

ABSTRACT

The present disclosure discloses a pet toilet comprising a base and a fecal collection box detachably provided on the base, the base defines a through hole running through itself from top to bottom, and the fecal collection box defines a fecal collection chamber in communication with the through hole and configured to collect excrement. In this way, when cleaning, the fecal collection box can be independently detached and thus processed, it is convenient for users to clean.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2:

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
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Inventor Information:

Inventor 1 Remove				
Legal Name				
Prefix	Given Name	Middle Name	Family Name	Suffix
	TIEQIANG		TANG	
Residence Information (Select One) ☐ US Residency ☒ Non US Residency ☐ Active US Military Service				
City	Shaoyang City, Hunan Province	Country of Residence ⁱ	CN	
Mailing Address of Inventor:				
Address 1		No. 495, Group 18, Yuxi Village, Yuxi Town		
Address 2		Daxiang District		
City	Shaoyang City, Hunan Province	State/Province		
Postal Code		Country ⁱ	CN	
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button. Add				

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence Information of this application.			
Customer Number	186096		
Email Address	patent@ippivot.com	Add Email	Remove Email
Email Address	patent-notice@zanip.co	Add Email	Remove Email

Application Information:

Title of the Invention	PET TOILET		
Attorney Docket Number	4202/YAYI-US-IP-0414	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	11	Suggested Figure for Publication (if any)	1

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		

Filing By Reference:

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)

☐ **Request Not to Publish.** I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application **has not and will not** be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.

Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	186096		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim information in the Application Data Sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the "Application Number" field blank.

Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		

Foreign Priority Information:

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)ⁱ the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ⁱ (if applicable)
202323419782.6	CN	2023-12-14	BD91

Additional Foreign Priority Data may be generated within this form by selecting the **Add** button.

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

☐ This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.

NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. ☐ If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. ☐ If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.								
Applicant 1			Remove					
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.								
Clear								
☒ Assignee	☐ Legal Representative under 35 U.S.C. 117	☐ Joint Inventor						
☐ Person to whom the inventor is obligated to assign.	☐ Person who shows sufficient proprietary interest							
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:								
Name of the Deceased or Legally Incapacitated Inventor:								
If the Applicant is an Organization check here. ☒								
Organization Name	PETPIVOT INC							
Mailing Address Information For Applicant:								
Address 1	1614 NW RIVERSCAPE ST							
Address 2								
City	PORTLAND	State/Province	OR					
Country	US	Postal Code	97209					
Phone Number		Fax Number						
Email Address								
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Assignee Information including Non-Applicant Assignee Information:

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		

Assignee 1

Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.

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If the Assignee or Non-Applicant Assignee is an Organization check here. ☐

Prefix	Given Name	Middle Name	Family Name	Suffix

Mailing Address Information For Assignee including Non-Applicant Assignee:

Address 1			
Address 2			
City		State/Province	
Country ⁱ		Postal Code	
Phone Number		Fax Number	
Email Address			

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NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). However, if this Application Data Sheet is submitted with the **INITIAL** filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/Chih Kuei Hu/		Date (YYYY-MM-DD)	2023-12-21	
First Name	Chih Kuei	Last Name	Hu	Registration Number	77909

Additional Signature may be generated within this form by selecting the Add button.

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	4202/YAYI-US-IP-0414
		Application Number	
Title of Invention	PET TOILET		

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

- 1 The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
- 2 A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
- 3 A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
- 4 A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
- 5 A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
- 6 A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
- 7 A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
- 8 A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
- 9 A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

WHAT IS CLAIMED IS:

1. A pet toilet comprising: a base and a fecal collection box detachably provided on the base, the base defines a through hole running through itself from top to bottom, and the fecal collection box defines a fecal collection chamber in communication with the through hole and configured to collect excrement.

2. The pet toilet according to claim 1, wherein a bottom of the base is provided with insertion slots at two sides of the through hole, two sides of the fecal collection box protrude outward to form insertion flanges, the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base.

3. The pet toilet according to claim 2, wherein between the insertion flange and the base there is provided with a joint structure, the joint structure comprises a first bump and a first clamping groove used in conjunction with the first bump, the first bump is placed in the first clamping groove when the fecal collection box is mounted on the base.

4. The pet toilet according to claim 3, wherein the first bump is formed by upward protrusion of a top surface of the insertion flange, the insertion flange defines strip-type holes at both front and rear sides of the first bump, and the insertion flange forms a resilient piece between the two strip-type holes, the first bump is located on the resilient piece.

5. The pet toilet according to claim 2, wherein the base protrudes downward at two sides of the through hole to form limit protrusions, a cross-section of the insertion slot is C-shaped, the limit protrusions are located at a side of the insertion slot close to the through hole and are arranged separately from the insertion slot.

6. The pet toilet according to claim 5, wherein the limit protrusion comprises a first housing provided on the base and a light guide casing connected to the first housing to form a mounting chamber, the mounting chamber is provided therein with a lamp board, the lamp board is provided thereon with a plurality of luminous bodies.

7. The pet toilet according to claim 2, wherein the insertion flange extends downwards at a side away from the through hole to form an enhancing flange, the

strip-type holes run through the enhancing flange from top to bottom.

8. The pet toilet according to claim 2, wherein the base extends downward at a bottom of the insertion slot to form a block flange.

9. The pet toilet according to claim 2, wherein a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber.

10. The pet toilet according to claim 1, wherein the fecal collection box comprises at least one extension frame and a fixing basin, the extension frame is sheathed on an outer side of the fixing basin and detachably connected with the fixing basin;

the extension frame is of a hollow shape, and both a bottom and top thereof are first openings; the fixing basin is of a hollow shape, and a top thereof is a second opening; the fecal collection chamber is surrounded and formed by the extension frame and the fixing basin.

11. The pet toilet according to claim 10, further comprising a roller rotatably provided on the base, the roller defines an entrance/exit used for pets to enter and exit, a width of the extension frame is less than a width of the entrance/exit, and a length of the roller is larger than a length of the extension frame.

12. The pet toilet according to claim 10, wherein the fecal collection box comprises a plurality of extension frames, the plurality of extension frames are sheathed sequentially from inside to outside according to sizes, and there is interference fit between every two adjacent extension frames, the insertion flange is located on the outermost extension frame.

13. The pet toilet according to claim 10, wherein an inner side wall of the extension frame is provided thereon with a first limit member, an outer side wall of the fixing basin is provided thereon with a second limit member, the first limit member abuts against the second limit member when the fixing basin is assembled with the extension frame.

14. The pet toilet according to claim 12, wherein the first limit member comprises a first limit flange extending inward from a bottom of the extension frame and a first straight wall extending upward from a distal end of the first limit flange, an inner side wall of the extension frame, the first limit flange, and the first straight wall surround to

form a first limit groove;

the second limit member comprises a second limit flange formed by outward extension from a top of the fixing basin and a second straight wall extending downward from a distal end of the second limit flange, an outer sidewall of the fixing basin, the second limit flange, and the second straight wall surround to form a second limit groove; the first straight wall is positioned in the second limit groove, and the second straight wall is positioned in the first limit groove.

15. The pet toilet according to claim 12, wherein the first limit flange defines a plurality of drain holes.

16. The pet toilet according to claim 12, wherein the second limit flange and/or the second straight wall defines a second gap.

17. The pet toilet according to claim 12, wherein the inner side wall of the extension frame is provided thereon with a fixture block configured to stop relative movement of the fixing basin and the extension frame, the fixture block is located above the first limit member.

18. The pet toilet according to claim 12, wherein side walls of the first limit groove and/or the second limit groove are provided thereon with a plurality of pressing protrusions, and the first limit groove and/or the second limit groove defines second clamping grooves at positions corresponding to the pressing protrusions.

19. The pet toilet according to claim 12, wherein a distance between two opposite side walls of the extension frame gradually reduces from top to bottom, and a distance between two opposite side walls of the fixing basin gradually reduces from top to bottom; the second limit member is in interference fit with the extension frame.

20. The pet toilet according to claim 1, wherein the fecal collection box is provided thereon with a handle groove, and the base is provided with at least three support legs around the fecal collection box.

