# (11) EP 4 108 855 A1

(12)

# **EUROPEAN PATENT APPLICATION**

(43) Date of publication: 28.12.2022 Bulletin 2022/52

(21) Application number: 22000170.5

(22) Date of filing: 23.06.2022

(51) International Patent Classification (IPC): **E05B** 5/00 (2006.01) **E05B** 1/00 (2006.01)

(52) Cooperative Patent Classification (CPC): E05B 5/006; E05B 1/003

(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** 

Designated Validation States:

KH MA MD TN

(30) Priority: 23.06.2021 IT 202100016529

(71) Applicant: Verum Italy S.r.I. 23892 Bulciago (LC) (IT)

(72) Inventor: VERGANI, Umberto 23892 Bulciago (LC) (IT)

(74) Representative: Garavelli, Paolo A.BRE.MAR. S.R.L. Consulenza in Proprietà Industriale Via Servais 27 10146 Torino (IT)

## (54) RECESSED HANDLE FOR DOORS WITH DOUBLE OPENING SYSTEM

(57) A recessed handle (1) with double opening system for doors (5) is described, comprising at least one opening/closing element (3) operatively connected to a door (5), said opening/closing element (3) being designed to bring said door (5) into its open and/or closed operating position by inserting a user's finger into a recess (7) of the recessed handle (1) and/or by lifting the opening/closing element (3) from an encumbrance of the door (5).

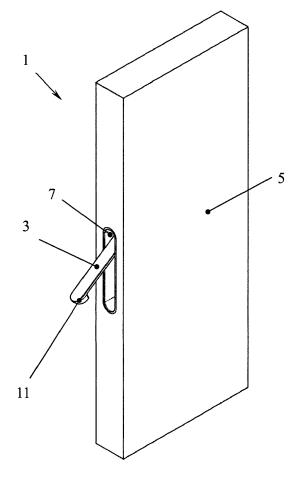


FIG. 1

EP 4 108 855 A1

**[0001]** The present invention refers to a built-in handle for doors with double opening system.

1

[0002] Many door handles are known in the art:

- handles with rosette;
- handles with long plate;
- drag handles;
- panic handles.

**[0003]** However, these known handles are bulky or, as in case of dragging handles present in the field, they make the panel on which they are installed not very pleasant to the eye.

**[0004]** Object of the present invention is solving the aforementioned prior art problems by providing a recessed handle for doors with a double opening system capable of offering two opening systems with a pull lever or the insertion of a finger, making opening or closing the door easy and immediate.

**[0005]** A further object of the present invention is providing a recessed handle as indicated above which allows a cleaning of the panel and a minimalist design.

**[0006]** The aforesaid and other objects and advantages of the invention, as will emerge from the following description, are achieved with a recessed handle for doors with double opening system such as claimed in the independent claim 1. Preferred embodiments and non-trivial variants of the present invention form the subject of the dependent claims.

**[0007]** It is understood that all attached claims form an integral part of the present description.

**[0008]** It will be immediately obvious that innumerable variations and modifications (for example relating to shape, dimensions, arrangements and parts with equivalent functionality) can be made to what is described, without departing from the scope of the invention as appears from the attached claims.

**[0009]** The present invention will be better described by some preferred embodiments thereof, provided by way of non-limiting example, with reference to the attached drawings, in which:

- FIG. 1 shows a perspective view of an embodiment of the recessed handle in its open operating position according to the present invention;
- FIG. 2 shows a perspective view of an embodiment of the recessed handle in its closed operating position according to the present invention;
- FIG. 3 shows a front view of an embodiment of the recessed handle in its open operating position according to the present invention;
- FIG. 4 shows a front view of an embodiment of the recessed handle in its closed operating position according to the present invention;
- FIG. 5 shows a side view of an embodiment of the recessed handle in its open operating position ac-

- cording to the present invention; and
- FIG. 6 shows a side view of an embodiment of the recessed handle in its closed operating position according to the present invention.

**[0010]** With reference to the Figures, it can be noted that the recessed handle 1 with double opening system for doors 5 comprises at least one opening/closing element 3 operatively connected to a door 5.

**[0011]** The opening/closing element 3 is designed to bring the door 5 into its open and/or closed operating position by inserting the finger of a user (not shown) into a recess 7 of the recessed handle 1, or by lifting the opening element/closing 3 from the obstruction of the door 5.

**[0012]** In particular, the opening/closing element 3 is constituted by an elongated rod pivoted at a pivot point 9 and equipped at its lower end with a tooth 1 for resting against the door 5, and at its upper end with a recess 13 to make it easier for the user to grip when opening or closing the door 5.

**[0013]** Advantageously, the opening/closing element 3 is brought into its operating position by lifting the door 5 from its encumbrance by rotating it around the pivot point 9 or by inserting a user's finger in the recess 13.

