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(54) Title: DOUBLE SPRING PRECOMPRESSION PUMP WITH PRIMING FEATURE

(57) Abstract

The invention relates to a compression pump (1) which includes a feature for opening the outlet valve (10) at the bottom of the pump stroke, to thereby evacuate air and liquid from the pump chamber (3). The pump includes a gravity–biased inlet valve (5) and a spring–biased outlet valve (10). Elevated pressure in the pump chamber causes the outlet valve to open against the bias of the outlet valve spring (12). At least one of the outlet valve or the inlet valve has an engagement end which engages the other valve at the bottom of the pump stroke, to thereby open the outlet valve against the bias of the outlet valve spring and exhaust air and liquid from the pump chamber to the spray nozzle. In this way, the pump chamber is evacuated so that liquid can be drawn into the pump chamber from the bottle or container. The present invention uses a simple design which is easy to mold, does not require close tolerancing, and which operates effectively without the need for difficult–to–mold friction fits.

