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Kang et al.

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(54) **MOBILE SERVICE ROBOT LOADING BOX**

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(30) **Foreign Application Priority Data**

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(52) **U.S. Cl.**
USPC **D15/199**
(58) **Field of Classification Search**
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CPC B65G 1/00; B65G 1/0435; B65G 1/1373; B65G 57/00; B65G 61/00; B65G 65/02; B66F 9/063; G06Q 10/08
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D259,428 S * 6/1981 Macowski D19/92
D288,784 S * 3/1987 Nathan D3/304
5,127,486 A * 7/1992 Yardley G05D 1/0265 318/587
D573,654 S * 7/2008 Hardy D19/92
D873,174 S * 1/2020 Sokuza D12/1
(Continued)

FOREIGN PATENT DOCUMENTS

CN 111169558 A * 5/2020
CN 107032141 B * 6/2020 ..... B25J 11/00
(Continued)

OTHER PUBLICATIONS

https://www.mecalux.com/warehouse-automation/autonomous-mobile-robots-amrs (Year: 2025).*

Primary Examiner — Patricia A Palasik

(57) **CLAIM**

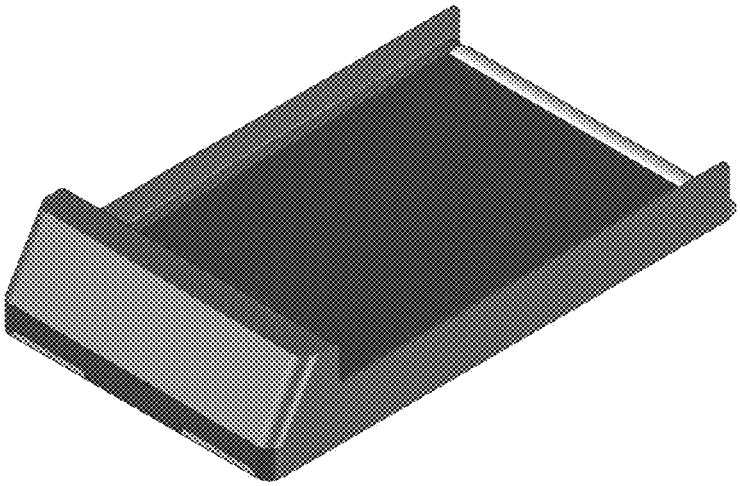
The ornamental design for a mobile service robot loading box as shown and described.

DESCRIPTION

1. Mobile service robot loading box
1.1 : Perspective
1.2 : Front
1.3 : Back
1.4 : Left
1.5 : Right
1.6 : Top
1.7 : Bottom

The present design is mounted on a mobile service robot capable of transferring a product and providing various services to load and transfer various goods; reproduction **1.1** is a perspective view of a mobile service robot loading box showing our new design; reproduction **1.2** is a front elevation view thereof; reproduction **1.3** is a rear elevation view thereof; reproduction **1.4** is a left side elevation view thereof; reproduction **1.5** is a right side elevation view thereof; reproduction **1.6** is a top plan view thereof; reproduction **1.7** is a bottom plan view thereof.