**[0014]** Furthermore, the recessed handle 1 can be installed both on sliding doors on the side of the panel and on swing doors directly on the front side.

**[0015]** In both applications, the element remains flush with the panel, offering a cleanliness of the panel and a minimalist design.

#### Claims

40

45

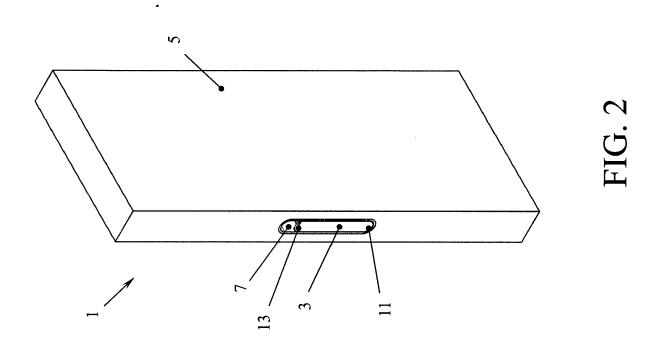
50

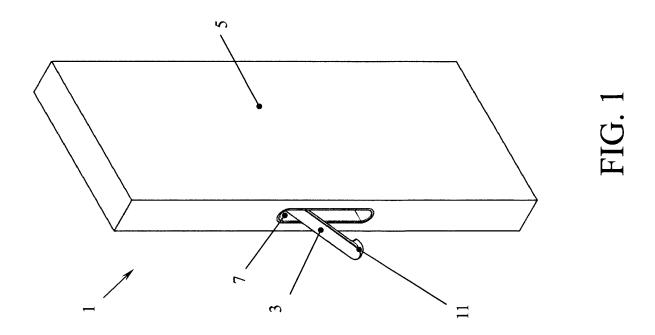
55

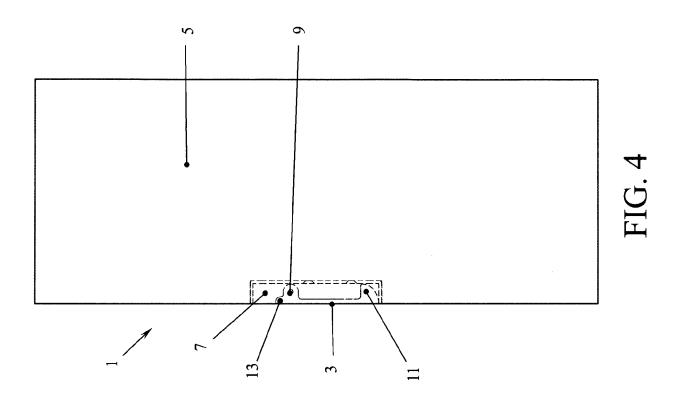
- Recessed handle (1) with double opening system for doors (5), comprising at least one opening/closing element (3) operatively connected to a door (5), said opening/closing element (3) being designed to bring said door (5) into its open and/or closed operating position by inserting a finger of a user into a recess (7) of said recessed handle (1) and/or by lifting said opening/closing element (3) from an encumbrance of said door (5),
  - characterized in that said opening/closing element (3) consists of an elongated rod pivoted at a pivot point (9) and equipped at its lower end with a tooth (11) for resting against the door (5), and at its upper end with a recess (13), said opening/closing element (3) being brought into its operative position by lifting said opening/closing element (3) from the encumbrance by means of its rotation around said pivot point (9), and said opening/closing element (3) being alternatively brought into its operative position by inserting the finger of a user into the recess (13).
- 2. Recessed handle (1) according to claim 1, **characterized in that** said recessed handle (1) is installed on sliding doors on a side of the panel.

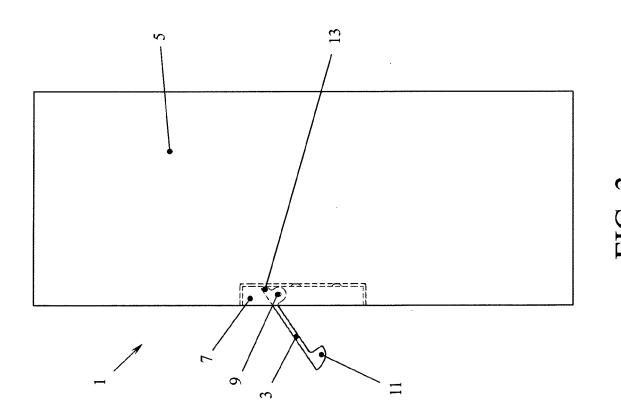
2

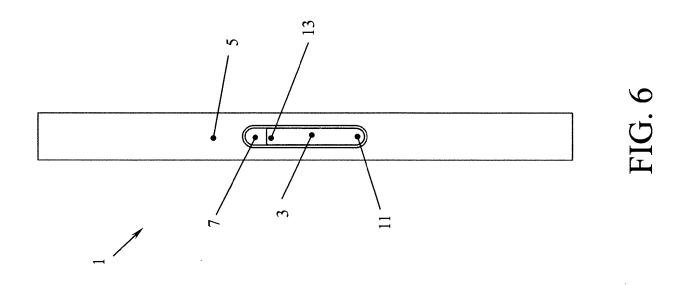
3. Recessed handle (1) according to claim 1, **characterized in that** said recessed handle (1) is installed on hinged doors directly on a front side.