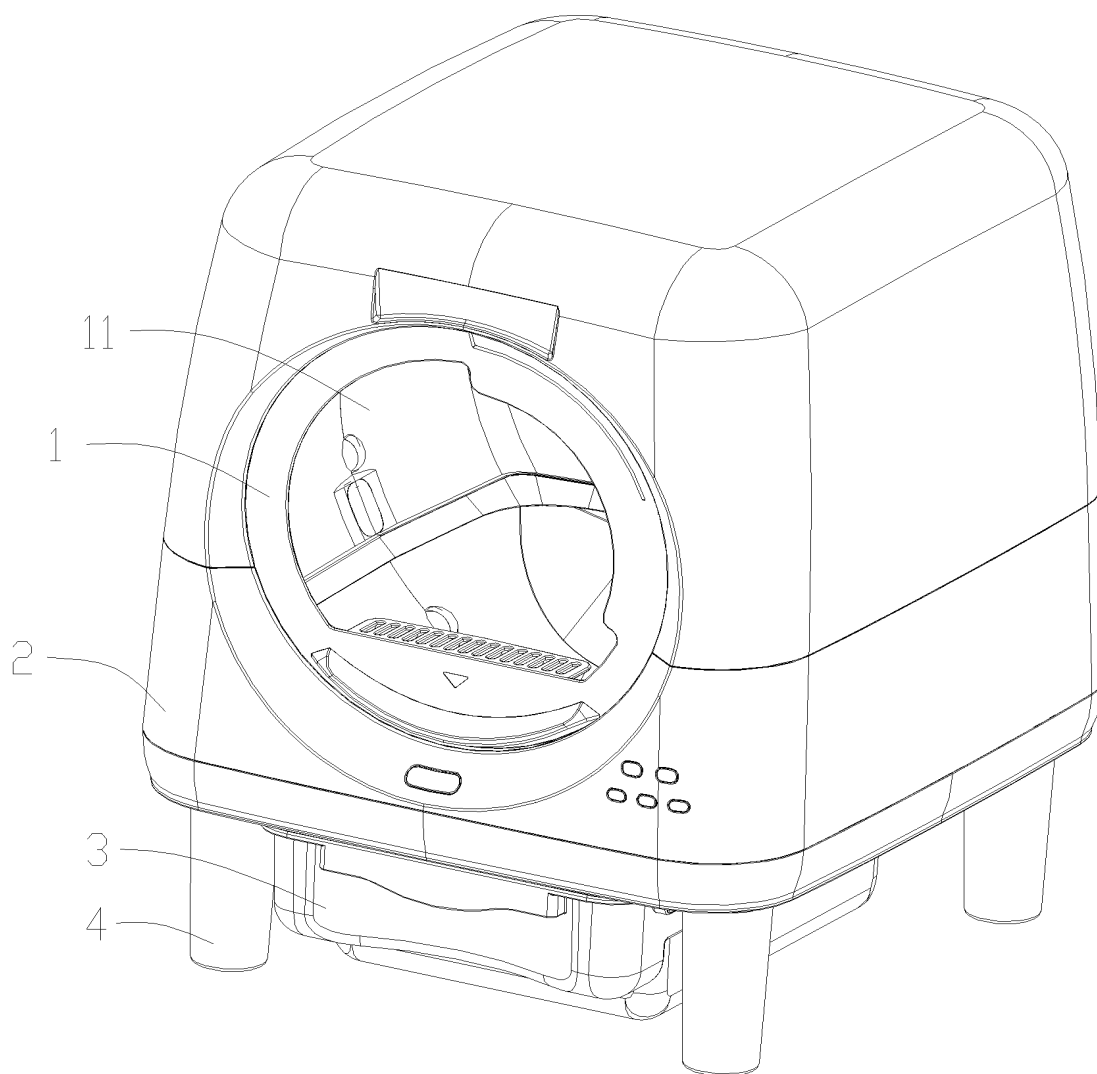


FIG. 1

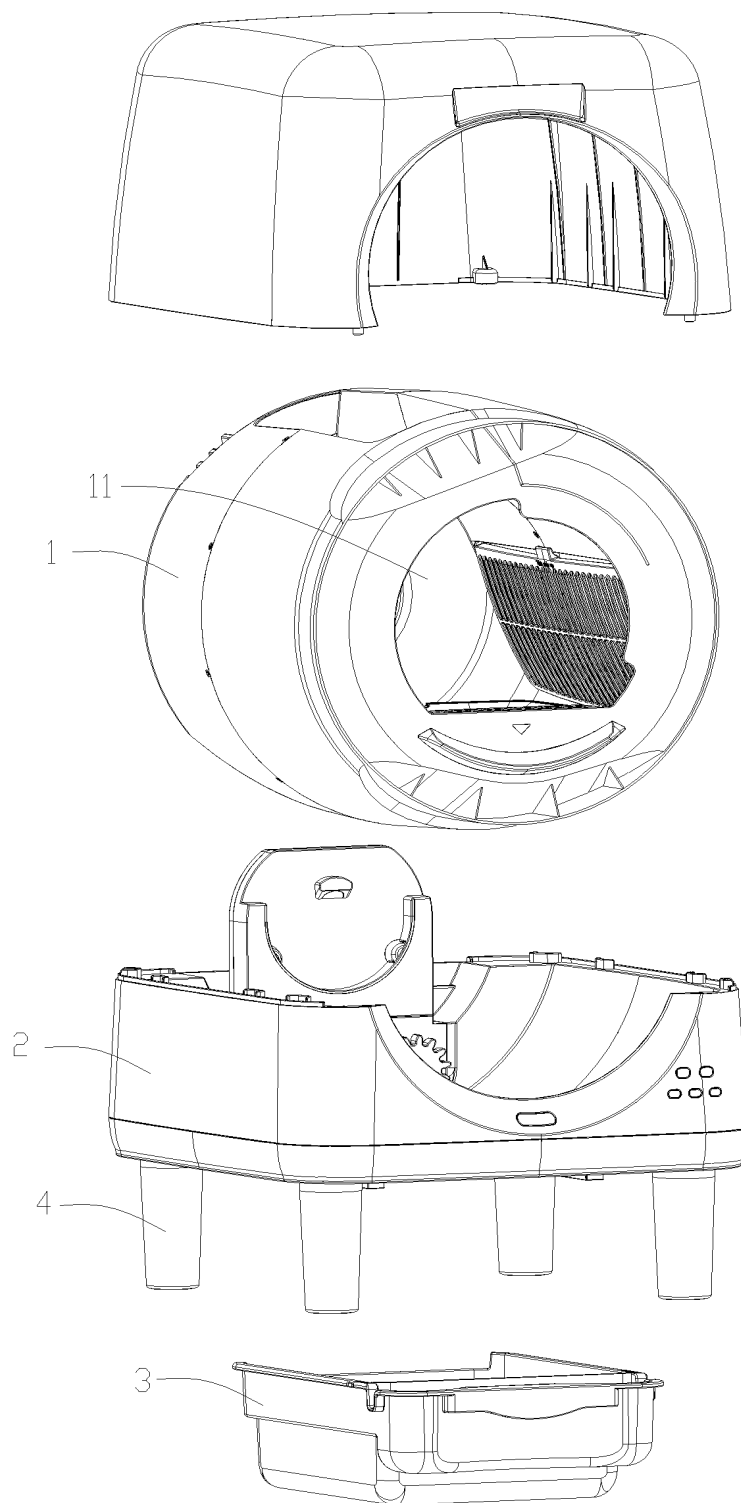


FIG. 2

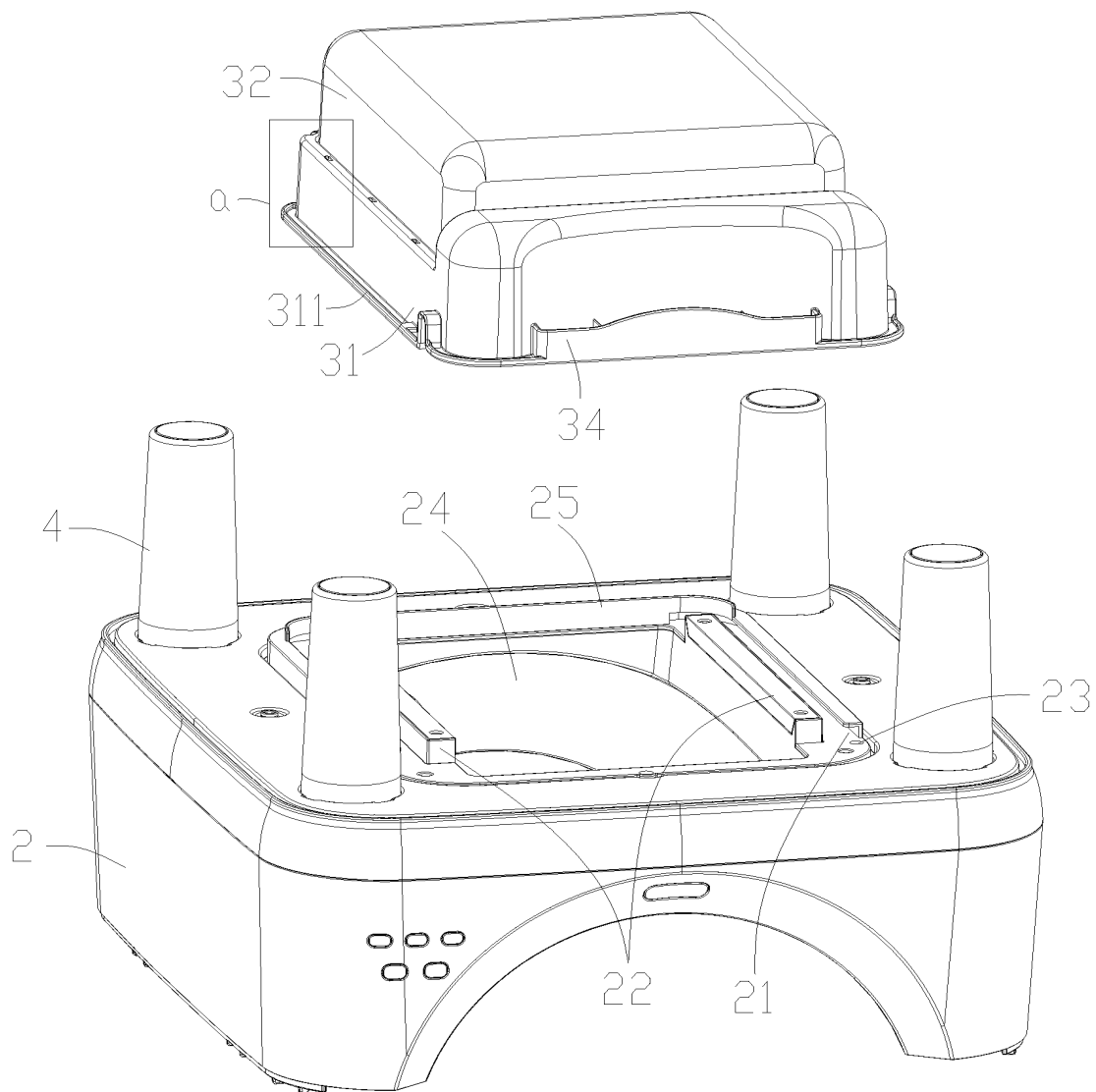


FIG. 3

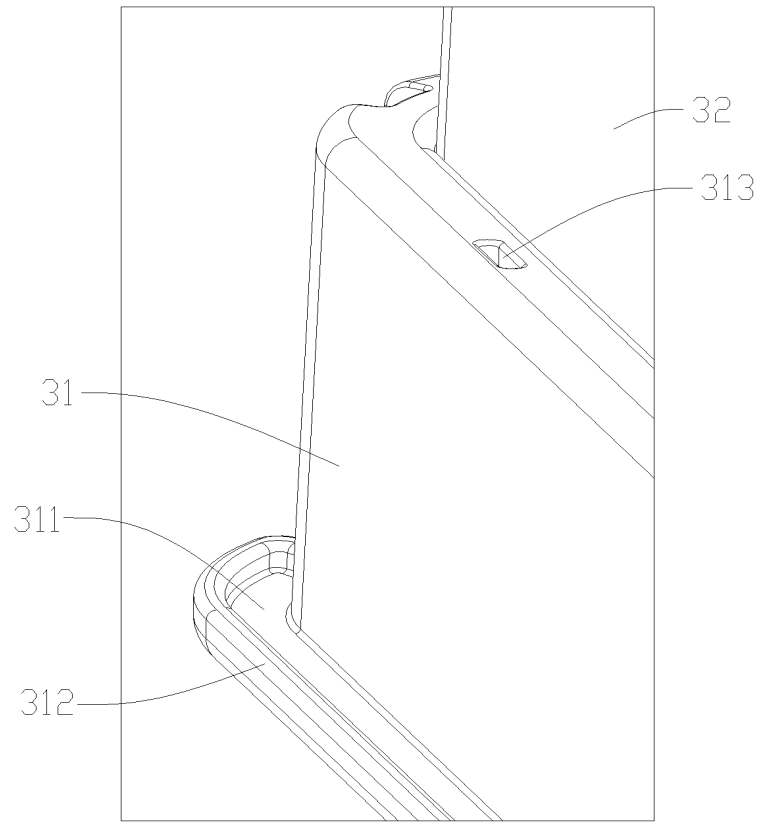


FIG. 4

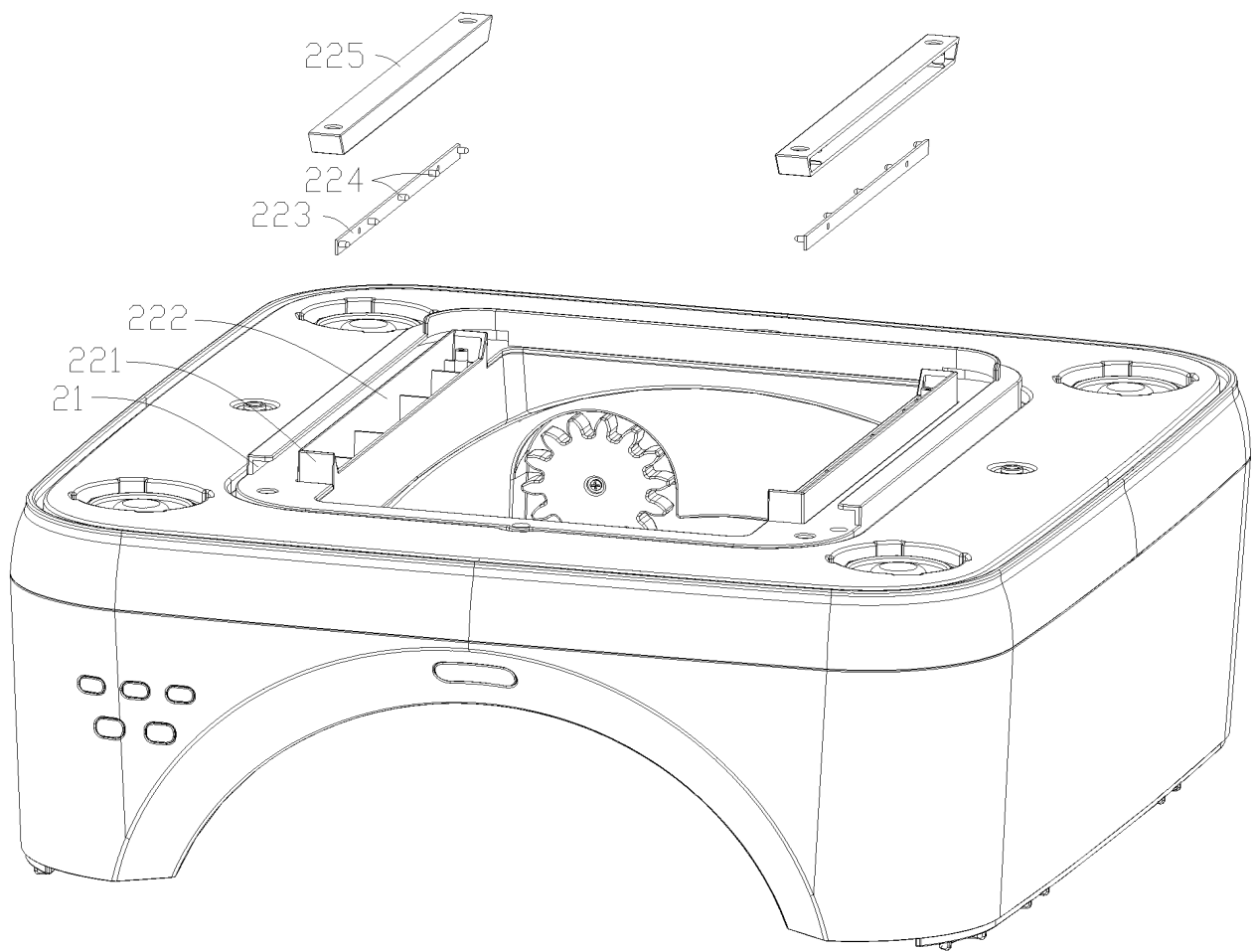


FIG. 5

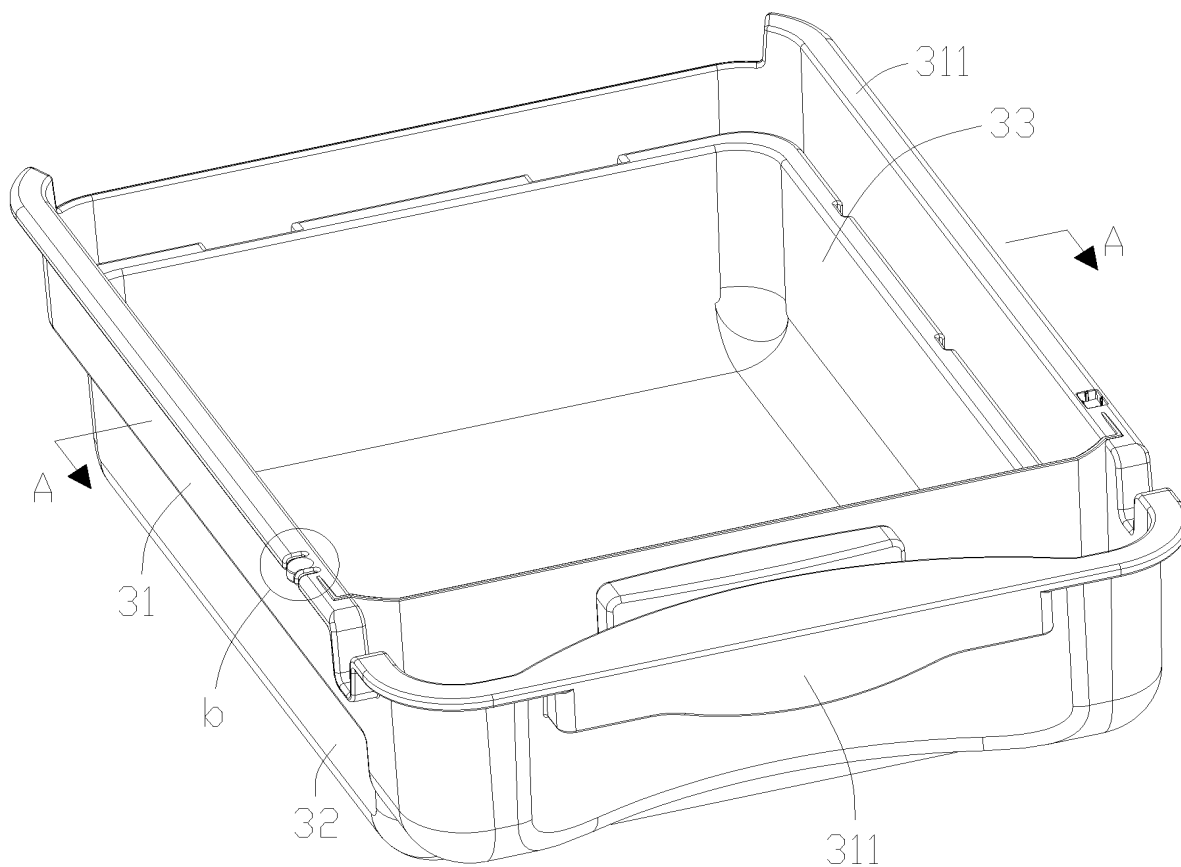


FIG. 6

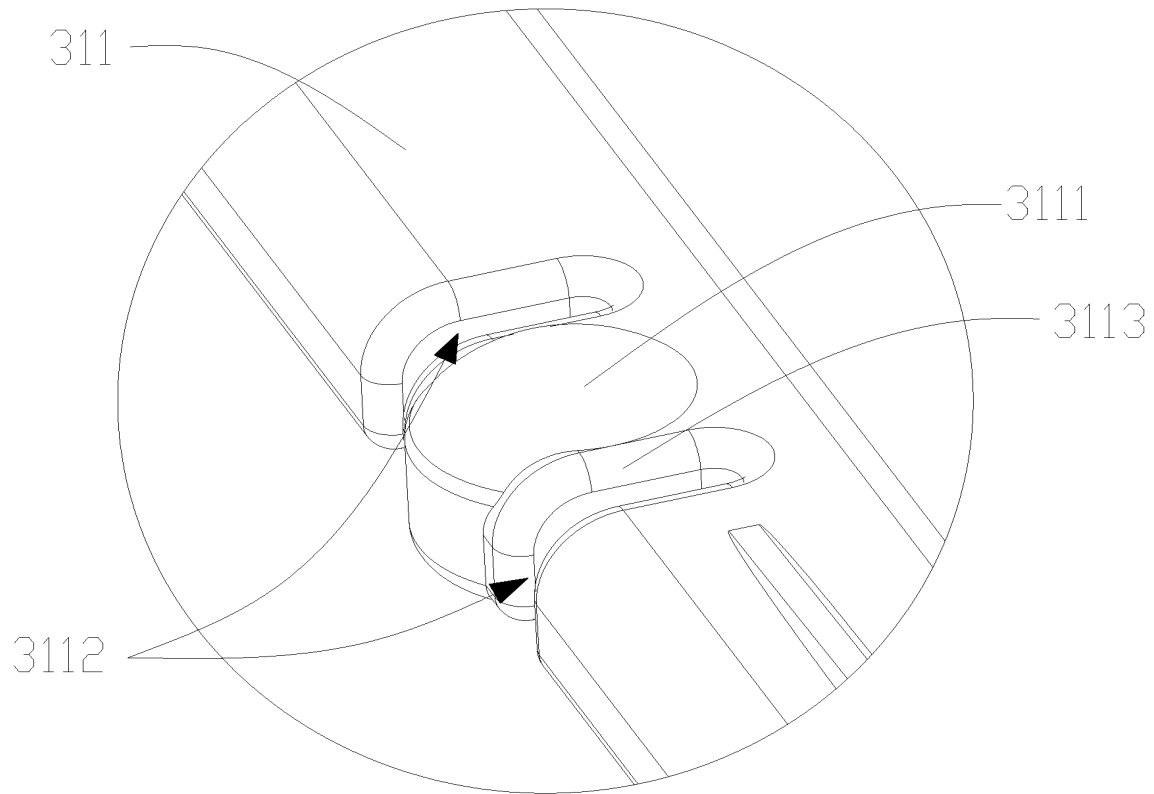
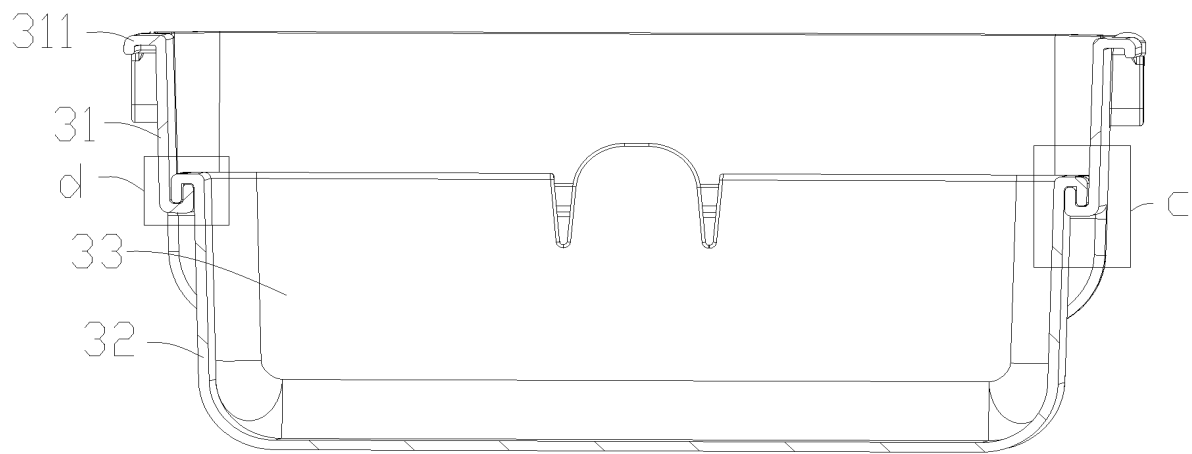


