

(11) **EP 2 610 781 A3**

(12)

EUROPEAN PATENT APPLICATION

(88) Date of publication A3: 27.08.2014 Bulletin 2014/35

(51) Int Cl.: **G06K** 9/00 ^(2006.01) **B07C** 5/34 ^(2006.01)

F17C 5/00 (2006.01) B07C 5/12 (2006.01)

(43) Date of publication A2: 03.07.2013 Bulletin 2013/27

(21) Application number: 12199372.9

(22) Date of filing: 25.12.2012

(84) Designated Contracting States:

AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK SM TR Designated Extension States:

BA ME

(30) Priority: 28.12.2011 TR 201113152

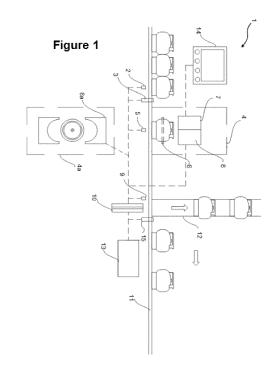
(71) Applicant: Aygaz Anonim Sirketi Istanbul (TR)

(72) Inventors:

- Kizilkaya, Ali Istanbul (TR)
- Isbilen, Emrah Istanbul (TR)
- Azak, Onur Istanbul (TR)
- (74) Representative: Cayli, Hülya Paragon Consultancy Inc. Koza Sokak No: 63/2 GOP 06540 Ankara (TR)

(54) A cylinder recognition system

(57)This invention relates to a cylinder recognition system, identifying the type of a cylinder prior to a filling process by means of a camera using artificial vision technology and allowing conveying a single type of cylinder to a filling line. It comprises at least one illuminator (8) providing the illumination of cylinders conveyed on a conveyor line to a filling unit in a storage cabin (4); at least one camera (7) generating an image providing the classification of cylinders conveyed to a filling unit; at least one storage cabin (4) in which cylinders conveyed to a filling unit are stopped, their images taken by the camera (7) and the type of cylinder is determined accordingly; at least one control unit (13) in which electric signals from photocells (2, 5, 9) and camera (7) are processed, and accordingly, electronic signals are transmitted to the deflecting piston (10) to classify the cylinders; and at least one operator display (14) by which the type of cylinder is selected and the number of cylinders deflected or conveyed to a filling unit is monitored by the user.



EP 2 610 781 A3



EUROPEAN SEARCH REPORT

Application Number EP 12 19 9372

I	DOCUMENTS CONSID	ERED TO BE RELEVANT			
Category	Citation of document with in of relevant pass	ndication, where appropriate, ages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (IPC)	
A	WO 2009/136380 A1 ([TR]; KURUTEPE SAHI [TR]) 12 November 2 * abstract; figures		1-8	INV. G06K9/00 F17C5/00 B07C5/34 B07C5/12	
A	EP 1 998 100 A1 (AY [TR]) 3 December 20 * paragraph [0019];	08 (2008-12-03)	1-8	80705712	
4	EP 2 199 655 A1 (AY [TR]) 23 June 2010 * paragraph [0002]	(2010-06-23)	1-8		
4	FR 2 750 689 A1 (PF ET DE [FR]) 9 Janua * figures *	ROVENCALE D AUTOMATION ary 1998 (1998-01-09)	1-8		
A	DE 43 05 559 A1 (SC LEISTNER HERMANN [C 25 August 1994 (199 * abstract *	DE])	1-8	TECHNICAL FIELDS	
١	DE 10 2007 008619 A GMBH [DE]) 28 Augus * paragraph [0002]	1 (RECOP ELEKTRONIC t 2008 (2008-08-28)	1-8	F17C B07C	
	The present search report has	•			
Place of search		Date of completion of the search	Examiner Wich, Roland		
	Munich	9 July 2014			
X : parti Y : parti docu A : tech O : non	ATEGORY OF CITED DOCUMENTS cularly relevant if taken alone cularly relevant if combined with anot innent of the same category nological background written disclosure mediate document	L : document cited fo	ument, but publise the application or other reasons	shed on, or	

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO.

EP 12 19 9372

5

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

09-07-2014

1	0	

10				
	Patent document cited in search report	Publication date	Patent family member(s)	Publication date
15	WO 2009136380 A1	12-11-2009	AT 543043 T DK 2274553 T3 EP 2274553 A1 TR 200803303 A2 WO 2009136380 A1	15-02-2012 14-01-2013 19-01-2011 23-11-2009 12-11-2009
20	EP 1998100 A1	03-12-2008	AT 467795 T BR PI0803682 A2 DK 1998100 T3 EP 1998100 A1 TR 200703661 A2	15-05-2010 04-08-2009 13-09-2010 03-12-2008 22-12-2008
25	EP 2199655 A1	23-06-2010	AT 522768 T DK 2199655 T3 EP 2199655 A1 TR 200809620 A2	15-09-2011 19-12-2011 23-06-2010 21-07-2010
	FR 2750689 A1	09-01-1998	NONE	
30	DE 4305559 A1	25-08-1994	NONE	
	DE 102007008619 A1	28-08-2008	NONE	
35				

40

45

50

55

FORM P0459

© For more details about this annex : see Official Journal of the European Patent Office, No. 12/82