1 Claim, 7 Drawing Sheets



(56) **References Cited**

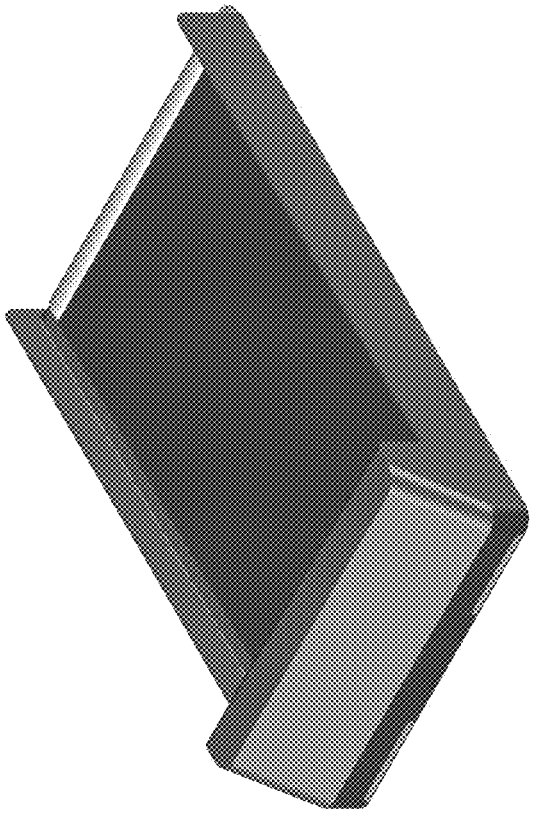
U.S. PATENT DOCUMENTS

D888,791	S	*	6/2020	Wu	D15/199
D893,624	S	*	8/2020	Mckean	D19/92
D896,858	S	*	9/2020	Kapuria	D15/199
D902,593	S	*	11/2020	Roche	D3/304
D912,574	S	*	3/2021	Li	D12/1
D924,955	S	*	7/2021	Hoshino	D15/199
D924,956	S	*	7/2021	Pajevic	D15/199
11,104,516	B2	*	8/2021	Li	B65G 1/1373
11,130,242	B1	*	9/2021	Kalm	B25J 15/0033
D950,616	S	*	5/2022	Kapuria	D15/199
D970,016	S	*	11/2022	Fox	D24/185
11,718,473	B1	*	8/2023	Zhan	B65G 1/0421 414/280
11,790,295	B1	*	10/2023	Theobald	B65G 1/10 700/218
D1,016,116	S	*	2/2024	Huang	D15/199
D1,031,807	S	*	6/2024	Tian	D15/199
D1,034,723	S	*	7/2024	Jiang	D15/199
D1,035,733	S	*	7/2024	Zhuo	D15/199
D1,050,213	S	*	11/2024	Peng	D15/199
D1,054,467	S	*	12/2024	Guo	D15/199
D1,061,650	S	*	2/2025	Zhuo	D15/199
D1,062,818	S	*	2/2025	Jiang	D15/199
2013/0218333	A1	*	8/2013	Miao	B60S 5/06 700/245
2015/0073589	A1	*	3/2015	Khodl	B65G 1/1378 700/218
2017/0120443	A1	*	5/2017	Kang	G05D 1/0293
2022/0274779	A1	*	9/2022	Qian	B65G 1/137
2022/0348445	A1	*	11/2022	Chou	B66F 9/20

FOREIGN PATENT DOCUMENTS

CN	212197467	U	*	12/2020
CN	212601854	U	*	2/2021
CN	119078991	A	*	12/2024
WO	WO-2023045777	A1	*	3/2023
WO	WO-2023184429	A1	*	10/2023

* cited by examiner



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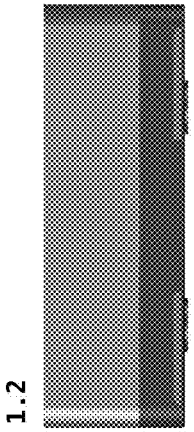
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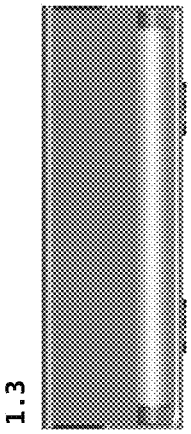

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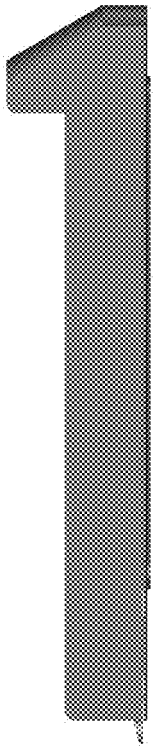

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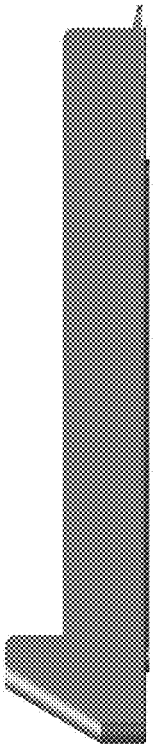

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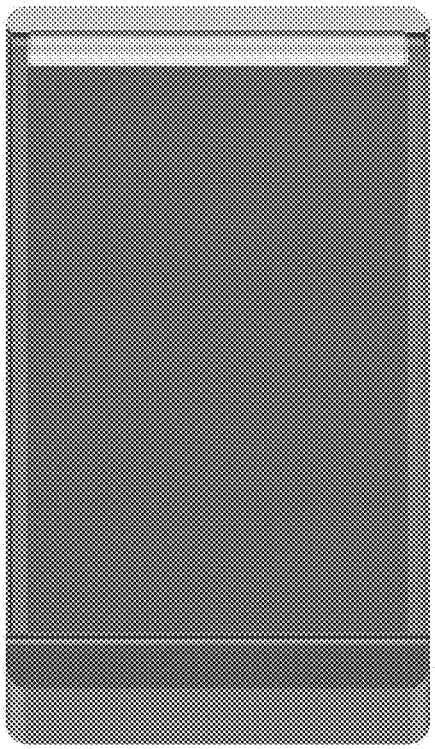
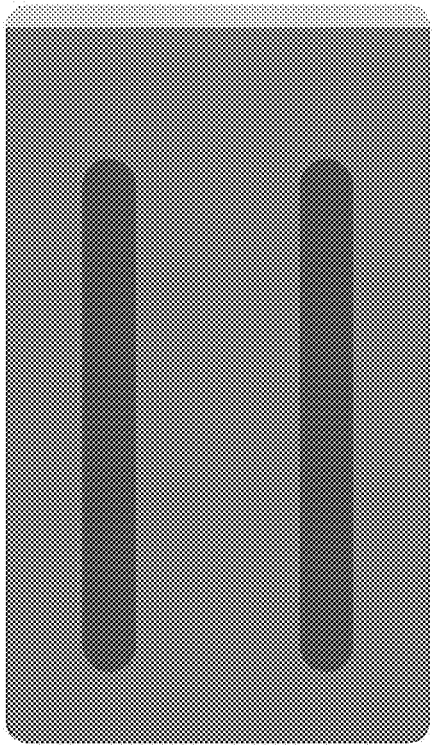
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