FIG. 7



A-A

FIG. 8

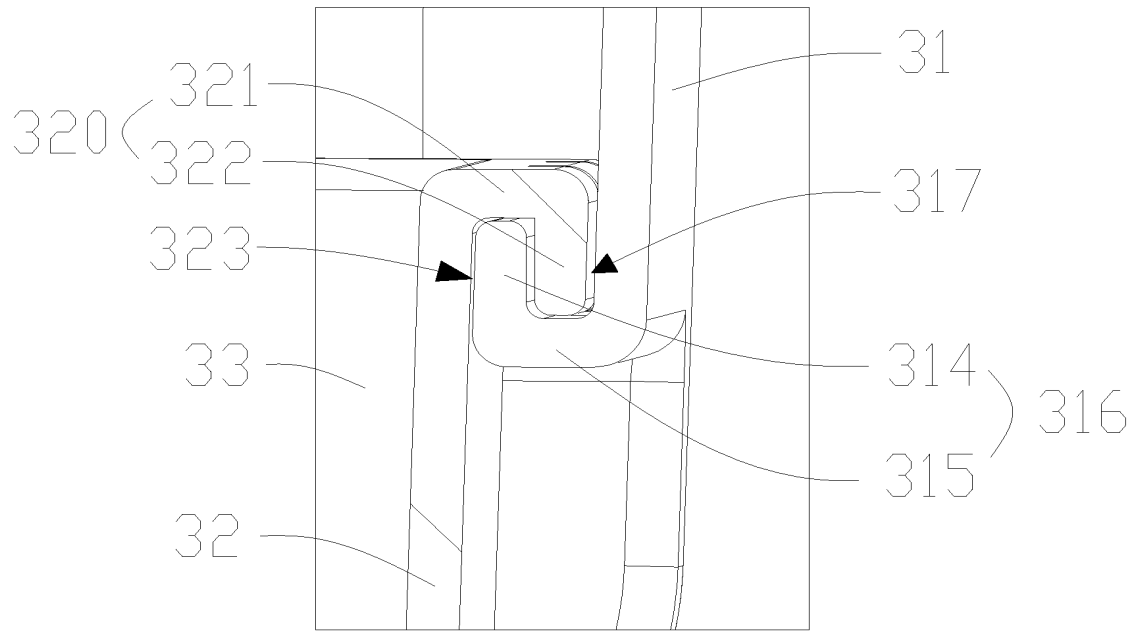


FIG. 9

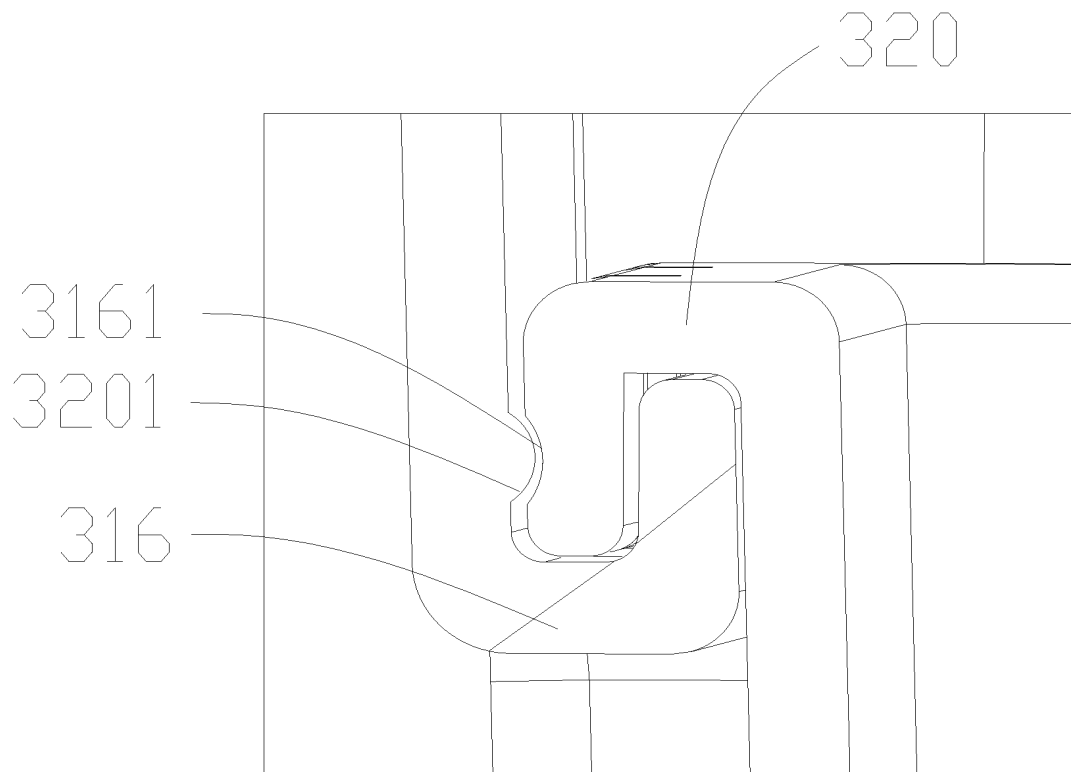


FIG. 10

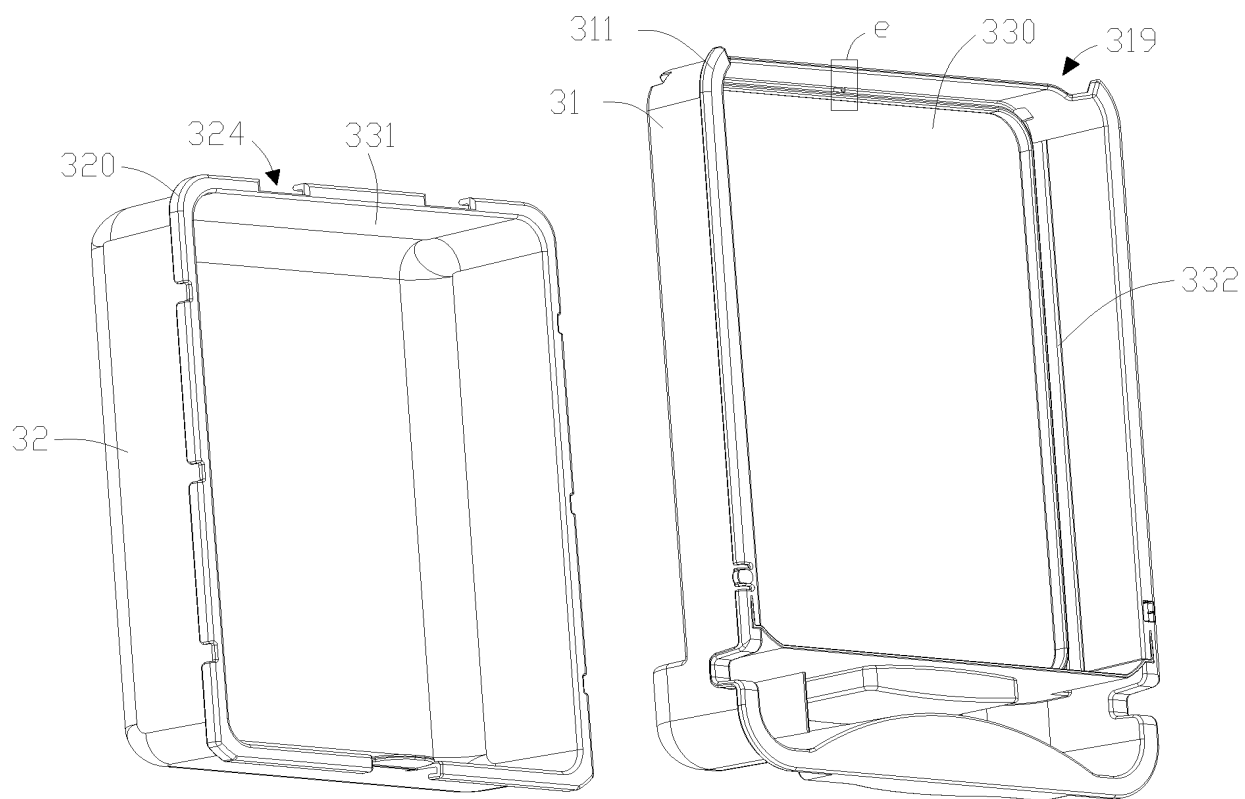


FIG. 11

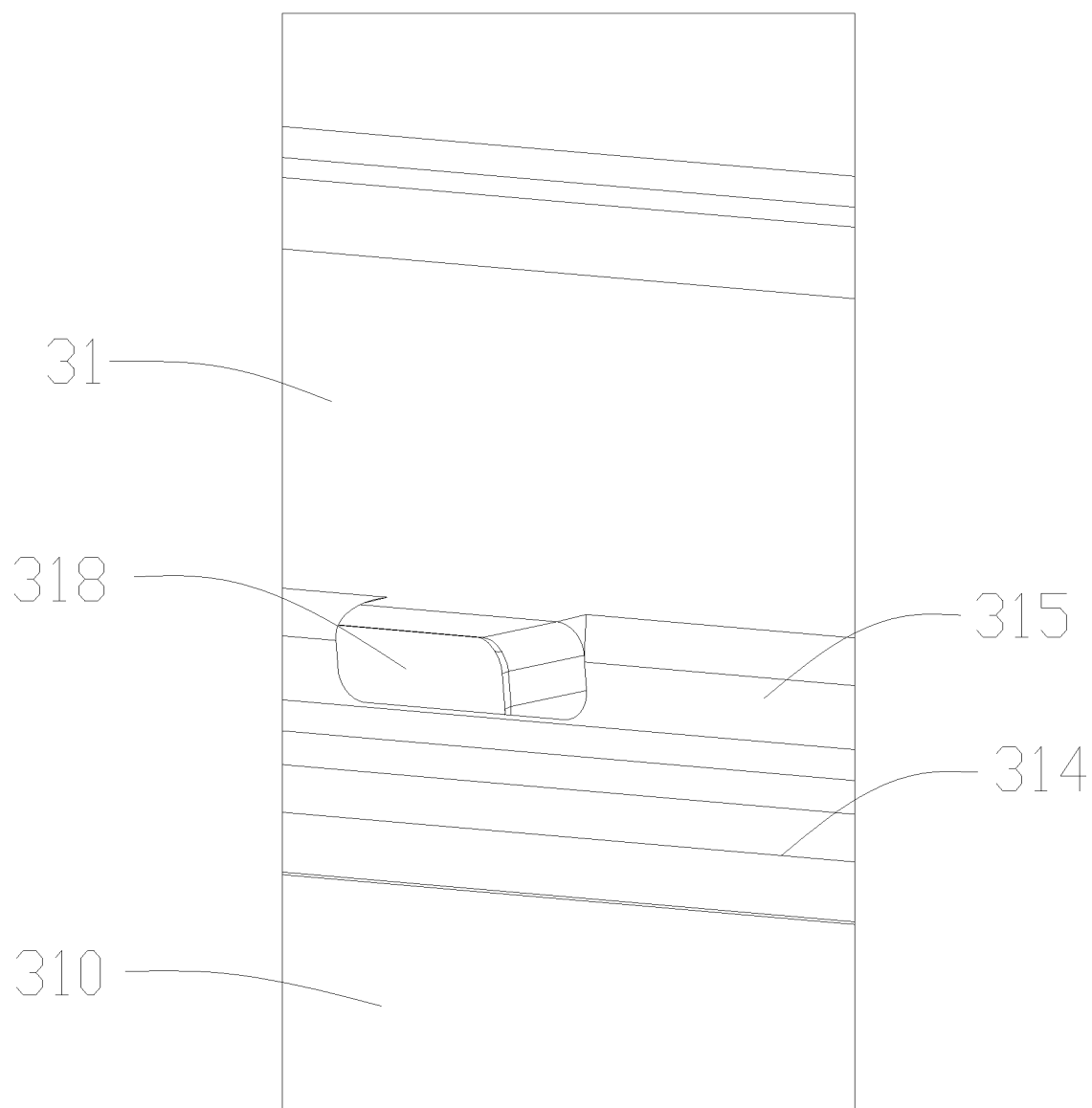


FIG. 12

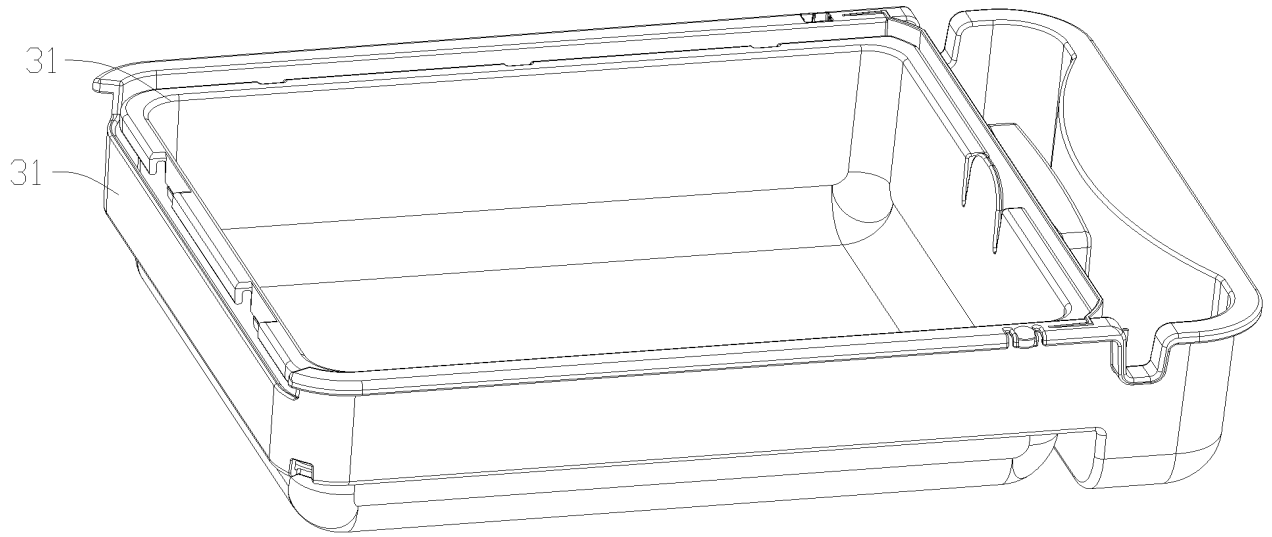


FIG. 13



ELECTRONIC PAYMENT RECEIPT

APPLICATION #
18/392,888

RECEIPT DATE / TIME
12/21/2023 04:33:22 PM Z ET

ATTORNEY DOCKET #
4202/YAYI-US-IP-0414

Title of Invention

PET TOILET

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 7728

FILED BY Chih Kuei Hu

PATENT CENTER # 63713486

AUTHORIZED BY -

CUSTOMER # 186096

FILING DATE -

CORRESPONDENCE
ADDRESS -

FIRST NAMED
INVENTOR TIEQIANG TANG

Payment Information

PAYMENT METHOD
CARD / 0537

PAYMENT TRANSACTION ID
E2023BKG33409088

PAYMENT AUTHORIZED BY
Chih Kuei Hu

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
2111	UTILITY PATENT APPL. SEARCH FEE	280.00	1	280.00
4011	BASIC FILING FEE- UTILITY	64.00	1	64.00
2311	EXAMINATION OF ORIGINAL PATENT APPLICATION	320.00	1	320.00
TOTAL AMOUNT:				\$664.00

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New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/392,888

RECEIPT DATE / TIME
12/21/2023 04:33:22 PM Z ET

ATTORNEY DOCKET #
4202/YAYI-US-IP-0414

Title of Invention

PET TOILET

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 7728

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Documents

TOTAL DOCUMENTS: 6

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
ADSYAYIUSIP0414.pdf	8	Application Data Sheet	2174 KB
drawingsYAYIUSIP0414.pdf	11	Drawings-only black and white line drawings	343 KB
specificationYAYIUSIP0414-APP.TEXT.docx	16	Application body structured text document	31 KB

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Invention**

PET TOILET

As the below named inventor, I hereby declare that:

This declaration
is directed to:☒

The attached application, or

☐

United States application or PCT international application number _____

filed on _____.

The above-identified application was made or authorized to be made by me.

I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.

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LEGAL NAME OF INVENTOR

Inventor: TIEQIANG TANG

Date (Optional) : _____

Signature: /TIEQIANG TANG/

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PETPIVOT INC

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Signature /XIANXUE ZHOU/

Date (Optional)

Name XIANXUE ZHOU

Title CEO

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PET TOILET

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The application claims priority of Chinese patent application CN2023234197826, filed on 12/14/2023, which is incorporated herein by reference in its entirety.

TECHNICAL FIELD

[0002] The present disclosure relates to the technical field of pet products, in particular to a pet toilet.

BACKGROUND ART

[0003] In order to facilitate users in cleaning feces of pet cats, an intelligent cat litter box has appeared on the current market. It includes a base and a roller rotatably arranged on the base, and the roller is provided therein with a sieve screen and a storage chamber. When the roller rotates, cat litter, and excrement formed by combination of feces and cat litter are first sieved by the sieve screen, wherein the cat litter passes through the sieve screen and falls into the storage chamber for storage, and the excrement is discharged from a first opening of the roller along surfaces of the sieve screen and the storage chamber and falls into a fecal collection chamber in the base to achieve the function of cleaning feces, without the tedious operation of manual sieving with a cat litter shovel handled by the user.

