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DEVICE FOR SPRAYING MOLASSES

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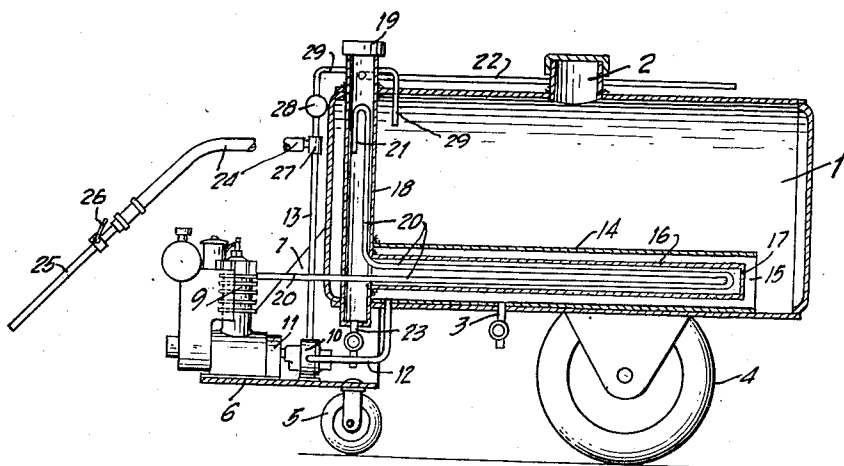


FIG. 2

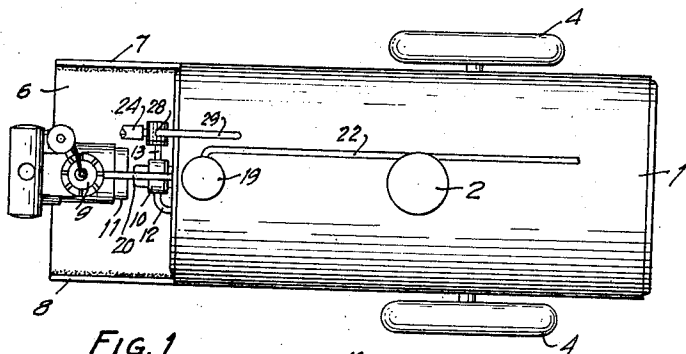


FIG. 1

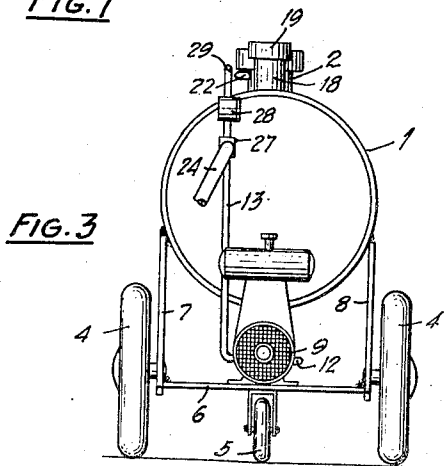


FIG. 3

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## DEVICE FOR SPRAYING MOLASSES

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1 Claim. (Cl. 126—343.5)

My invention relates to spraying devices and particularly to a device for spraying molasses on cattle feed and the like.

Molasses is a liquid which is so extremely viscous that it is difficult to spray even at summer temperatures and practically impossible to spray at low temperatures.

The principal object of my invention is to provide a molasses spraying device which will function at all temperatures and which is readily movable from place to place. A further object is to provide a device of this character which can be used safely without danger of fire in a stable where combustible material, such as hay and the like, is present.

I accomplish these objects by the means described below and illustrated in the accompanying drawing in which—

Fig. 1 is a top plan view of my device;

Fig. 2 is a side elevation view, mostly in section in a vertical plane through the axis of the container for the molasses; and

Fig. 3 is a view of the left hand end of the device.

Referring to the drawing—

My device comprises a cylindrical tank 1 serving as a container for the molasses which may be poured therein through the inlet 2. A drain 3 is also provided. To make the device readily movable from place to place, the container is mounted on two wheels 4 and a single caster wheel 5. Mounted on a platform 6 which is secured to the tank 1 by side plates 7 and 8 to which it is welded and which, in turn, are welded to the tank, is an internal combustion engine 9, preferably of the air cooled type. The engine 9 drives a gear pump 10 through suitable reduction gearing 11. 12 is the inlet pipe to the pump which communicates with the interior of the tank, and 13 is the outlet of the pump.

Within the tank, at the bottom thereof, is a tube 14 which is open at the end 15 for the flow of molasses therein. Within the tube 14 is a second tube 16 which is closed at the end 17 but communicates with the vertical pipe or tube 18 which extends through the top of the tank and is provided with a closure cap 19. The exhaust pipe 20 of the engine extends into the tube 16 and extends upwardly in the tube 18; the end portion 21 thereof being bent downwardly. The tube 18 near the top thereof is provided with a vent pipe 22. The tubes

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16 and 18, which enclose the exhaust pipe, are to be filled with water which is heated by the exhaust gases and which, in turn, heats the molasses as it flows into the tube 14 around the tube 16. A drain 23 is provided at the bottom of the tube 18 for withdrawing the water. The molasses discharged from the pump 10 passes through the pipe 13 which communicates with the discharge hose 24 and the spray nozzle 25 which is provided with a shut-off valve 26.

Since the gear pump is a positive action pump, some means must be provided for the flow of the molasses in the pipe 13 past the hose connection 27 when the valve 26 on the spray nozzle is closed. I have, therefore, provided a relief valve 28 which may be adjusted to prevent passage of the molasses therethrough until a predetermined pressure is developed in the pipe 13. The molasses passing through the relief valve flows through the pipe 29 and back into the tank 1.

From the foregoing, it will be apparent that the molasses within the tube 14 and surrounding the tube 16 having the exhaust pipe therein, will be heated to a comparatively high degree and be rendered sufficiently fluid for spraying and, it will be noted that the intake pipe for the pump 10 communicates with the interior of the tube 14.

What I claim is:

A molasses spraying device comprising a tank adapted to contain said molasses; a first tube having a horizontal section adjacent the bottom of said tank and a vertical section extending upwardly in said tank, said tube being adapted to contain water; a second tube surrounding said first tube but in spaced relation thereto and provided with an opening for the free flow of molasses thereinto and around said first tube; a pump having its intake communicating with the space between said tubes for withdrawing molasses from said tank and discharging it under pressure suitable for spraying; and an internal combustion engine for driving said pump and having an exhaust pipe extending into said first tube initially in its horizontal section and thence in its vertical section and terminating in a downwardly direction, said pipe serving to heat said water by both indirect and direct transfer from exhaust gases from said engine, whereby said molasses is heated to increase its fluidity.

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