Title (en)

CURVED FLAPPER SEAL WITH STEPPED INTERMEDIATE SURFACE

Title (de)

GEKRÜMMTE KLAPPENDICHTUNG MIT GESTUFTER ZWISCHENFLÄCHE

Title (fr)

JOINT D'ÉTANCHÉITÉ À VOLET INCURVÉ COMPORTANT UNE SURFACE INTERMÉDIAIRE ÉPAULÉE

Publication

EP 2859258 B8 20171220 (EN)

Application

EP 13800652 A 20130605

Priority

- US 201213490073 A 20120606
- US 2013044205 W 20130605

Abstract (en)

[origin: WO2013184737A1] A recess is provided at the periphery of the flapper so that a corner that defines this recess engages an o-ring seal in a seat for the flapper. A reduced contact area of the flapper on the o-ring seal results in increased pressure over the actual contact area. The pressure applied over the contact area also forces a distortion in the o-ring that has a part of the o-ring not restrained due to the presence of the recess moving out of the surrounding o- ring groove so that the corner on the flapper pinches the o-ring that now is partly in and partly extending from its surrounding groove. Sealing is obtained at lower differential pressures and the o-ring is better fixated as a result of the pinch effect of the corner on the flapper.

IPC 8 full level

F16K 1/18 (2006.01); **E21B 33/00** (2006.01); **E21B 34/00** (2006.01); **E21B 34/10** (2006.01); **F16K 1/42** (2006.01); **F16K 15/03** (2006.01)

CPC (source: EP US)

E21B 34/10 (2013.01 - EP US); **F16K 1/42** (2013.01 - US); **F16K 15/03** (2013.01 - EP US); E21B 2033/005 (2020.05 - US); E21B 2034/005 (2020.05 - US); E21B 2200/01 (2020.05 - EP); E21B 2200/05 (2020.05 - EP)

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