

[54] HYDRO-PNEUMATIC JET INJECTOR

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[57] ABSTRACT

A pneumatic jet injector for needleless injection of a liquid medicine into the skin includes a pistol-shaped casing including a barrel, a handle and a trigger; a compression chamber in one end of the casing for a gas which is partially liquefied under pressure; a first piston movable in the casing against the gas; a charging liquid in the handle which is pumped against the first piston using the trigger and a second piston in the handle; a piston rod movable in the barrel with the first piston for creating a partial vacuum in the barrel for drawing medicine into the barrel through an inlet containing a one-way valve; a discharge orifice in one end of the barrel for discharging medicine into the skin of a user; and a safety catch in the handle for locking the first and second pistons in the loaded or charged position, and for releasing the pistons whereby at least a portion of the liquid in the compression chamber becomes gaseous moving the piston rod against the medicine to discharge the medicine through the orifice into the skin, while the charging liquid returns to the handle.

9 Claims, 6 Drawing Figures