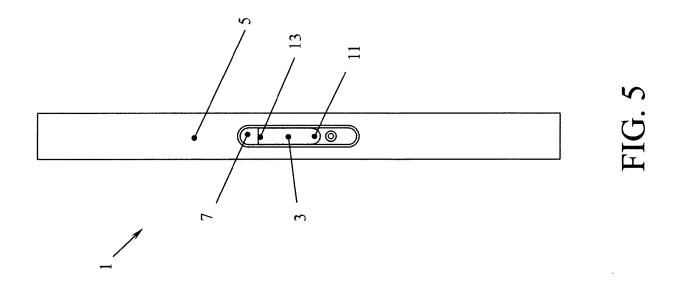












**DOCUMENTS CONSIDERED TO BE RELEVANT** 



# **EUROPEAN SEARCH REPORT**

**Application Number** 

EP 22 00 0170

EPO FORM 1503 03.82 (P04C01)	Place of Search
	The Hague
	CATEGORY OF CITED DOCUMENT  X: particularly relevant if taken alone Y: particularly relevant if combined with an document of the same category A: technological background O: non-written disclosure
	P : intermediate document

- uccument of the same category A: technological background O: non-written disclosure P: intermediate document

- & : member of the same patent family, corresponding document

	DOCUMENTS CONSIDERI	D IO DE MELLEV	A111			
Category	Citation of document with indica of relevant passages				LASSIFICATION (	
x	IT 2016 0008 1782 A1 (3 February 2018 (2018- * figures 1-5 *		SPA) 1-3	E	NV. 05B5/00 05B1/00	
ĸ	US 10 030 421 B2 (KLS 24 July 2018 (2018-07- * figures 8A-9B2 *		1-3			
ζ	IT AN20 120 119 A1 (GI 25 March 2014 (2014-03 * figures 1-14 *		1,3			
Ā	EP 3 517 711 B1 (SIST ACCESORIO Y COMPONENTE 8 July 2020 (2020-07-0 * paragraphs [0009] -	S S L STAC [ES]				
Ā	AT 14 127 U1 (KOBLENZ		1-3			
	15 April 2015 (2015-04 * paragraphs [0043] -	•	s 1–15		TECHNICAL FIE	LDS (IPC)
	*				05B	( •)
	The present search report has been	Date of completion of the			Examiner	
	The Hague	8 November T:theory			dou, Mari	a
X : par Y : par	ATEGORY OF CITED DOCUMENTS  ticularly relevant if taken alone ticularly relevant if combined with another ticularly relevant if combined with another timent of the same category	E : earlier after th D : docun	or principle underly patent document, ne filing date nent cited in the ap lent cited for other	but published plication		

### EP 4 108 855 A1

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

EP 22 00 0170

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.

08-11-2022

10		Patent document cited in search report		Publication date	Patent family member(s)		Publication date		
		IT 201600081782 US 10030421							
			10030421	в2	24-07-2018	NON	E		
15		IT	AN20120119	A1	25-03-2014	AU	2013320162	A1	07-05-2015
						CA	2885286		27-03-2014
						CN	104662241		27-05-2015
						EP	2898162		29-07-2015
						ES	2709330		16-04-2019
20						HK	1213033		24-06-2016
20						JP	2015529291		05-10-2015
						PL	2898162		30-04-2019
						RU	2015115512		20-11-2016
						TR	201901699		21-02-2019
						US	2015225979		13-08-2015
25						WO	2014044850		27-03-2014
		EP	3517711	в1	08-07-2020	CN	110036165	Δ	19-07-2019
			00111		00 0. 2020	EP	3517711		31-07-2019
						ES	1175108		26-01-2017
30						ES	2808563		01-03-2021
						PT	3517711		27-07-2020
						WO	2018130733		19-07-2018
		AT	14127	U1	15-04-2015	AT	14127	U1	15-04-2015
0.5						BR	MU9101131		20-05-2014
35						CN	202831922		27-03-2013
							202011102571		10-11-2011
						ES	1076645		02-04-2012
						FR	2963373		03-02-2012
						IT	RN20100012		31-01-2012
40						JP	3171048		13-10-2011
						PT	10720		08-02-2012
						RU	114080		10-03-2012
45									
70									
50									
	459								
	A Po.								
55	FORM P0459								

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