

Title (en)

Box nozzle for ladles and the like, with lateral torsion bars.

Title (de)

Mit lateralen Torsionsstäbe ausgestatteter Schieberverschluss für metallurgische Gefässe.

Title (fr)

Fermeture coulissante pour récipients de coulée pourvue de barres de torsion latérales.

Publication

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Application

**EP 92116553 A 19920928**

Priority

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Abstract (en)

The invention concerns a box nozzle for ladles and the like, of the type including: (a) a fixed upper metal plate (10) connected to the bottom of the ladle; (b) a fixed lower metal plate (20) referred to as "the cover", supported by the latter by means of bolts (13), tiltable and detachable from the latter for maintenance of the box nozzle; (c) a third metal plate (60) which runs between the previous two, through appropriate controls, called "the slide" for short; (d) a first refractory plate (30) with an orifice, held in a fixed position by the fixed upper metal plate (10); (e) a second refractory plate (70), with an orifice, held by said slide (60) and hence sliding with it; (f) a tilting frame (50) inserted between said slide (60) and said cover (20) as well as: (g) flexible means of support positioned between said cover (20) and said tilting frame (50), aligned parallel to the long sides of the cover (20). According to the invention, said flexible support means consist of torsion bars (40-44). The invention also provides for the means for an inert gas feed around the outgoing liquid metal stream.

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IPC 8 full level

**B22D 41/40** (2006.01)

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**B22D 41/40** (2013.01)

Citation (search report)

- [Y] EP 0445087 A2 19910904 - SANAC NUOVA SPA [IT], et al
- [Y] GB 2158380 A 19851113 - FLOGATES LTD
- [A] US 4131219 A 19781226 - HIND ROBERT D, et al
- [A] FR 2444522 A1 19800718 - SANAC SPA [IT]

Cited by

DE10033904A1

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