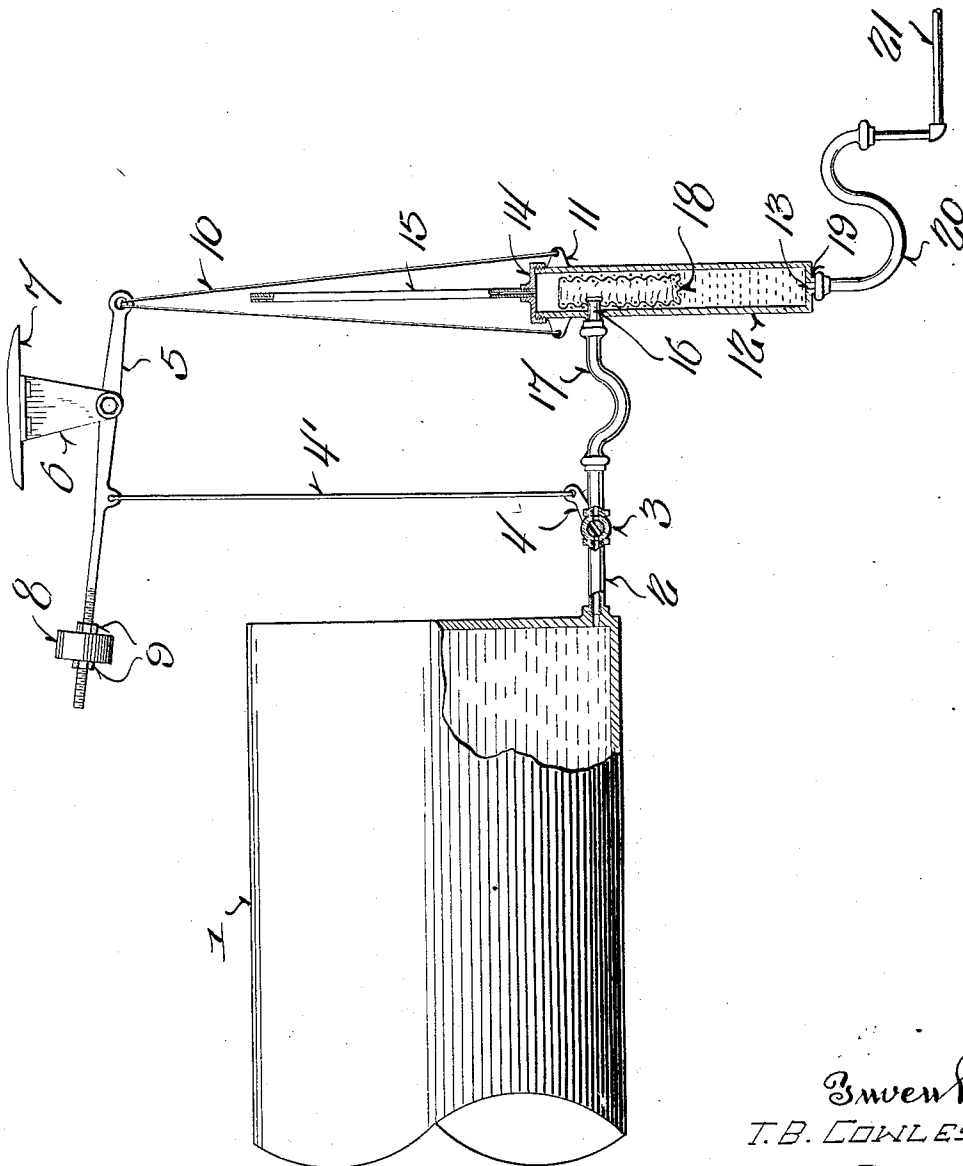
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GRAVITY FEED CONTROL

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UNITED STATES PATENT OFFICE

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GRAVITY FEED CONTROL

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This invention pertains to gravity feed controls, and more particularly to an apparatus adapted to control the feed of fuel oil to a burner or the like.

5 The invention has primarily for its object to provide an apparatus of the above character in which the oil is gravity fed to a burner at a uniform pressure, regardless of the volume of oil in the storage tank.

