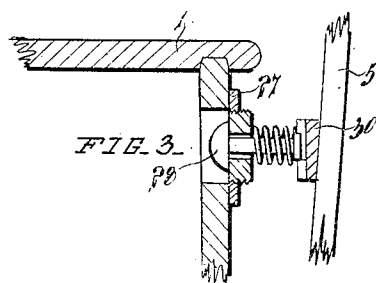
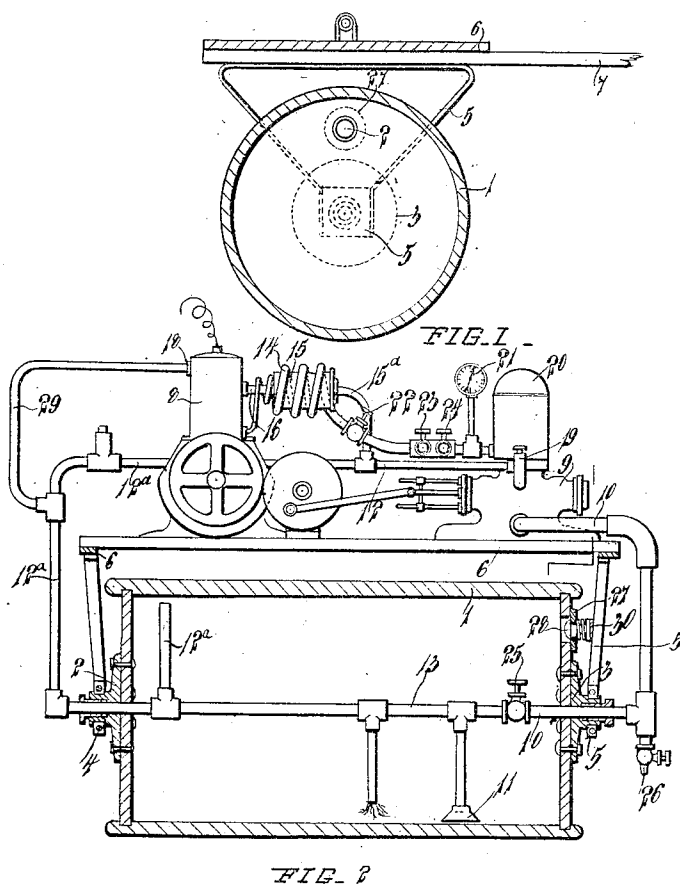


B. F. CRANWELL.
 APPARATUS FOR SPRAYING FRUIT TREES AND THE LIKE.
 APPLICATION FILED SEPT. 26, 1911.

1,056,324

Patented Mar. 18, 1913.



Witnesses

Fredk. R. Curtice
Joseph F. Sullivan

Bertram Franklin Cranwell
 Inventor by
Guy C. Craydon *Markes*
 Attorney

UNITED STATES PATENT OFFICE.

BENJAMIN FRANKLIN CRANWELL, OF HENDERSON, NEW ZEALAND.

APPARATUS FOR SPRAYING FRUIT-TREES AND THE LIKE.

1,056,324.

Specification of Letters Patent.

Patented Mar. 18, 1913.

Application filed September 26, 1911. Serial No. 651,360.

To all whom it may concern:

Be it known that I, BENJAMIN FRANKLIN CRANWELL, a citizen of the Dominion of New Zealand, and residing at Henderson, in the Provincial District of Auckland, in the Dominion of New Zealand, have invented certain new and useful Improvements in Apparatus for Spraying Fruit-Trees and the Like, of which the following is a specification.

The invention relates to portable apparatus for spraying fruit trees and the like.

According to my invention the spray fluid is carried within a cylindrical tank which rolls over the ground, and a motor driven pump is employed for drawing the liquid from the tank and converting it into spray for spraying. The fluid is heated in the manner which is herein described.

My invention is illustrated in the drawing wherein;—

Figure 1, is an end sectional elevation, Fig. 2, is a side sectional elevation, and Fig. 3, a sectional elevation of a sniffing valve on a larger scale.

The barrel 1 is mounted in trunnion bearings 2 and 3 provided with stuffing boxes in the brackets 4 and 5, respectively.