[0004] However, at present, in the existing intelligent cat litter box, the fecal collection chamber is integrated with the base and undetachable, which is inconvenient for cleaning the fecal collection chamber. Moreover, the fecal collection chamber is all-in-one shaped by injection molding and unable to change the volume thereof. During transportation, it will result in a large volume of the entire intelligent cat litter box, which is inconvenient to transport and increases transportation cost.

SUMMARY

[0005] A main purpose of the present disclosure is to provide a pet toilet configured to

solve the problem in the existing intelligent cat litter box that the fecal collection chamber is integrated with the base and causes inconvenient cleaning of the fecal collection chamber.

[0006] In order to solve the above technical problem, the present disclosure provides technical solutions as follows.

[0007] A pet toilet comprises a base and a fecal collection box detachably provided on the base, the base defines a through hole running through itself from top to bottom, and the fecal collection box defines a fecal collection chamber in communication with the through hole and configured to collect excrement.

[0008] Furthermore, a bottom of the base is provided with insertion slots at two sides of the through hole, two sides of the fecal collection box protrude outward to form insertion flanges, the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base.

[0009] Furthermore, between the insertion flange and the base there is provided with a joint structure, the joint structure comprises a first bump and a first clamping groove used in conjunction with the first bump, the first bump is placed in the first clamping groove when the fecal collection box is mounted on the base.

[0010] Furthermore, the first bump is formed by upward protrusion of a top surface of the insertion flange, the insertion flange defines strip-type holes at both front and rear sides of the first bump, and the insertion flange forms a resilient piece between the two strip-type holes, the first bump is located on the resilient piece.

[0011] Furthermore, the base protrudes downward at two sides of the through hole to form limit protrusions, a cross-section of the insertion slot is C-shaped, the limit protrusions are located at a side of the insertion slot close to the through hole and are arranged separately from the insertion slot.

[0012] Furthermore, the limit protrusion comprises a first housing provided on the base and a light guide casing connected to the first housing to form a mounting chamber, the mounting chamber is provided therein with a lamp board, the lamp board is provided thereon with a plurality of luminous bodies.

[0013] Furthermore, the insertion flange extends downwards at a side away from the

through hole to form an enhancing flange, the strip-type holes run through the enhancing flange from top to bottom.

[0014] Furthermore, the base extends downward at a bottom of the insertion slot to form a block flange.

[0015] Furthermore, a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber.

[0016] Furthermore, the fecal collection box comprises at least one extension frame and a fixing basin, the extension frame is sheathed on an outer side of the fixing basin and detachably connected with the fixing basin; the extension frame is of a hollow shape, and both a bottom and top thereof are first openings; the fixing basin is of a hollow shape, and a top thereof is a second opening; the fecal collection chamber is surrounded and formed by the extension frame and the fixing basin.

[0017] Furthermore, the pet toilet further comprises a roller rotatably provided on the base, the roller defines an entrance/exit used for pets to enter and exit, a width of the extension frame is less than a width of the entrance/exit, and a length of the roller is larger than a length of the extension frame.

[0018] Furthermore, the fecal collection box comprises a plurality of extension frames, the plurality of extension frames are sheathed sequentially from inside to outside according to sizes, and there is interference fit between every two adjacent extension frames, the insertion flange is located on the outermost extension frame.

[0019] Furthermore, an inner side wall of the extension frame is provided thereon with a first limit member, an outer side wall of the fixing basin is provided thereon with a second limit member, the first limit member abuts against the second limit member when the fixing basin is assembled with the extension frame.

[0020] Furthermore, the first limit member comprises a first limit flange extending inward from a bottom of the extension frame and a first straight wall extending upward from a distal end of the first limit flange, an inner side wall of the extension frame, the first limit flange, and the first straight wall surround to form a first limit groove; the second limit member comprises a second limit flange formed by outward extension from a top of the fixing basin and a second straight wall extending downward from a

distal end of the second limit flange, an outer sidewall of the fixing basin, the second limit flange, and the second straight wall surround to form a second limit groove; the first straight wall is positioned in the second limit groove, and the second straight wall is positioned in the first limit groove.

[0021] Furthermore, the first limit flange defines a plurality of drain holes.

[0022] Furthermore, the second limit flange and/or the second straight wall defines a second gap.

[0023] Furthermore, the inner side wall of the extension frame is provided thereon with a fixture block configured to stop relative movement of the fixing basin and the extension frame, the fixture block is located above the first limit member.

[0024] Furthermore, side walls of the first limit groove and/or the second limit groove are provided thereon with a plurality of pressing protrusions, and the first limit groove and/or the second limit groove defines second clamping grooves at positions corresponding to the pressing protrusions.

[0025] Furthermore, a distance between two opposite side walls of the extension frame gradually reduces from top to bottom, and a distance between two opposite side walls of the fixing basin gradually reduces from top to bottom; the second limit member is in interference fit with the extension frame.

[0026] Furthermore, the fecal collection box is provided thereon with a handle groove, and the base is provided with at least three support legs around the fecal collection box.

[0027] The present disclosure has the following advantageous effect: in comparison with the prior art, the fecal collection box of the present disclosure is detachably provided on the base; in this way, when cleaning, the fecal collection box can be independently detached and thus processed, it is convenient for users to clean.

BRIEF DESCRIPTION OF THE DRAWINGS

[0028] In order to explain technical solutions in embodiments of the present disclosure or in the prior art more clearly, drawings required to be used in description of the embodiments or of the prior art will be briefly introduced below. Obviously, the drawings in the following description are only some embodiments of the present

disclosure. For those skilled in the art, other drawings can be further obtained according to structures shown in these drawings on the premise of paying no creative work.

[0029] FIG. 1 is a stereoscopic view of the present disclosure.

[0030] FIG. 2 is a partially disassembled view of the present disclosure.

[0031] FIG. 3 is a disassembled view of a base and a fecal collection box of the present disclosure.

[0032] FIG. 4 is an enlarged view of the area a in FIG. 3.

[0033] FIG. 5 is a partially disassembled view of the base of the present disclosure.

[0034] FIG. 6 is a structural view of the fecal collection box of the present disclosure.

[0035] FIG. 7 is an enlarged view of the area b in FIG. 6.

[0036] FIG. 8 is a cut-away view of the fecal collection box in the present disclosure along the direction A-A in FIG. 6.

[0037] FIG. 9 is an enlarged view of the area c in FIG. 8.

[0038] FIG. 10 is an enlarged view of the area d in FIG. 8.

[0039] FIG. 11 is a disassembled view of the fecal collection box in the present disclosure.

[0040] FIG. 12 is an enlarged view of the area e in FIG. 11.

[0041] FIG. 13 is a schematic view of the fecal collection box of the present disclosure in a folded state.

DETAILED DESCRIPTION OF THE EMBODIMENTS

[0042] The technical solutions in the embodiments of the present disclosure will be described clearly and completely below in combination with the drawings in the embodiments of the present disclosure. Obviously, the described embodiments are merely some embodiments of the present disclosure, rather than all embodiments. Based on the embodiments of the present disclosure, any other embodiment obtained by one of ordinary skill in the art on the premise of paying no creative work should belong to the protection scope of the present disclosure.

[0043] Referring to FIGS. 1-13, a pet toilet is provided in embodiments of the present

disclosure.

[0044] Referring to FIGS. 1-3, the pet toilet includes a base 2 and a fecal collection box 3 detachably provided on the base 2, the base 2 defines a through hole 24 running through itself from top to bottom, and the fecal collection box 3 defines a fecal collection chamber 33 in communication with the through hole 24 and configured to collect excrement.

[0045] In this embodiment, the fecal collection box 3 is detachably provided on the base 2. In this way, when cleaning, the fecal collection box 3 can be independently detached and thus processed, it is convenient for users to clean, thereby solving the problem in the existing intelligent cat litter box that the fecal collection chamber is integrated with the base and causes inconvenient cleaning of the fecal collection chamber.

[0046] In this embodiment, the fecal collection box 3 achieves detachable assembly with the base 2 in the form of a drawer. Specifically, a bottom of the base 2 is provided with insertion slots 21 at two sides of the through hole 24, two sides of the fecal collection box 3 protrude outward to form insertion flanges 311, the insertion flanges 311 are inserted in the insertion slots 21 when the fecal collection box 3 is mounted on the base 2. In order to facilitate pulling the fecal collection box 3 out, the fecal collection box 3 is provided thereon with a handle groove 34.

[0047] In order to implement that the fecal collection box 3 is suspended to facilitate pulling and using when the pet toilet is placed, the base 2 is provided with at least three support legs 4 around the fecal collection box 3.

[0048] Furthermore, in order to facilitate transportation of the pet toilet, the support legs 4 are detachably provided on the base 2. Specifically, the support legs 4 are fixed on the base 2 in the form of buckles, screw bolts, etc.

[0049] In one embodiment, referring to FIG. 3 and FIGS. 6-7, between the insertion flange 311 and the base 2 there is provided with a joint structure, the joint structure includes a first bump 3111 and a first clamping groove 23 used in conjunction with the first bump 3111, the first bump 3111 is placed in the first clamping groove 23 when the fecal collection box 3 is mounted on the base 2, thereby playing a role of limiting the

fecal collection box 3. Moreover, the first bump 3111 is used to add a pulling friction force between the fecal collection box 3 and the base 2 and provide insertion and pulling feeling when the fecal collection box 3 is mounted on the base 2. Additionally, by placing the first bump 3111 in the first clamping groove 23, there will be a “click” feeling, which can provide a function of reminding users that fecal collection box 3 is mounted properly.

[0050] Specifically, the first bump 3111 is of a spherical protrusion structure, the shape of the first clamping groove 23 matches with the shape of the first bump 3111, and an opening of the first clamping groove 23 is a round chamfer, thereby facilitating placing the first bump 3111 in the first clamping groove 23 for convenient use.

[0051] In a preferred embodiment, in order to prevent squeezing between the first bump 3111 and the base 2 from affecting smoothness of pulling the fecal collection box 3, the first bump 3111 is formed by upward protrusion of a top surface of the insertion flange 311, the insertion flange 311 defines strip-type holes 3112 at both front and rear sides of the first bump 3111, and the insertion flange 311 forms a resilient piece 3113 between the two strip-type holes 3112, the first bump 3111 is located on the resilient piece 3113. By resilience of the resilient piece 3113, a friction between the first bump 3111 and the base 2 is reduced, it is realized that the smoothness of pulling is not affected when a user is provided with pulling feeling.

[0052] In one embodiment, the base 2 protrudes downward at two sides of the through hole 24 to form limit protrusions 22, a cross-section of the insertion slot 21 is C-shaped, the limit protrusions 22 are located at a side of the insertion slot 21 close to the through hole 24 and are arranged separately from the insertion slot 24. The limit protrusions 22 are used to cooperate with the insertion slot 21 to limit the fecal collection box 3, the stability of mounting the fecal collection box 3 can be improved.

[0053] In one embodiment, referring to FIG. 5, the limit protrusion 22 includes a first housing 221 provided on the base 2 and a light guide casing 225 connected to the first housing 221 to form a mounting chamber 222, the mounting chamber 222 is provided therein with a lamp board 223, the lamp board 223 is provided thereon with a plurality of luminous bodies 224. Specifically, the luminous bodies 224 can be lamp beads,

LED lamps, etc. By light emitted by the luminous bodies 224, users can easily check the amount of excrement at night, making it convenient for them to use.

[0054] In one embodiment, referring to FIG. 4, the insertion flange 311 extends downwards at a side away from the through hole 24 to form an enhancing flange 312, the strip-type holes 3112 run through the enhancing flange 312 from top to bottom. In this way, the strength of the insertion flange 311 can be improved, and the texture of the insertion flange 311 can be improved, thereby making the pulling structure be thicker.

[0055] In one embodiment, referring to FIG. 3, the base 2 extends downward at a bottom of the insertion slot 21 to form a block flange 25. By the block flange 25, it is possible to limit the stroke of pulling the fecal collection box 3 and improve the strength of connection between the fecal collection box 3 and the base 2, and a gap between the fecal collection box 3 and the base 2 can be blocked, thereby improving product aesthetics.

[0056] In one embodiment, referring to FIG. 11, a rear side wall of the fecal collection box 3 defines a first gap 319 in communication with the fecal collection chamber 33. By the first gap 319, it is convenient to pour excrement in the fecal collection box 3 out, and the first gap 319 and the block flange 25 are provided oppositely, a bottom surface of the first gap 319 does not exceed a bottom of the block flange 25, such that the first gap 319 is blocked when the fecal collection box 3 is mounted on the base 2, thereby preventing the first gap 319 from affecting a roller 1 of the pet toilet discharges excrement to outside of the fecal collection box 3.

[0057] In one embodiment, referring to FIG. 6, the fecal collection box 3 includes at least one extension frames 31 and a fixing basin 32, the extension frame 31 is sheathed on an outer side of the fixing basin 32 and detachably connected with the fixing basin 32. The extension frame 31 is of a hollow shape, and both a bottom and top thereof are first openings 330; the fixing basin 32 is of a hollow shape, and a top thereof is a second opening 331; the fecal collection chamber 33 is surrounded and formed by the extension frame 31 and the fixing basin 32. In this way, when the pet toilet in this embodiment is packaged or transported, the fixing basin 32 and the extension frames 31 can be located at the same horizontal plane, that is, the fixing basin 32 and the extension

frames 31 are placed in coincidence, as shown in FIG. 13, such that the entire height of the whole fecal collection box 3 can be reduced, and thus the volume of the pet toilet after being packaged can be reduced to facilitate transportation.

[0058] In one embodiment, the pet toilet in this embodiment further includes a roller 1 rotatably provided on the base 2, the roller 1 defines an entrance/exit 11 used for pets to enter and exit, a width of the extension frame 31 is less than a width of the entrance/exit 11, and a length of the roller 1 is larger than a length of the extension frame 31. In this way, when the fixing basin 32 and the extension frames 31 are detached and placed in coincide, the whole fecal collection box 3 can pass through the entrance/exit 11 and placed in the roller 1, it is possible to effectively reduce the whole volume of the pet toilet, reduce the transported volume, and further facilitate produce transportation and reduce transportation cost.

[0059] In one embodiment, an inner side wall of the extension frame 31 is provided thereon with a first limit member 316, an outer side wall of the fixing basin 32 is provided thereon with a second limit member 320, the first limit member 316 abuts against the second limit member 320 when the fixing basin 31 is assembled with the extension frame 320. The first limit member 316 is used to limit the stroke of movement of the second limit member 320, in use, the fixing basin 32 can be mounted on the extension frame 31.

[0060] In one embodiment, the fecal collection box 3 includes a plurality of extension frames 31, the plurality of extension frames 31 are sheathed sequentially from inside to outside according to sizes, and there is interference fit between every two adjacent extension frames 31, the insertion flange 311 is located on the outermost extension frame 31. Users can configure the extension frames 31 with an appropriate quantity according to amount of pet excrement, thereby configuring a proper volume of the fecal collection chamber 33 for use.

[0061] Specifically, referring to FIG. 8, the first limit member 316 includes a first limit flange 315 extending inward from a bottom of the extension frame 31 and a first straight wall 314 extending upward from a distal end of the first limit flange 315, an inner side wall of the extension frame 31, the first limit flange 315, and the first straight wall 314

surround to form a first limit groove 317, so as to form a hook shape.

[0062] The second limit member 320 includes a second limit flange 321 formed by outward extension from a top of the fixing basin 32 and a second straight wall 322 extending downward from a distal end of the second limit flange 321, an outer sidewall of the fixing basin 32, the second limit flange 321, and the second straight wall 322 surround to form a second limit groove 323, so as to form a reversed hook shape. When the fixing basin 32 is assembled with the extension frame 31, the fixing basin 32 can be placed into the extension frame 31 from the top of the extension frame 31 and pressed downward, such that the first straight wall 321 is placed in the second limit groove 323 and the second straight wall 322 is placed in the first limit groove 317, the second straight wall 322 is used to abut against the first limit flange 315 to realize the function of supporting the fixing basin 32.

[0063] Among them, the second straight wall 322 can be in interference fit with the inner side wall of the extension frame 31. Alternatively, the inner side wall of the extension frame 31 is provided thereon with a fixture block 332, the fixture block 332 is located above the first limit member 316, as shown in FIG. 11. The protruding fixture block 332 is utilized to limit the second limit flange 321 and provide a function of limit the fixing basin 32, which is used to prevent the fixing basin 32 from moving upward, such that the extension frame 31 will not fall down when the fecal collection box 3 is placed on the ground. In other embodiments, referring to FIG. 10, side walls of the first limit groove 317 and/or the second limit groove 323 are provided thereon with a plurality of pressing protrusions 3201; by the protruding pressing protrusions 3201, the fixing basin 32 can be stably and fixedly connected with the extension frame 31, thereby preventing the fixing basin 32 from moving relative to the extension frame 31.

[0064] Referring to FIG. 10, in the embodiment with the pressing protrusions 3201, the first limit groove 317 and/or the second limit groove 323 defines second clamping grooves 3161 at positions corresponding to the pressing protrusions 3201. When the fixing basin 32 is assembled with the extension frame 31, the pressing protrusions 3201 is utilized to be placed in the second clamping grooves 3161 to provide a function of buckle, thereby fixedly connecting the fixing basin 31 with the extension frame 32.

