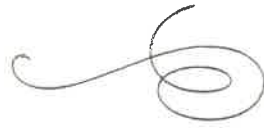
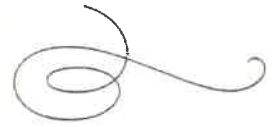


United
States
of
America



To Promote the Progress



of Science and Useful Arts

The Director

of the United States Patent and Trademark Office has received an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this United States

Patent

grants to the person(s) having title to this patent the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America, and if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States of America, products made by that process, for the term set forth in 35 U.S.C. 154(a)(2) or (c)(1), subject to the payment of maintenance fees as provided by 35 U.S.C. 41(b). See the Maintenance Fee Notice on the inside of the cover.

Katherine Kelly Vidal

DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE



US011589553B2

(12) **United States Patent**
Bernardini et al.

(10) **Patent No.: US 11,589,553 B2**

(45) **Date of Patent: Feb. 28, 2023**

(54) **COVER FOR A CAGE FOR LABORATORY ANIMALS, AND CAGE FOR LABORATORY ANIMALS INCLUDING SAID COVER**

(71) Applicant: **TECNIPLAST S.P.A.**, Buguggiate VA (IT)

(72) Inventors: **Pietro Bernardini**, Casciago (IT);
Simone Cassetti, Legnano (IT);
Giovanni Malnati, Malnate (IT)

(73) Assignee: **TECNIPLAST S.P.A.**, Buguggiate VA (IT)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 202 days.

(21) Appl. No.: **16/032,987**

(22) Filed: **Jul. 11, 2018**

(65) **Prior Publication Data**
US 2019/0014740 A1 Jan. 17, 2019

(30) **Foreign Application Priority Data**
Jul. 13, 2017 (IT) 102017000078916

(51) **Int. Cl.**
A01K 1/03 (2006.01)
A01K 1/00 (2006.01)
A01K 7/00 (2006.01)

(52) **U.S. Cl.**
CPC **A01K 1/031** (2013.01); **A01K 1/0058** (2013.01); **A01K 7/00** (2013.01)

(58) **Field of Classification Search**
CPC **A01K 1/031**; **A01K 1/0245**; **A01K 1/03**
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

920,975 A *	5/1909	Minion	A01K 1/033
			119/482
3,234,907 A	2/1966	Palencia	
4,402,280 A *	9/1983	Thomas	A01K 1/031
			119/418
4,576,115 A *	3/1986	Gordon	A01K 63/006
			119/265
6,257,171 B1 *	7/2001	Rivard	A01K 1/031
			119/419
8,181,603 B2 *	5/2012	Tartaglia	A01K 1/031
			119/417
2004/0090028 A1 *	5/2004	Trogstam	A01K 1/031
			280/79.3

(Continued)

FOREIGN PATENT DOCUMENTS

DE	102005008695	8/2006	
DE	102009024081 A1 *	12/2010 B65D 19/18

(Continued)

OTHER PUBLICATIONS

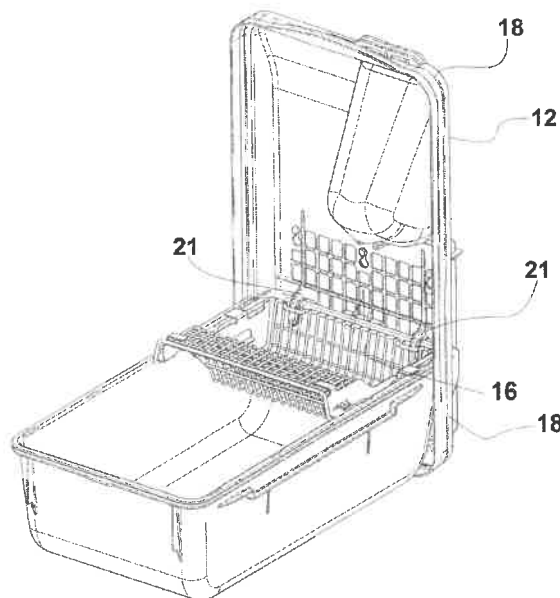
EP 2537769A1 machine translation (Year: 2012).*
(Continued)

Primary Examiner — Son T Nguyen
(74) *Attorney, Agent, or Firm* — Stetina Brunda Garred and Brucker

(57) **ABSTRACT**

A cage for housing laboratory animals, said cage comprising a tray and a cover which can be removed and switched between a first closing position, in which it is positioned on said tray thus stopping the access to the internal space delimited by said tray, and a second opening position, in which said internal space may be accessed.

15 Claims, 10 Drawing Sheets



(56)

References Cited

U.S. PATENT DOCUMENTS

2006/0254528	A1	11/2006	Malnati et al.	
2007/0193527	A1 *	8/2007	Verhage	A01K 1/031 119/418
2012/0234255	A1 *	9/2012	Bernardini	A01K 1/031 119/417
2016/0174519	A1 *	6/2016	Chang	A01K 1/031 119/419

FOREIGN PATENT DOCUMENTS

DE	102012018230		3/2013	
EP	2151158		2/2010	
EP	2537769		12/2012	
EP	2868592	A1	5/2015	
EP	2886484		6/2015	
JP	S1979073115	U	5/1979	
JP	3106551	U	1/2005	
JP	2006311863	A	11/2006	
WO	WO-2008135528	A2 *	11/2008 A01K 1/031
WO	2016166234		10/2016	

OTHER PUBLICATIONS

DE-102009024081-A1 machine translation (Year: 2010).*
 Ministero Dello Sviluppo Economico, Italian Search Report and
 Written Opinion for Italian Application No. 201700078916, dated
 Mar. 16, 2018, 9 pages.

* cited by examiner