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(54) **ASSEMBLY FOR TOE-TO-HEEL GRAVEL PACKING AND REVERSE CIRCULATING EXCESS SLURRY**

(57) A treatment assembly treats zones of a horizontal borehole. For example, the assembly can gravel pack a zone by delivering slurry down a workstring. The slurry exits the workstring's outlet and pass to the borehole annulus of the zone through a flow port in the assembly. The gravel in the slurry can pack the borehole in an alpha-beta wave from toe to heel, and the fluid returns from the borehole flow through a screen back into the assembly.

After gravel packing, operators remove excess slurry from the workstring by reverse circulating down the assembly to carry the excess slurry uphole through the workstring. Closures on the assembly prevent the reverse circulation from communicating through the screens to the borehole annulus. Additionally, flow valves can be used on the flow ports to selectively open and close them.

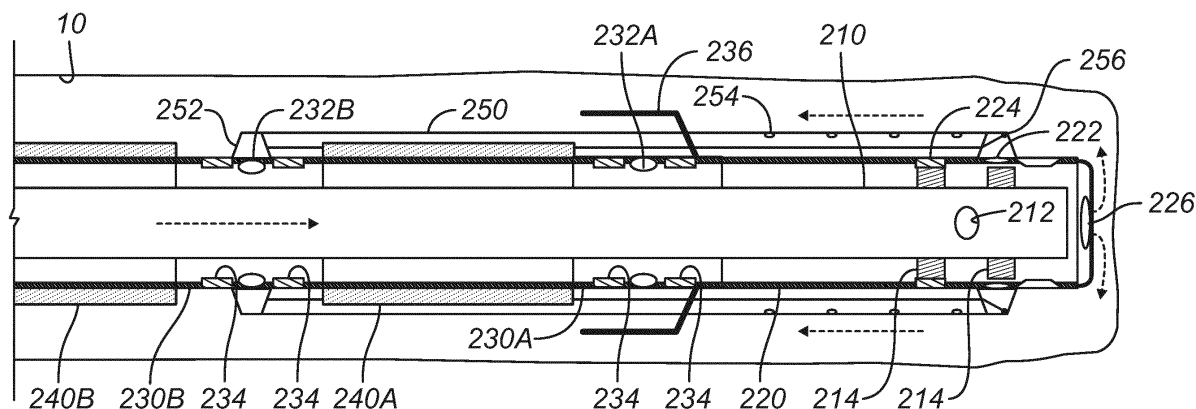


FIG. 2B



EUROPEAN SEARCH REPORT

Application Number
EP 15 16 8402

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)
Y	US 2013/000899 A1 (BROUSSARD JOHN P [US] ET AL) 3 January 2013 (2013-01-03) * abstract * * figures 2-11 * * paragraphs [0012], [0067] * -----	1-15	INV. E21B43/08 E21B33/124 E21B43/04
Y	US 2013/062066 A1 (BROUSSARD JOHN P [US] ET AL) 14 March 2013 (2013-03-14) * abstract * * figure 6b * * paragraphs [0070] - [0072] * -----	1-15	
			TECHNICAL FIELDS SEARCHED (IPC)
			E21B
The present search report has been drawn up for all claims			
Place of search Munich		Date of completion of the search 24 November 2015	Examiner Wehland, Florian
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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EP 15 16 8402

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24-11-2015

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EPO FORM P0459

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