[0065] In one embodiment, a distance between two opposite side walls of the extension frame 31 gradually reduces from top to bottom, and a distance between two opposite side walls of the fixing basin 32 gradually reduces from top to bottom, thereby facilitating assembly between the fixing basin 32 and the extension frame 31.

[0066] In one embodiment, referring to FIG. 4 and FIG. 12, the first limit flange 315 defines a plurality of drain holes 313, which facilitates drainage of water during cleaning the fecal collection box 3 to prevent water accumulation; furthermore, by the drain holes 313, it is also possible to provide flowing air when assembling the fixing basin 32 and the extension frame 31, thereby facilitating assembly.

[0067] In one embodiment, referring to FIG. 11, the second limit flange 321 and/or the second straight wall 322 defines a second gap 324, the second gap 324 can be used for drainage, and can also further improve air circulation when assembling the fixing basin 32 and the extension frame 31, thereby facilitating assembly.

[0068] In other embodiments, folded manners can be adopted between the fixing basin 32 and the extension frame 31 to achieve storage or increase the volume of the fecal collection chamber 33. Among them, a soft rubber plate is provided between the fixing basin 32 and the extension frame 31, and the soft rubber plate is provided with creases at joints with the fixing basin 32 and the extension frame 31, thereby achieving storage of the fixing basin 32 in the extension frame 31.

[0069] It should be noted that all directional indications (such as up, down, left, right, front, back...) in embodiments of the present disclosure are only used to explain relative position relationships, motion situations, and so on among components in a specific posture (as shown in the drawings). If the specific posture changes, the directional indications also change accordingly.

[0070] In addition, the description related to “first”, “second”, and the like in the present disclosure is only for the purpose of description and cannot be understood as indicating or implying their relative importance or implying the number of indicated technical features. Therefore, features limited as “first” and “second” can explicitly or implicitly include at least one of these features. In addition, “and/or” in the entire text includes three solutions, taking A and/or B as examples, including the A technical

solution, the B technical solution, and the technical solution that meets both A and B. In addition, technical solutions of various embodiments can be combined with each other, but must be based on what ordinary technicians in the art can achieve. When the combination of technical solutions is contradictory or impossible to achieve, it should be considered that the combination of such technical solutions does not exist and is not within the protection scope required by the present disclosure.

[0071] The above described are only preferred embodiments of the present disclosure and not intended to limit the patent scope of the present disclosure. Under the inventive concept of the present disclosure, any equivalent structural change made using content of the description and drawings of the present disclosure, or directly/indirectly application in other related technical fields, are included in the patent protection scope of the present disclosure.

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UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>		Attorney Docket No. YAYI-US-IP-0414	
		First Named Inventor TIEQIANG TANG	
		Title PET TOILET	
		Priority Mail Express® Label No.	

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>	ADDRESS TO: Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450
--	--

1. ☐ Fee Transmittal Form (PTO/SB/17 or equivalent) 2. ☒ Applicant asserts small entity status. See 37 CFR 1.27 3. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent. 4. ☒ Specification [Total Pages <u>16</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement) 5. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>11</u>] 6. Inventor's Oath or Declaration [Total Pages <u>1</u>] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☒ Newly executed (original or copy) b. ☐ A copy from a prior application (37 CFR 1.63(d)) 7. ☒ Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent). 8. CD-ROM or CD-R in duplicate, large table, or Computer Program (Appendix) ☐ Landscape Table on CD 9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. – c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies	ACCOMPANYING APPLICATION PAPERS 10. ☒ Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 11. ☐ 37 CFR 3.73(c) Statement ☒ Power of Attorney (when there is an assignee) 12. ☐ English Translation Document (if applicable) 13. ☐ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 14. ☐ Preliminary Amendment 15. ☐ Return Receipt Postcard (MPEP § 503) (Should be specifically itemized). 16. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. ☐ Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. ☐ Other: _____ _____ _____ _____
---	---

*Note: (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 must be included in an Application Data Sheet (ADS).
 (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS				
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City		State		Zip Code
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				2023-12-21
Name (Print/Type)		Chih Kuei Hu		Registration No. (Attorney/Agent)
				77909

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
18/392,888	12/21/2023		664	4202/YAYI-US-IP-0414	20	1

CONFIRMATION NO. 7728

FILING RECEIPT



0000000066640099

186096
ipPivot Patent Agency
4000 Legato Road
Suite 1100
Fairfax, VA 22033

Date Mailed: 01/09/2024

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Inventor(s)

TIEQIANG TANG, Shaoyang City, CHINA;

Applicant(s)

PETPIVOT INC, PORTLAND, OR;

Power of Attorney: The patent practitioners associated with Customer Number 186096

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications (You may be eligible to benefit from the Patent Prosecution Highway program at the USPTO. Please see <http://www.uspto.gov> for more information.)

CHINA 202323419782.6 12/14/2023 Access Code Provided

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

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If Required, Foreign Filing License Granted: 01/05/2024

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/392,888**

Projected Publication Date: 06/19/2025

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

PET TOILET

Preliminary Class

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

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page 2 of 4

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Kathi Vidal

Under Secretary of Commerce for Intellectual Property and
Director of the United States Patent and Trademark Office

Derrick Brent

Deputy Under Secretary of Commerce for Intellectual Property and
Deputy Director of the United States Patent and Trademark Office

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number
18/392,888

APPLICATION AS FILED - PART I

(Column 1)		(Column 2)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)			RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	64			N/A	
SEARCH FEE (37 CFR 1.16(k), (l), or (m))	N/A	N/A	N/A	280			N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	320			N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	20	minus 20 =	*	0	x	=	0	OR
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 =	*	0	x	=	0	
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0				
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0				
				TOTAL			TOTAL	
				664				

* If the difference in column 1 is less than zero, enter "0" in column 2.

APPLICATION AS AMENDED - PART II

		(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)				RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		OR	x	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		OR	x	=	
	Application Size Fee (37 CFR 1.16(s))											
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			

		(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR	OTHER THAN SMALL ENTITY	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)				RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=		OR	x	=	
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=		OR	x	=	
	Application Size Fee (37 CFR 1.16(s))											
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))												
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE			

