

Title (en)

Box nozzle for ladles and the like, with lateral pressure springs.

Title (de)

Mit lateralen Andruckfedern ausgestatteter Schieberverschluss für metallurgische Gefässe.

Title (fr)

Fermeture coulissante pour récipients de coulée, pourvue de ressorts de pression latérale.

Publication

**EP 0445087 A2 19910904 (EN)**

Application

**EP 91830071 A 19910304**

Priority

IT 1243590 A 19900302

Abstract (en)

The invention concerns a box nozzle for ladles and the like, of the type which includes: (a) - a fixed upper metal plate (10) attached 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) and tiltable and dismountable 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 the slide (60) and hence sliding with the latter. According to the invention, the box nozzle also includes: (f) - a tilting frame (50) inserted between said slide (60) and said cover (20), as well as: (g) - spring assemblies (40) positioned between said cover (20) and said tilting frame (50), located along the long sides of the cover (20).

IPC 1-7

**B22D 41/24; B22D 41/40**

IPC 8 full level

**B22D 41/40** (2006.01)

CPC (source: EP)

**B22D 41/40** (2013.01)

Cited by

CN110369700A; EP0590174A1; WO2006027804A1

Designated contracting state (EPC)

AT BE CH DE DK ES FR GB GR LI LU NL SE

DOCDB simple family (publication)

**EP 0445087 A2 19910904; EP 0445087 A3 19920429; EP 0445087 B1 19980603**; AT E166815 T1 19980615; DE 445087 T1 19920430; DE 69129504 D1 19980709; DE 69129504 T2 19990107; ES 2031795 T1 19930101; ES 2031795 T3 19981016; IT 1240587 B 19931217; IT 9012435 A0 19900302; IT 9012435 A1 19910902

DOCDB simple family (application)

**EP 91830071 A 19910304**; AT 91830071 T 19910304; DE 69129504 T 19910304; DE 91830071 T 19910304; ES 91830071 T 19910304; IT 1243590 A 19900302