The brackets are secured to the underside of the framing 6 which may have shafts 7 adapted for one or more horses or motor traction.

An oil engine or other combustion motor 8 is mounted on the framing 6 and is adapted to drive the pump 9. The suction pipe 10 of the pump passes through the trunnion bearing 3 and has a straining rose 11 at its end. The relief pipe from the pump comprises two connected sections 12 and 12^a, the latter of which passes through the trunnion bearing 2 and is connected to the suction pipe 10 by a solid plug 13 which prevents the passage of liquid from one pipe to the other.

A passageway or conduit for heating the spraying fluid leads from the pump 9 to the pipe section 12^a, as shown in Fig. 2 of the drawings, this passageway comprising two pipe sections 14 and 29 and the cooling jacket of the motor. The pipe section 14 is connected to the pump 9, is coiled about the muffler 15 and exhaust pipe 16, and is then connected to the cooling jacket of the motor, said cooling jacket being of usual construction and the spraying fluid from the pipe 14 taking the place of the cooling water usually

employed. The spraying fluid passes out of the cooling jacket at 18 and is conducted by the pipe section 29 to the relief pipe 12—12^a.

The muffler 15 is connected to the relief pipe 12, 12^a by a branch pipe 15^a, whereby the exhaust of the engine 8 passes into the barrel.

A relief valve 19 to regulate pressure within the dome 20 of the pump discharges into the relief pipe 12, 12^a. A pressure gage 21 indicates the pressure within said dome. A valve 22 in pipe section 14 used in combination with the valve 19 enables pressure of the spray to be regulated. Valves 23 and 24 controlling respective branch pipes from the pipe section 14 are provided with connections, to which hose may be applied for spraying purposes. A valve 25 within the barrel and on the pipe 10 can be closed when it is desired to fill the barrel by means of the pump, in which case a receptacle containing the spraying fluid is placed beneath the end of the pipe 10, which is provided with a valve 26 to which suction hose may be connected. A cover 27 closes a hand hole which is large enough to allow the valve 25 and the strainer rose 11 to be reached.

A sniffing valve 28 in the cover 27 opens to allow air to enter the barrel to replace liquid drawn therefrom and for this purpose at each revolution of the barrel 1 is opened by a trip block 30 fixed to the bracket 5.

What I do claim and desire to secure by Letters Patent of the United States is:—

1. Apparatus for spraying fruit trees and the like, comprising in combination, a revolving barrel adapted to contain spray fluid, a trunnion bearing at each end thereof, a pump, a motor for driving the pump, a suction pipe connecting said pump with the interior of the barrel for drawing the spray fluid therefrom, said pipe passing through one of the trunnion bearings, a relief pipe extending from said pump into the revolving barrel and passing through the other trunnion bearing, and a passageway extending from the pump to the relief pipe.

2. Apparatus for spraying fruit trees and the like, comprising in combination, a revolving barrel adapted to contain spray fluid, a pump, a motor for driving the pump, a suction pipe connecting the pump with the interior of the barrel for drawing the spray fluid therefrom, a relief pipe extending from the pump into the revolving barrel, and a passageway extending from the pump to the

relief pipe, said passageway comprising two
pipe sections and the cooling jacket of the
motor, each section being connected at one
end to the cooling jacket, and one of said
5 sections forming a coil which surrounds the
muffler and exhaust pipe of the motor.

3. Apparatus for spraying fruit trees and
the like, comprising in combination, a re-
volving barrel adapted to contain spray
10 fluid, a pump, a motor for driving the pump
and having a muffler, a suction pipe connect-
ing the pump with the interior of the barrel
for drawing the spray fluid therefrom, a re-

lief pipe extending from the pump into the
revolving barrel, a passageway leading from 15
the pump to the relief pipe and comprising
a part in which the fluid passing through is
heated, and a pipe connecting the muffler of
the motor with the relief pipe.

In testimony whereof I have signed my 20
name to this specification in the presence of
two witnesses.

BENJAMIN FRANKLIN CRANWELL.

Witnesses:

ARTHUR LEWITT FERNEXHOUGH,
FLORA ELIZABETH MILNE WILSON.