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

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申 请 号： 202323419782.6

申 请 类 型： 实用新型专利

发 明 创 造 名 称： 一种宠物厕所

申 请 日： 2023年12月14日

申 请 人： 宠派优选公司

发明人或设计人： 唐铁强

局长

申长雨

2023 年 12 月 19 日

说明书附图

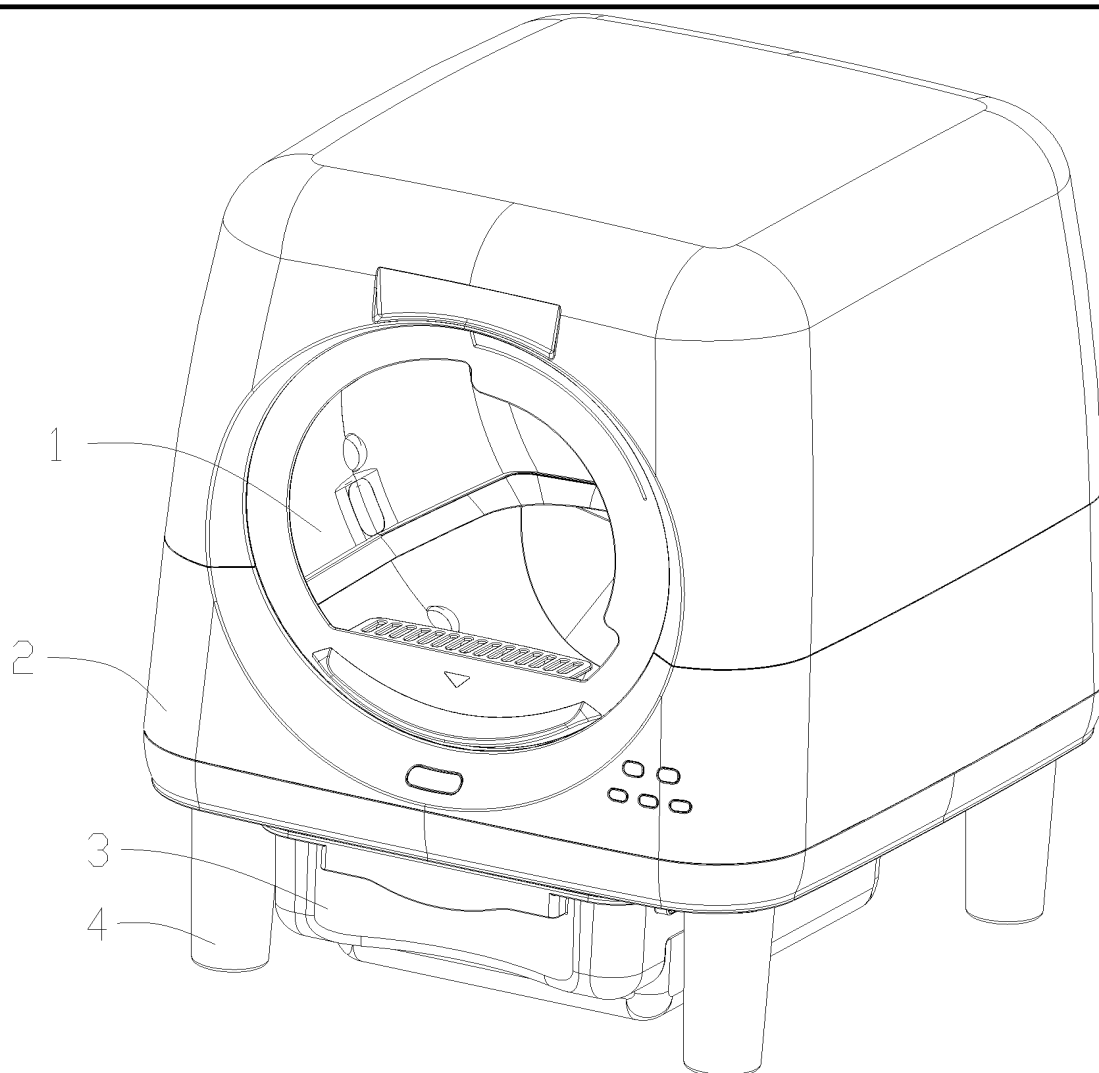


图 1

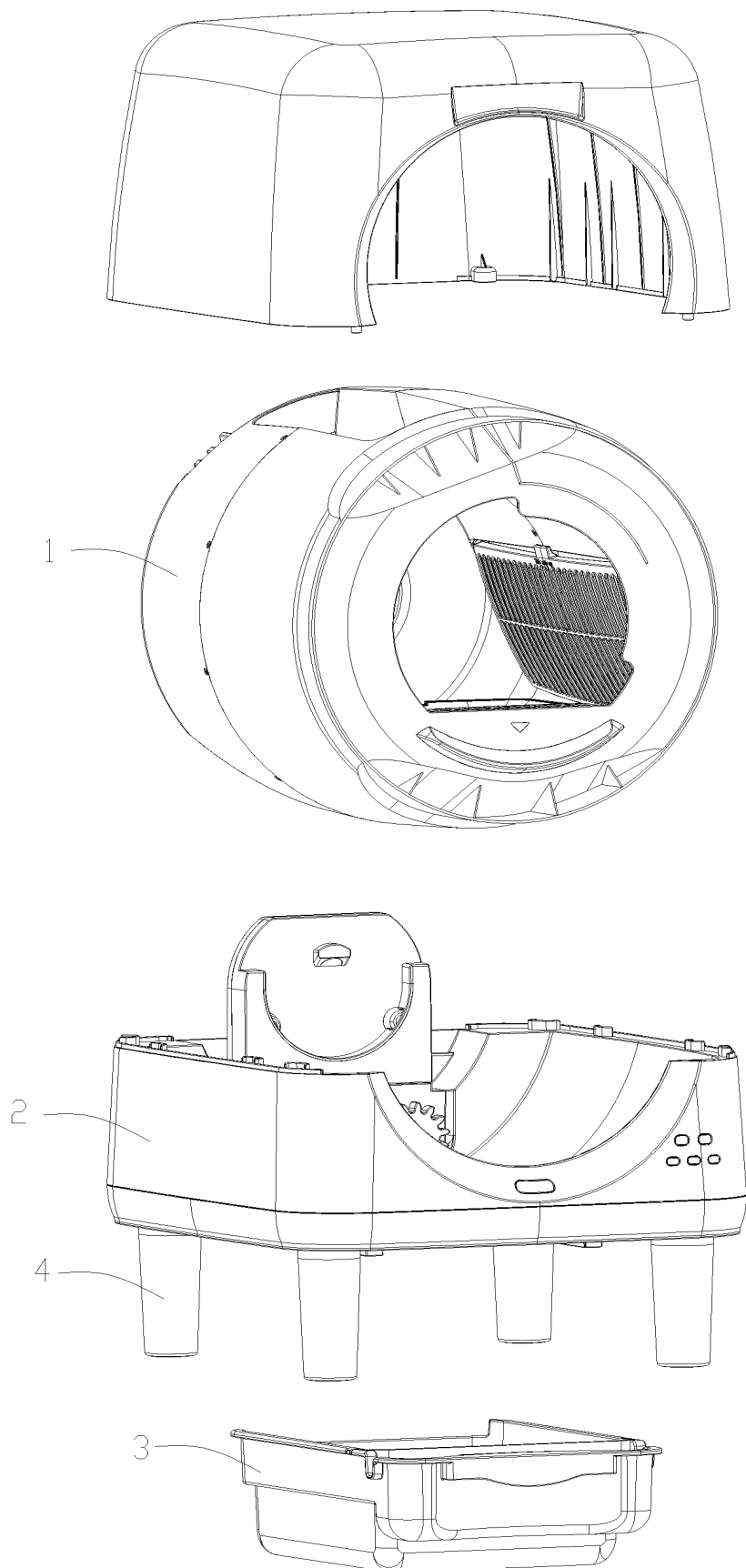


图 2
2

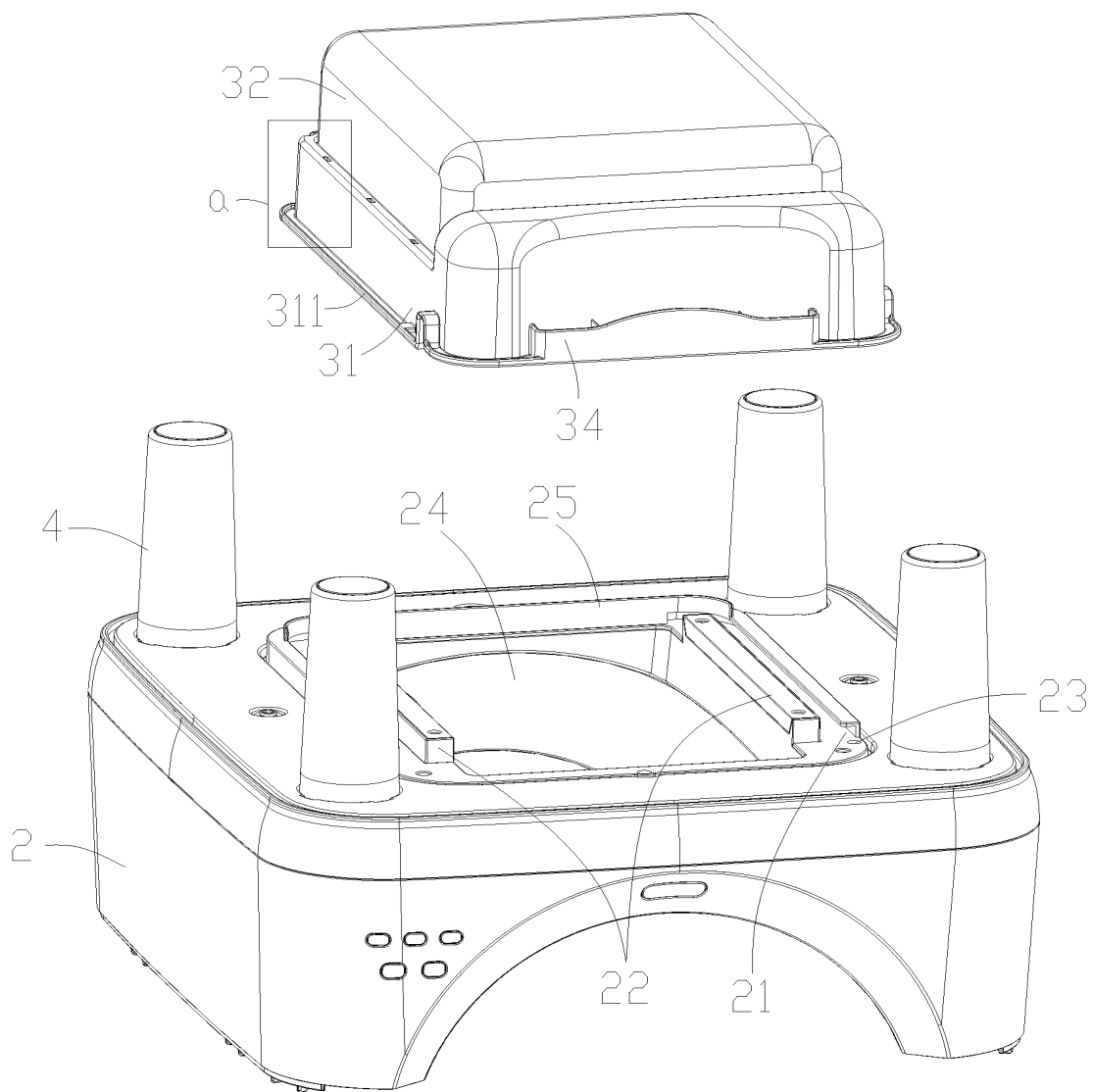


图 3

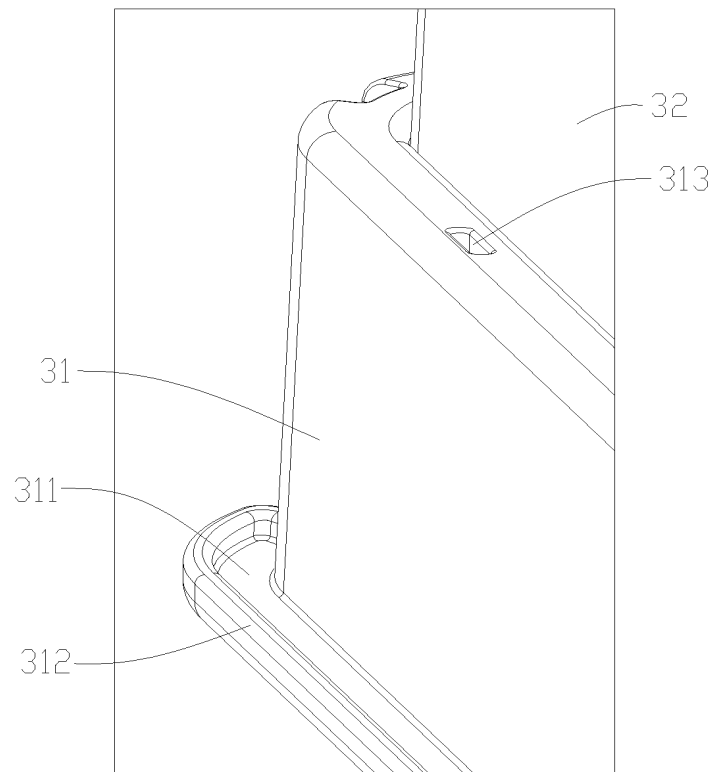


图 4

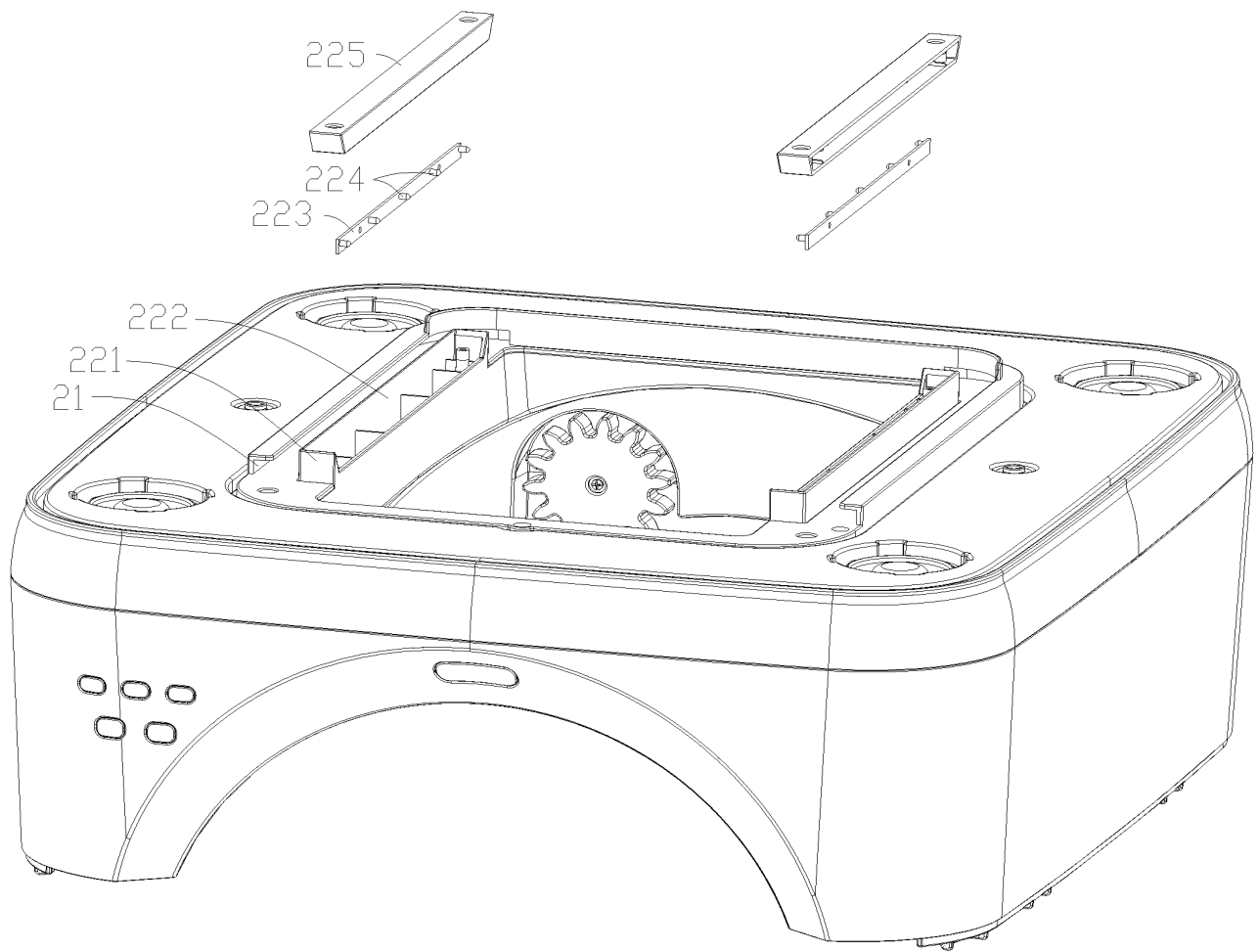


图 5

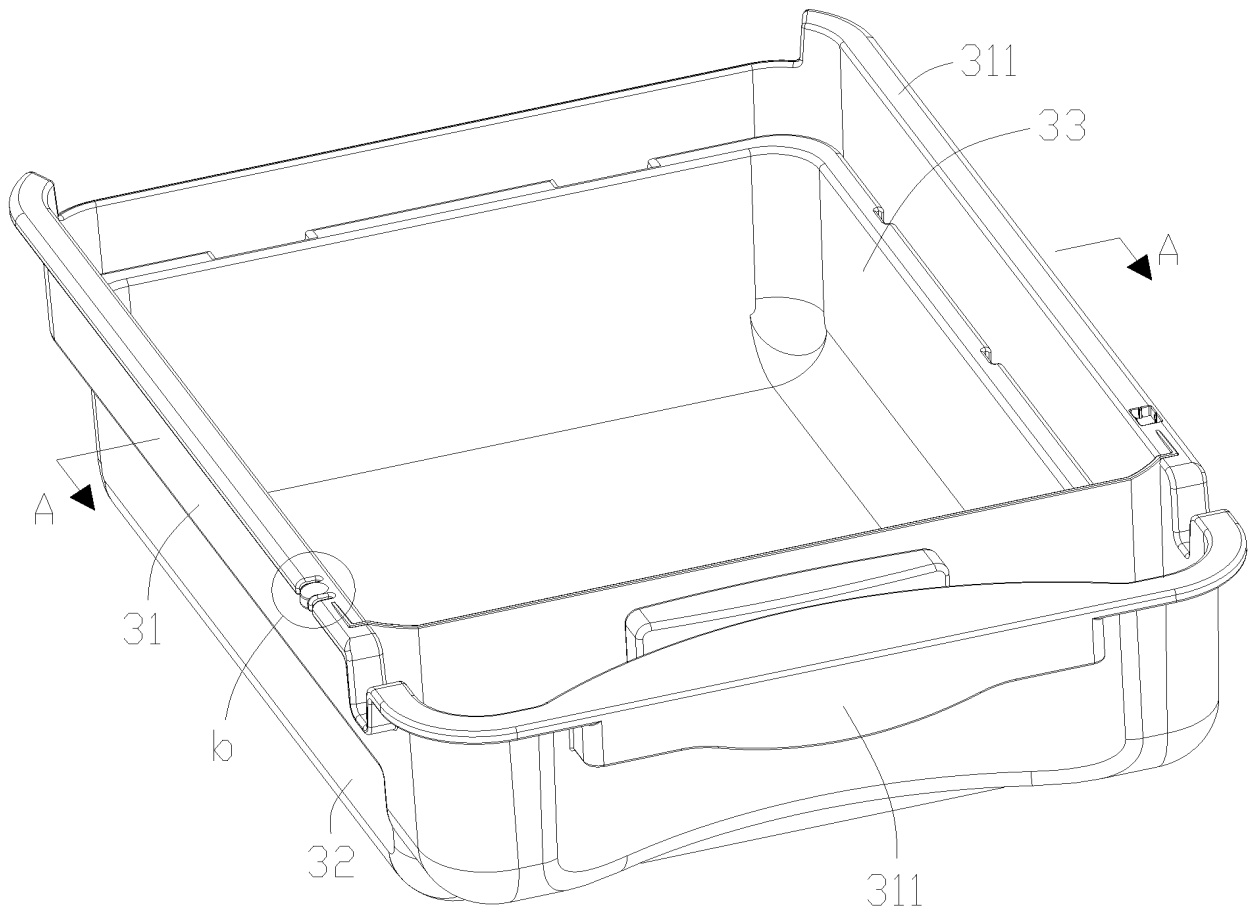


图 6

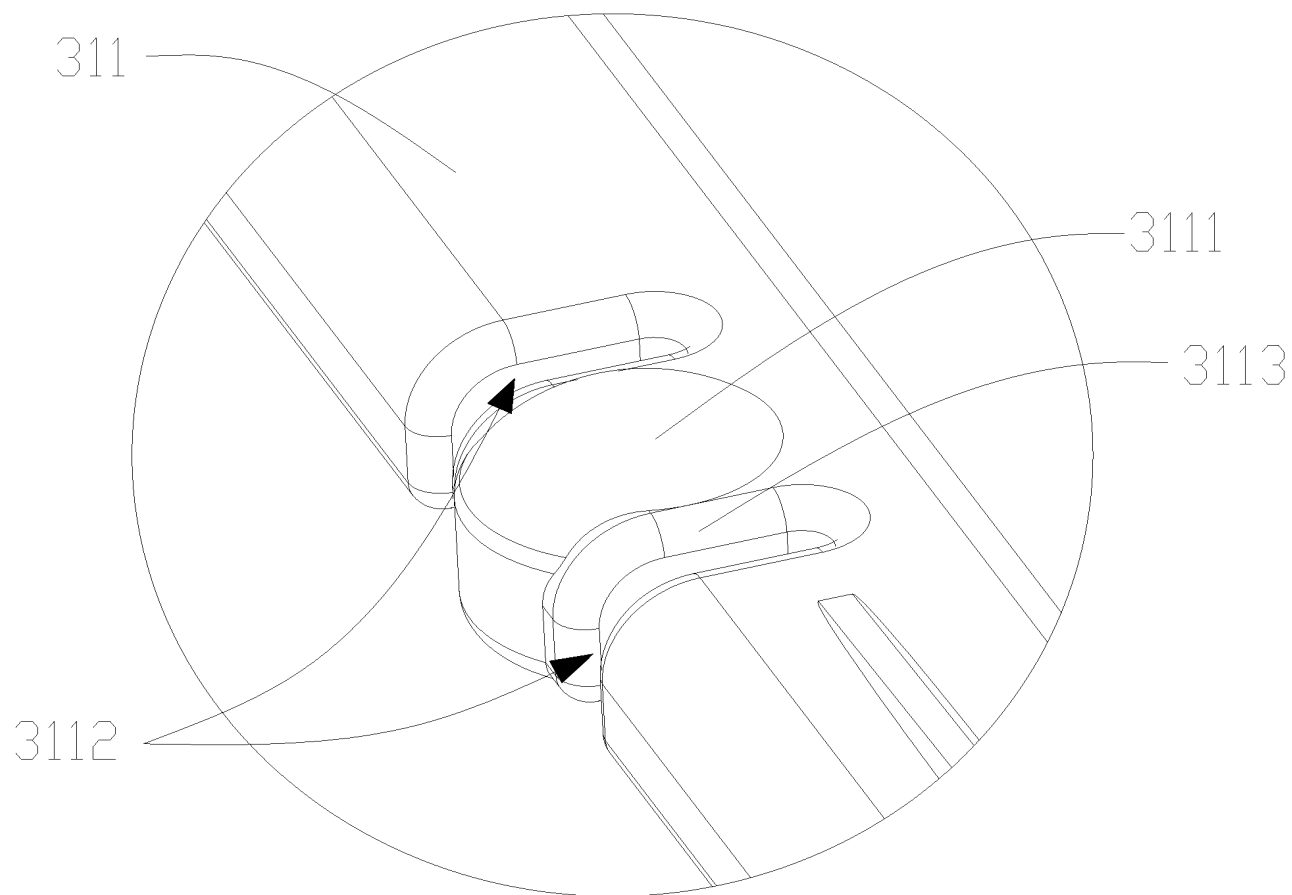
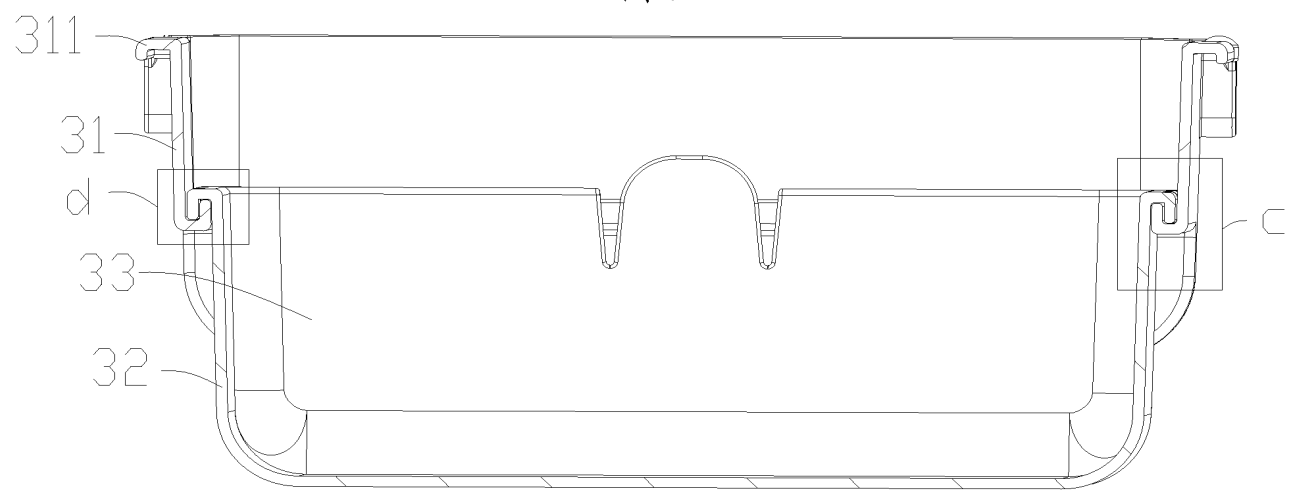


