(19)	Europäisches Patentamt European Patent Office Office européen des brevets	<sup>11</sup> Publication number: <b>0 445 087 A3</b>
(12)	EUROPEAN PAT	ENT APPLICATION
21)	Application number: 91830071.6	(5) Int. Cl. <sup>5</sup> : <b>B22D</b> 41/40
22	Date of filing: 04.03.91	
-	Priority: 02.03.90 IT 1243590 Date of publication of application: 04.09.91 Bulletin 91/36 Designated Contracting States: AT BE CH DE DK ES FR GB GR LI LU NL SE	Via Martin Piaggio 13 I-16122 Genova(IT) Inventor: Cecchi, Franco c/o ILVA S.p.A. Via Corsica 4 I-16128 Genova(IT) Inventor: Martelli, Giancarlo c/o ILVA S.p.A. Via Corsica 4
88	Date of deferred publication of the search report: 29.04.92 Bulletin 92/18	I-16128 Genova(IT) Inventor: Ricci, Roberto Nuova Sanac S.p.A. Via Martin Piaggio 13 I-16122 Genova(IT) Inventor: Filippi, Massimo c/o Nuova Sanac
7)	Applicant: NUOVA SANAC S.p.A. Via Martin Piaggio 13 I-16122 Genoa(IT) Applicant: ILVA S.p.A. Via Corsica 4 I-16128 Genoa(IT)	S.p.A. Via Martin Piaggio 13 I-16122 Genova(IT) Provide the second state of the secon
72	Inventor: <b>Timossi, Giovanni c/o Nuova Sanac</b> S. <b>p.A.</b>	c/o Centro Sviluppo Materiali SpA P.O. BOX 10747 I-00129 Roma(IT)

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

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).



## EUROPEAN SEARCH REPORT

Application Number

## EP 91 83 0071

D	OCUMENTS CONSI	Т			
Category		h indication, where appropriate, vant passages		Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. CI.5)
X Y	FR-A-2 247 302 (S.I.R.M.A (* figures 1-3 * ) * page 1, line 30 - page 2, li * page 4, line 1 - line 26 * *		1, 2	6,9,10	B 22 D 41/40
Y	JAPS, Japanese Abstracts, Abstract date:14-01-87 &JP 86 * abstract* *				
Y	JAPS, Japanese Abstracts, Abstract Date: 14-01-87 &JF * abstract* *	-			
A	US-A-4 660 749 (KUROSA * figures 1-5 **	KI REFRACTORIES)1987	1-	·10	
Т	EP-A-0 400 256 (NUOVA 3 * column 2, line 13 - column * column 6, line 42 - column	1 3, line 27 *	1-	·10	
					TECHNICAL FIELDS SEARCHED (Int. CI.5)
					B 22 D
The present search report has been drawn up for all claims Place of search Date of completion of search			arch		Examiner
	The Hague		4 February 92		RIBA VILANOVA M.
Y: A: O: P:	CATEGORY OF CITED DOCU particularly relevant if taken alone particularly relevant if combined wit document of the same catagory technological background non-written disclosure intermediate document theory or principle underlying the in	E: earlier pa the filing D: document L: document &: member o	earlier patent document, but published on, or after the filing date document cited in the application document cited for other reasons member of the same patent family, corresponding document		