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(54) Title: FOAM DISPENSING PUMP WITH DECOMPRESSION FEATURE

(57) Abstract: A dispenser comprises a liquid piston and a gas piston coupled for movement. The pistons are mounted for movement relative to one another to define a mixing chamber therebetween. An actuator simultaneously moves the pistons in a first direction such that the air piston delivers air from an air chamber to the mixing chamber and the liquid piston delivers a liquid from a liquid chamber to the mixing chamber where the air and liquid are mixed in the mixing chamber to create a foam. Movement of one of the air piston and the liquid piston is stopped such that the pistons move relative to one another such that only air is delivered to the mixing chamber. The movement of the pistons in a second direction draws residual foam from a delivery tube and delivers the residual foam to the air chamber.
Published:

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### INTERNATIONAL SEARCH REPORT

**International application No.**
PCT/US 13/53336

#### A. CLASSIFICATION OF SUBJECT MATTER

<table>
<thead>
<tr>
<th>IPC(8)</th>
<th>B05B 11/00; B67D 7/76 (2013.01)</th>
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<tr>
<td>USPC</td>
<td>222/145.6, 385</td>
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According to International Patent Classification (IPC) or to both national classification and IPC

#### B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC(8) Classification(s): B05B 7/00, 11/00; B67B 1/00; B67D 7/76, 99000 (2013.01)

USPC Classification(s): 222/135, 145.6, 153.13, 190, 321.3, 321.7, 321.9, 385, 831

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)


#### C. DOCUMENTS CONSIDERED TO BE RELEVANT

<table>
<thead>
<tr>
<th>Category</th>
<th>Citation of document, with indication, where appropriate, of the relevant passages</th>
<th>Relevant to claim No.</th>
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<tbody>
<tr>
<td>X</td>
<td>US 7,735,692 B2 (NELSON P) June 15, 2010; figures 3-4; column 6, lines 57-64; column 8, lines 23-32; column 9, line 27 - column 10, line 9; column 10, lines 17-24</td>
<td>1, 4, 5, 7, 8, 10, 11, 14, 16-20</td>
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<td>Y</td>
<td>US 20100193547 A1 (LAIDLER K et al.) August 5, 2010; figure 8; paragraphs [0032], [0131], [0135]-[0137], [0143]</td>
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<td>A</td>
<td>US 20100320232 A1 (VAN DER HEIJDEN E et al.) December 23, 2010; entire document</td>
<td>1-20</td>
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