图 7



A-A

图 8

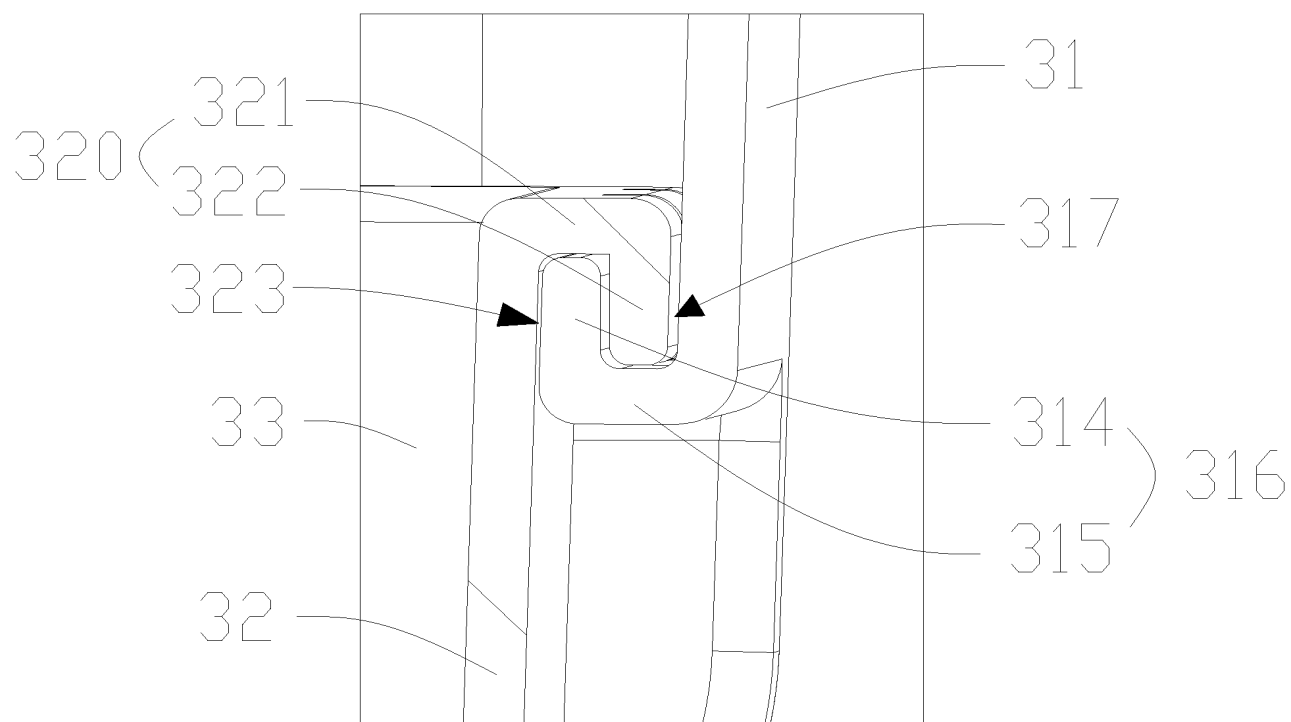


图 9

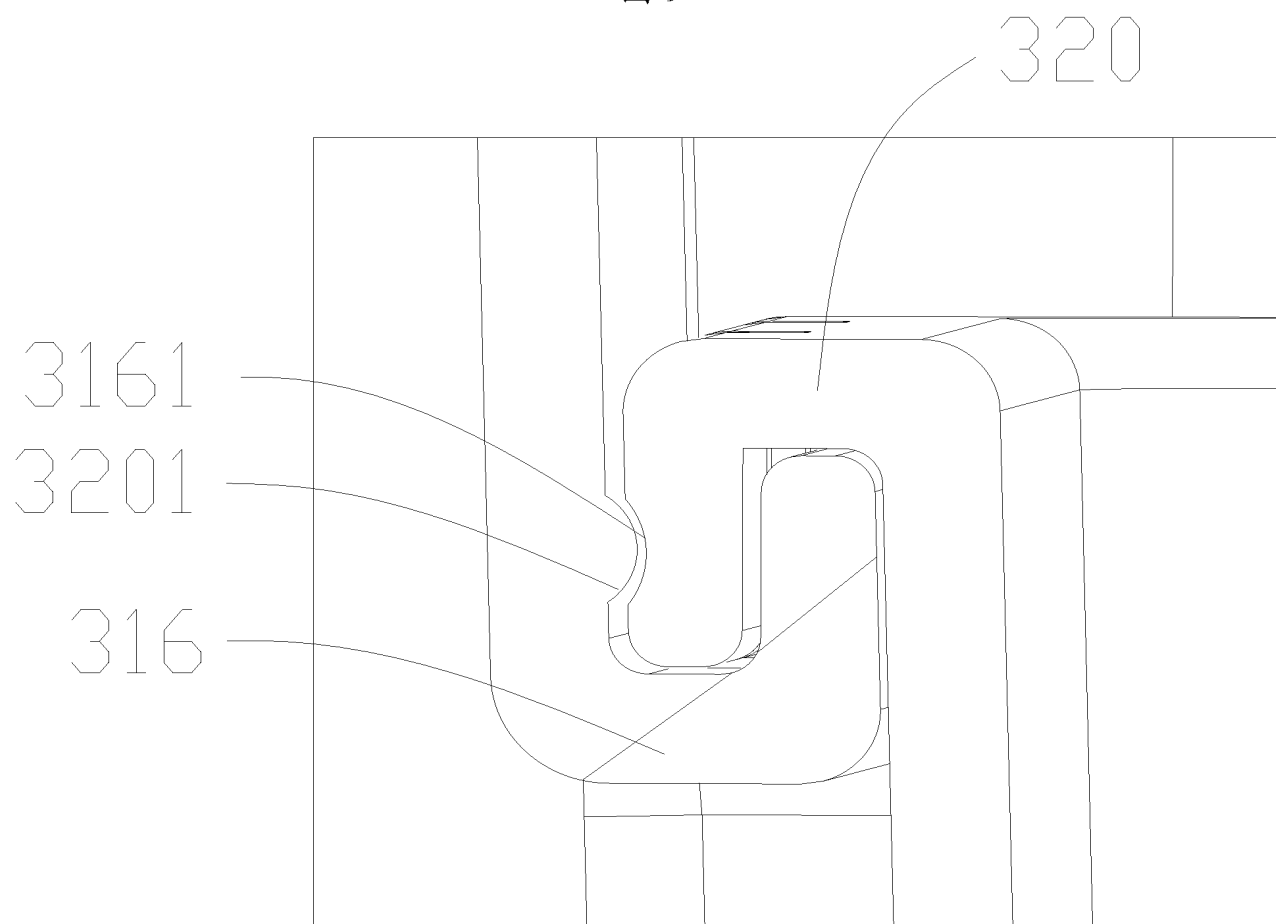


图 10

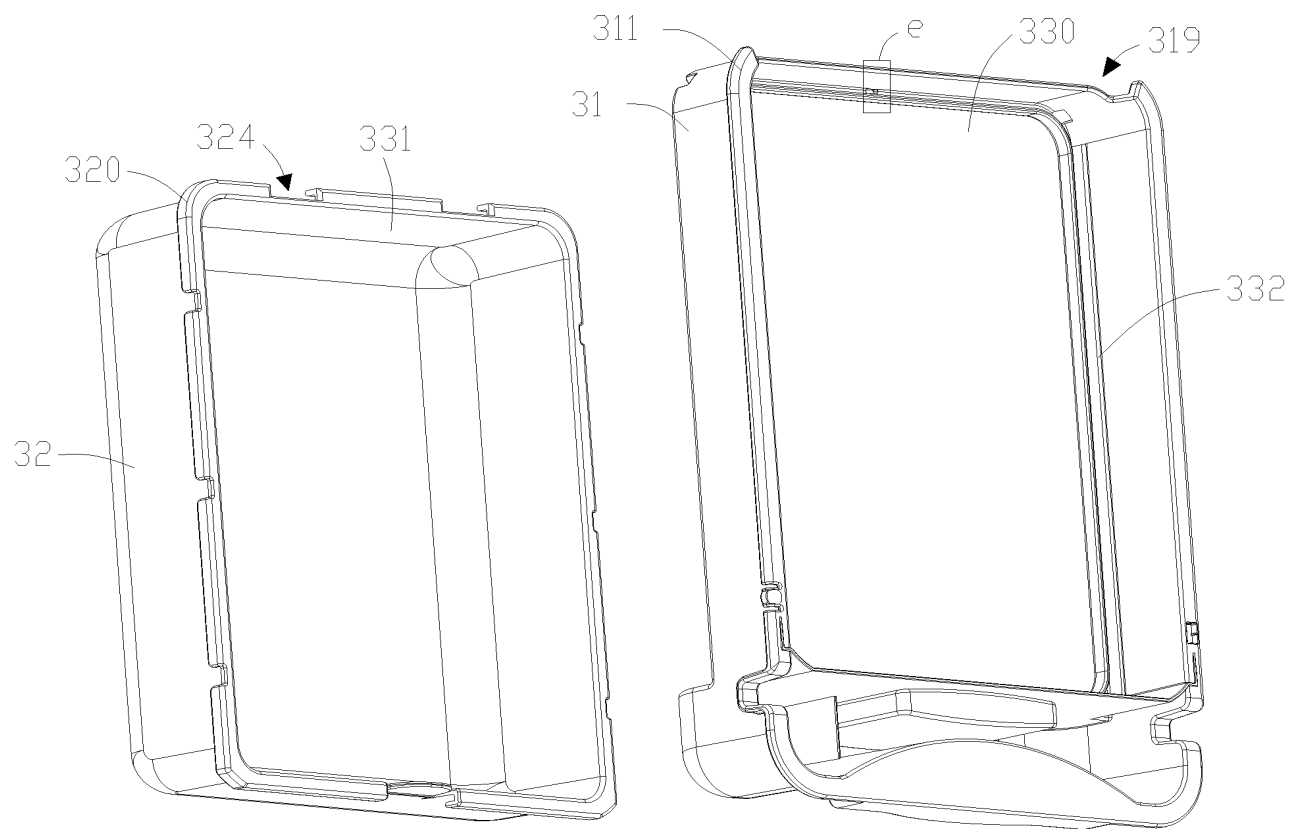


图 11

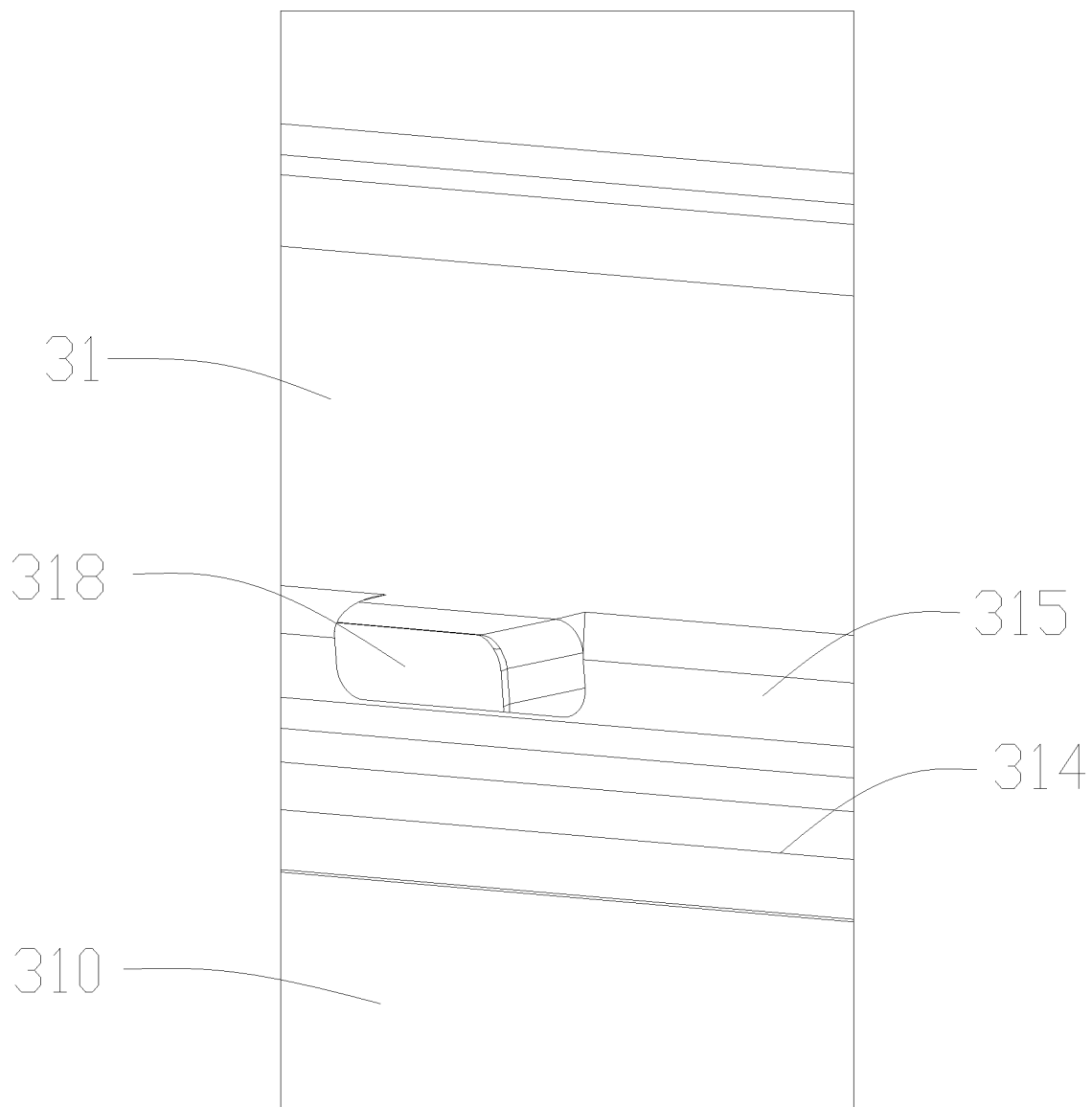


图 12

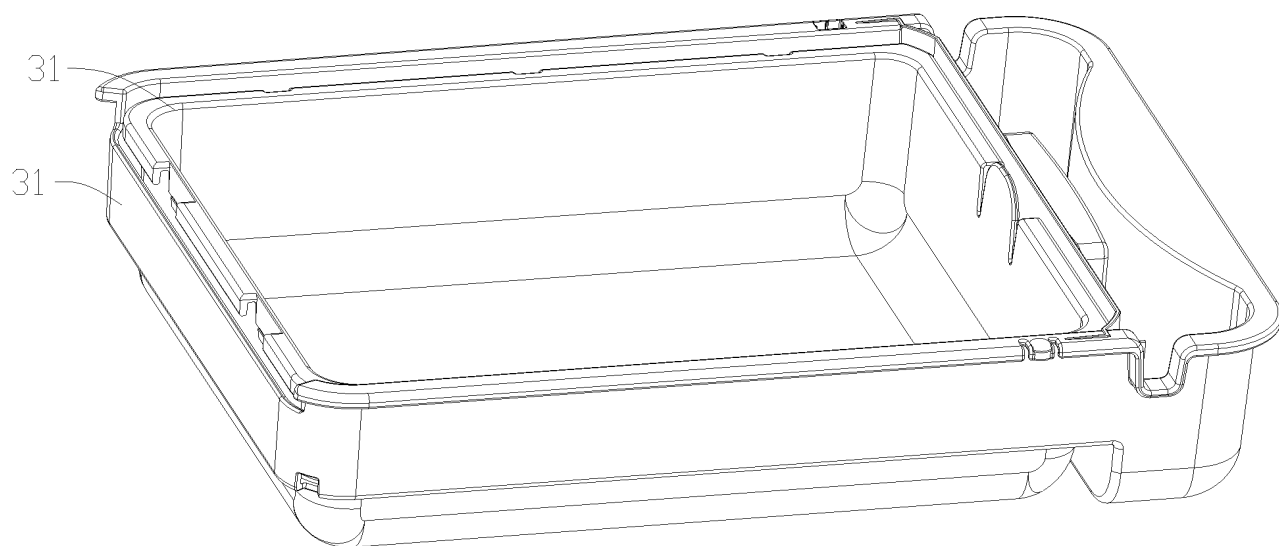


图 13

权 利 要 求 书

1、一种宠物厕所，其特征在于，包括底座以及可拆卸设置于底座上的集便箱，所述底座上开设有由上至下贯穿其自身的通孔，所述集便箱上开设有与通孔导通且用于收集排泄物的集便腔。

5 2、根据权利要求1所述的宠物厕所，其特征在于，所述底座的底部在通孔的两侧设置有插接槽，所述集便箱的两侧向外凸出形成有插接围边，所述插接围边在集便箱安装于底座上时插接于插接槽内。

3、根据权利要求2所述的宠物厕所，其特征在于，所述插接围边与底座之间设置有接合结构，所述接合结构包括第一凸点以及配合第一凸点使用的
10 第一卡槽，所述第一凸点在集便箱安装于底座上时置于第一卡槽内；

所述第一凸点由插接围边的顶面向上凸起形成，所述插接围边在第一凸点的前、后两侧均开设有条形孔，所述插接围边在两个条形孔之间形成有弹片，所述第一凸点位于弹片上。

4、根据权利要求2所述的宠物厕所，其特征在于，所述插接围边在远离
15 通孔的一侧向下延伸形成加强围边，所述条形孔由上至下贯穿加强围边。

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所述延长框架均呈中空状，且底部和顶部均为第一开口；所述固定盆呈
20 中空状，且顶部为第二开口，所述集便腔由延长框架和固定盆围绕形成。

6、根据权利要求5所述的宠物厕所，其特征在于，还包括转动设置在底座上的滚筒，所述滚筒上开设有助于进出宠物的出入口，所述延长框架的宽度小于出入口的宽度，所述滚筒的长度大于延长框架的长度。