10 A further object, incidental to the foregoing, is to provide means for varying the feed pressure.

A more specific object of the invention resides in the provision of a counterbalanced auxiliary feed tank having a flexible connection with the main storage tank, and means actuated upon movement of the auxiliary tank for controlling the feed of oil from the main tank.

20 With the above and other objects in view, which will appear as the description proceeds, the invention resides in the novel construction, combination and arrangement of parts substantially as hereinafter described and more particularly defined by the appended claims, it being understood that such changes in the precise embodiment of the herein disclosed invention may be made as come within the scope of the claims.

30 In the accompanying drawing is illustrated one complete example of the physical embodiment of the present invention constructed according to the best mode so far devised for the practical application of the principles thereof.

In the drawing, the single figure is a schematic elevation of an apparatus constructed in accordance with the present invention with parts broken away and in section to more clearly illustrate the structural details.

Referring now more particularly to the accompanying drawing, the numeral 1 designates a main storage tank provided with an outlet pipe 2. Positioned in the outlet pipe 2 is a control valve 3, the actuating arm 4 of which is connected to a counterbalanced arm 5 pivotally carried by a bracket 6 secured to the ceiling 7, or any other suitable support. One end of the arm 5 is threaded for reception of a counterbalanced weight 8,

which is adjusted on the arm by means of the nuts 9. The opposite end of the arm 5 has secured thereto cables or rods 10 connected with the ears 11 carried by an auxiliary tank 12, which is provided with an outlet opening 13 in its bottom, and has threaded upon its upper end a closure cap 14. The closure cap 14 is provided with a vent pipe 15 which extends upwardly to a point closely adjacent the top of the main storage tank 1 for the purpose hereinafter described.

The auxiliary tank 12 is provided with an inlet nipple 16 adjacent the top thereof and projecting inwardly from one side. The nipple 16 is connected with the feed pipe 2 by means of a flexible hose or tubing 17 which permits relative movement of the auxiliary tank 12, as hereinafter described. A tubular screen 18, provided with a closed bottom, is positioned within the auxiliary tank 12 over the nipple 16, thus serving to strain oil delivered to the auxiliary tank.

Surrounding the discharge opening 13 of the auxiliary tank 12 is a boss 19 which receives a flexible hose or tubing 20 connected to a feed pipe 21 leading to a burner or other source of oil consumption.

From the foregoing description, it is believed that the operation of the apparatus will be quite apparent, in that when the auxiliary tank 12 is empty, the counterbalance weight 8 will raise the tank, and upon oscillation of the arm 5, arm 4 will be actuated for causing the valve 3 to be opened, thus allowing oil from the main storage tank 1 to pass through the discharge pipe 2 and the flexible connection 17 into the auxiliary cylinder. When the quantity of oil fed to the auxiliary cylinder is such as to overcome the counterbalance weight 8, the lever 5 is rocked in the opposite direction, causing the valve 3 to be closed, shutting off further supply to the auxiliary cylinder, and thus maintaining a constant volume of oil within the auxiliary tank, which insures a uniform feed to a burner or the like. Obviously, the vent pipe 15 prevents any possibility of overflow, in that the same extends upwardly above the maximum level within the main storage tank.

From the foregoing explanation, it will be

readily seen that a very simple, positive, and efficient means has been provided for maintaining a uniform supply of fuel in gravity feed apparatus, regardless of the quantity of oil contained in the storage tank.

We claim:

1. A gravity oil feed comprising a main storage tank, a counterbalanced auxiliary tank flexibly connected with said main storage tank and provided with an outlet, a counterbalanced lever for supporting said auxiliary tank, a valve controlling the feed of oil from said main tank, and a connection between said lever and valve for actuating the latter upon movement of said auxiliary tank.

2. A gravity oil feed comprising a main storage tank provided with an outlet pipe, an auxiliary tank provided with an outlet flexibly connected to the burner feed pipe, a flexible communicating hose between said auxiliary tank and connecting said auxiliary tank with said outlet pipe, a pivoted lever supporting said auxiliary tank, a valve mounted in said outlet pipe, a connection between said lever and said valve, and a counterbalanced weight adjustably mounted upon said lever.

In testimony that we claim the foregoing we have hereunto set our hands at Madison, in the county of Dane and State of Wisconsin.

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