7、根据权利要求5所述的宠物厕所，其特征在于，所述延长框架的数量
25 为多个，多个所述延长框架根据尺寸的大小由内向外依次套设，且两相邻所述延长框架之间过盈配合，所述插接围边位于最外侧的延长框架上。

8、根据权利要求5所述的宠物厕所，其特征在于，所述延长框架的内侧壁上设置有第一限位件，所述固定盆的外侧壁上设置有第二限位件，所述第一限位件在固定盆与延长框架装配时与第二限位件抵接；

30 所述第一限位件包括由延长框架的底部向内侧延伸的第一围边以及由第

一围边的末端向上延伸的第一直壁，所述延长框架的内侧壁与第一围边、第一直壁围绕形成第一限位槽；

5 所述第二限位件包括由固定盆的顶部向外延伸形成的第二围边以及由第二围边的末端向下延伸的第二直壁，所述固定盆的外侧壁与第二围边、第二直壁围绕形成第二限位槽，所述第一直壁置于第二限位槽内，所述第二直壁置于第一限位槽内。

9、根据权利要求8所述的宠物厕所，其特征在于，所述第一围边上开设有若干排水孔；和/或，所述第二围边和/或第二直壁上开设有第二缺口。

10 10、根据权利要求8所述的宠物厕所，其特征在于，所述延长框架的内侧壁上设置有用以阻挡固定盆与延长框架相对运动的卡块，所述卡块位于第一限位件的上方；或者，所述第一限位槽和/或第二限位槽的侧壁上设置有若干压紧凸块；

15 所述延长框架的两相对侧壁之间的距离由上至下逐渐减小，所述固定盆上的两相对侧壁之间的距离由上至下逐渐减小，所述第二限位件与延长框架过盈配置。

说明书

一种宠物厕所

5 技术领域

本发明涉及宠物用品的技术领域，特别涉及一种宠物厕所。

背景技术

为了方便用户清理宠物猫的粪便，现有市面上出现了一种智能猫砂盆，其包括底座和转动设置在底座上的滚筒，滚筒内设置有筛网和存储腔，滚筒在转动时，猫砂以及由粪便物与猫砂结合形成的排泄物先经筛网筛分，其中，猫砂穿过筛网落入存储腔存储，排泄物沿着筛网和存储腔的表面从滚筒的第一开口处排出并落入底座上的集便腔内，以实现清理粪便的作用，不用用户拿着猫砂铲手动筛分的繁琐操作。

但目前，现有智能猫砂盆，集便腔与底座为一体，不可拆卸，不便集便腔的清洗。

发明内容

本发明的主要目的在于提供一种宠物厕所，用于解决现有智能猫砂盆上的集便腔与底座为一体导致集便腔不便清洗的问题。

为了解决上述技术问题，本发明提供的技术方案为：

一种宠物厕所，包括底座以及可拆卸设置于底座上的集便箱，所述底座上开设有由上至下贯穿其自身的通孔，所述集便箱上开设有与通孔导通且用于收集排泄物的集便腔。

进一步的，所述底座的底部在通孔的两侧设置有插接槽，所述集便箱的两侧向外凸出形成有插接围边，所述插接围边在集便箱安装于底座上时插接于插接槽内。

进一步的，所述插接围边与底座之间设置有接合结构，所述接合结构包括第一凸点以及配合第一凸点使用的第一卡槽，所述第一凸点在集便箱安装于底座上时置于第一卡槽内；

所述第一凸点由插接围边的顶面向上凸起形成，所述插接围边在第一凸点的前、后两侧均开设有条形孔，所述插接围边在两个条形孔之间形成有弹片，所述第一凸点位于弹片上。

进一步的，所述插接围边在远离通孔的一侧向下延伸形成加强围边，所述条形孔由上至下贯穿加强围边。

进一步的，所述集便箱包括若干延长框架以及固定盆，所述延长框架套设在固定盆的外侧并与固定盆可拆卸连接；

所述延长框架均呈中空状，且底部和顶部均为第一开口；所述固定盆呈中空状，且顶部为第二开口，所述集便腔由延长框架和固定盆围绕形成。

进一步的，所述的宠物厕所还包括转动设置在底座上的滚筒，所述滚筒上开设有用于进出宠物的出入口，所述延长框架的宽度小于出入口的宽度，所述滚筒的长度大于延长框架的长度。

进一步的，所述延长框架的数量为多个，多个所述延长框架根据尺寸的大小由内向外依次套设，且两相邻所述延长框架之间过盈配合，所述插接围边位于最外侧的延长框架上。

进一步的，所述延长框架的内侧壁上设置有第一限位件，所述固定盆的外侧壁上设置有第二限位件，所述第一限位件在固定盆与延长框架装配时与第二限位件抵接；

所述第一限位件包括由延长框架的底部向内侧延伸的第一围边以及由第一围边的末端向上延伸的第一直壁，所述延长框架的内侧壁与第一围边、第一直壁围绕形成第一限位槽；

所述第二限位件包括由固定盆的顶部向外延伸形成的第二围边以及由第二围边的末端向下延伸的第二直壁，所述固定盆的外侧壁与第二围边、第二直壁围绕形成第二限位槽，所述第一直壁置于第二限位槽内，所述第二直壁置于第一限位槽内。

进一步的，所述第一围边上开设有若干排水孔；

和/或，所述第二围边和/或第二直壁上开设有第二缺口。

进一步的，所述延长框架的内侧壁上设置有用以阻挡固定盆与延长框架相对运动的卡块，所述卡块位于第一限位件的上方；或者，所述第一限位槽和/或第二限位槽的侧壁上设置有若干压紧凸块；

所述延长框架的两相对侧壁之间的距离由上至下逐渐减小，所述固定盆上的两相对侧壁之间的距离由上至下逐渐减小，所述第二限位件与延长框架过盈配置。

5 本发明具有以下有益效果：相较于现有技术，本发明通过将集便箱可拆卸设置在底座上，以此，在清洗时，可单独将集便箱拆卸下来后进行处理，方便用户清洗。

附图说明

10 为了更清楚地说明本发明实施例或现有技术中的技术方案，下面将对实施例或现有技术描述中所需要使用的附图作简单地介绍，显而易见地，下面描述中的附图仅仅是本发明的一些实施例，对于本领域普通技术人员来讲，在不付出创造性劳动的前提下，还可以根据这些附图示出的结构获得其他的附图。

图1为本发明的立体图；

15 图2为本发明的部分分解图；

图3为本发明底座与集便箱的分解图；

图4为图3中a区域的放大图；

图5为本发明底座的部分分解图；

图6为本发明集便箱的结构图；

20 图7为图6中b区域的放大图；

图8为本发明集便箱沿图6中A-A方向的剖视图；

图9为图8中c区域的放大图；

图10为图8中d区域的放大图；

图11为本发明集便箱的分解图；

25 图12为图11中e区域的放大图；

图13为本发明集便箱收纳状态的示意图。

具体实施方式

30 下面将结合本发明实施例中的附图，对本发明实施例中的技术方案进行清楚、完整地描述，显然，所描述的实施例仅仅是本发明的一部分实施例，

而不是全部的实施例。基于本发明中的实施例，本领域普通技术人员在没有作出创造性劳动前提下所获得的所有其他实施例，都属于本发明保护的范围。

参照附图 1-13，本发明实施例中的一种宠物厕所。

5 参照附图 1-3，该宠物厕所包括底座 2 以及可拆卸设置于底座 2 上的集便箱 3，底座 2 上开设有由上至下贯穿其自身的通孔 24，集便箱 3 上开设有与通孔 24 导通且用于收集排泄物的集便腔 33。

本实施例通过将集便箱 3 可拆卸设置在底座 2 上，以此，在清洗时，可单独将集便箱 3 拆卸下来后进行处理，方便用户清洗，解决现有智能猫砂盆上的集便腔与底座为一体导致集便腔不便清洗的问题。

10 在本实施例中，集便箱 3 采用抽屉的形式与底座 2 实现可拆卸安装。具体的，底座 2 的底部在通孔 24 的两侧设置有插接槽 21，集便箱 3 的两侧向外凸出形成有插接围边 311，插接围边 311 在集便箱 3 安装于底座 2 上时置于插接槽 21 内。为便于将集便箱 3 抽拉出，集便箱 3 上设置有拉手槽 34。

15 为实现在宠物厕所放置时，集便箱 3 悬空，以便于抽拉使用，底座 2 在集便箱 3 的周侧设置有至少三个支撑脚 4。

且为方便宠物厕所的运输，支撑脚 4 可拆卸设置在底座 2 上。具体的，支撑脚 4 通过卡扣、螺丝等形式固定在底座 2 上。

一实施例中，参照附图 3 和附图 6-7，插接围边 311 与底座 2 之间设置有接合结构，接合结构包括第一凸点 3111 以及配合第一凸点 3111 使用的第一卡槽 23，第一凸点 3111 在集便箱 3 安装于底座 2 上时置于第一卡槽 23 内，起到限位集便箱 3 的作用。且利用第一凸点 3111 增加集便箱 3 与底座 2 之间抽拉的摩擦力，在集便箱 3 安装于底座 2 上时提供一个插拉的手感。另外，利用第一凸点 3111 置于第一卡槽 23，会出现一个“咔哒”的感觉，可起到提醒用户集便箱 3 安装到位作用。

25 具体的，第一凸点 3111 为球面的凸起结构，第一卡槽 23 的形状与第一凸点 3111 的形状契合，且第一卡槽 23 的槽口为倒圆角，以便第一凸点 3111 置于第一卡槽 23 内，方便使用。

30 在优选地实施例中，为防止第一凸点 3111 与底座 2 之间的挤压影响集便箱 3 的抽拉顺畅性，第一凸点 3111 由插接围边 311 的顶面向上凸起形成，插接围边 311 在第一凸点 3111 的前、后两侧均开设有条形孔 3112，插接围边 311

在两个条形孔 3112 之间形成有弹片 3113，第一凸点 3111 位于弹片 3113 上，利用弹片 3113 的弹性以降低第一凸点 3111 与底座 2 之间的摩擦力，实现给用户 5 提供抽拉手感的同时，不影响抽拉的流畅性。

一实施例中，底座 2 在通孔 24 的两侧向下凸出形成有限位凸起 22，插接槽 21 的横截面为 C 字形，限位凸起 22 位于插接槽 21 靠近通孔 24 的一侧且与插接槽 21 间隔设置，利用限位凸起 22 与插接槽 21 配合限位集便箱 3，可 10 提高集便箱 3 安装的稳定性。

一实施例中，参照附图 5，限位凸起 22 包括设置于底座 2 上的第一壳体 221 以及与第一壳体 221 连接形成安装腔 222 的导光壳 225，安装腔 222 内设置有 10 灯板 223，灯板 223 上设置有若干发光体 224。具体的，发光体 224 可为灯珠或 led 灯等。利用发光体 224 发光，可便于用户在夜晚查看排便物的多少，方便用户使用。

一实施例中，参照附图 4，插接围边 311 在远离通孔 24 的一侧向下延伸形成加强围边 312，条形孔 3112 由上至下贯穿加强围边 312，以此可提高插 15 接围边 311 的强度，且可提高插接围边 311 的质感，让抽拉的结构更加厚实。

一实施例中，参照附图 3，底座 2 在插接槽 21 的底部向下延伸形成有限位围边 25，利用限位围边 25 可限位集便箱 3 抽拉的行程，提高集便箱 3 与底座 2 之间连接的强度，且可阻挡集便箱 3 与底座 2 之间的间隙，提高产品的美观性。

一实施例中，参照附图 11，集便箱 3 的后侧壁上开设有与集便腔 33 导通的第一缺口 319，利用第一缺口 319，便于将集便箱 3 内部的排泄物倒出，且第一缺口 319 与限位围边 25 相对设置，第一缺口 319 的底面不超过限位围边 25 的底面，以在集便箱 3 安装于底座 2 时将第一缺口 319 阻挡，以防第一缺 20 口 319 影响宠物厕所上的滚筒 1 将排泄物排到集便箱 3 外侧。

一实施例中，参照附图 6，集便箱 3 包括若干延长框架 31 以及固定盆 32，延长框架 31 套设在固定盆 32 的外侧并与固定盆 32 可拆卸连接。延长框架 31 均呈中空状，且底部和顶部均为第一开口 330。固定盆 32 呈中空状，且顶部为第二开口 331，集便腔 33 由延长框架 31 和固定盆 32 围绕形成。以此， 25 在本实施例宠物厕所打包或运输时，可将固定盆 32 与延长框架 31 处于同一水平面上，即固定盆 32 与延长框架 31 重叠放置，如图 13 所示，以减小整个 30

集便箱 3 的整体高度，从而，可减小宠物厕所包装的体积，方便运输。

一实施例中，本实施例宠物厕所还包括转动设置在底座 2 上的滚筒 1，滚筒 1 上开设有用于进出宠物的出入口 11，延长框架 31 的宽度小于出入口 11 的宽度，滚筒 1 的长度大于延长框架 31 的长度。如此，在固定盆 32 与延长框架 31 拆卸并重叠放置，整体集便箱 3 可穿过出入口 11 放置在滚筒 1 内，可有效缩小宠物厕所的整体体积，减小运输体积，进一步方便产品运输和减小运输成本。

一实施例中，延长框架 31 的内侧壁上设置有第一限位件 316，固定盆 32 的外侧壁上设置有第二限位件 320，第一限位件 316 在固定盆 32 与延长框架 31 装配时与第二限位件 320 抵接。利用第一限位件 316 限位第二限位件 320 的运动行程，在使用时，可将固定盆 32 安装于延长框架 31 上。

一实施例中，延长框架 31 的数量为多个，多个延长框架 31 根据尺寸的大小由内向外依次套设，且两相邻延长框架 31 之间过盈配合，插接围边 311 位于最外侧的延长框架 31 上，用户可根据宠物排泄物的量，配置适配数量的延长框架 31，以配置合适的集便腔 33 的容积供使用。

具体的，参照附图 8，第一限位件 316 包括由延长框架 31 的底部向内侧延伸的第一围边 315 以及由第一围边 315 的末端向上延伸的第一直壁 314，延长框架 31 的内侧壁与第一围边 315、第一直壁 314 围绕形成第一限位槽 317，以形成钩子的形状。

第二限位件 320 包括由固定盆 32 的顶部向外延伸形成的第二围边 321 以及由第二围边 321 的末端向下延伸的第二直壁 322，固定盆 32 的外侧壁与第二围边 321、第二直壁 322 之间围绕形成第二限位槽 323，形成颠倒的钩子形状。当固定盆 32 与延长框架 31 装配时，可将固定盆 32 从延长框架 31 顶部放入延长框架 31 内并向下按压，使得第一直壁 314 置于第二限位槽 323 内，第二直壁 322 置于第一限位槽 317 内，利用第二直壁 322 与第一围边 315 抵接实现支撑固定盆 32 的作用。

其中，第二直壁 322 可与延长框架 31 的内侧壁过盈配合。或者，延长框架 31 的内侧壁上设置有卡块 332，卡块 332 位于第一限位件 316 的上方，如图 11 所示，利用凸起的卡块 332 限位第二围边 321，起到限位固定盆 32 的作用，用于防止固定盆 32 往上运动，以在集便箱 3 放置于地面上时，延长框架

31 不会掉落下来。在其他一些实施例中，参照附图 10，第一限位槽 317 和/或第二限位槽 323 的侧壁上设置有若干压紧凸块 3201，利用凸起的压紧凸块 3201 可将固定盆 32 与延长框架 31 稳定固定连接，防止固定盆 32 与延长框架 31 相对移动。

5 参照附图 10，在具有压紧凸块 3201 的实施例中，第一限位槽 317 和/或第二限位槽 323 在对应压紧凸块 3201 的位置开设有第二卡槽 3161，在固定盆 32 与延长框架 31 装配时，利用压紧凸块 3201 置于第二卡槽 3161 内，起到卡扣的作用，以将固定盆 32 与延长框架 31 固定连接。

一实施例中，延长框架 31 的两相对侧壁之间的距离由上至下逐渐减小，
10 固定盆 32 上的两相对侧壁之间的距离由上至下逐渐减小，以便于固定盆 32 与延长框架 31 之间的装配。

一实施例中，参照附图 4 和附图 12，第一围边 315 上开设有若干排水孔 313，便于集便箱 3 清洗时将水排出，防止积水，且利用排水孔 313 还可给固定盆 32 与延长框架 31 装配时提供流通的空气，便于装配。

15 一实施例中，参照附图 11，第二围边 321 和/或第二直壁 322 上开设有第二缺口 324，第二缺口 324 可用来排水，且还可进一步提高固定盆 32 与延长框架 31 装配时空气的流通，便于装配。

在其他实施例中，固定盆与延长框架 31 之间可采用折叠的形式实现收纳或增加集便腔 33 的容积。其中，固定盆 32 与延长框架 31 之间设置有软胶板，
20 且软胶板在与固定盆 32、延长框架 31 的连接处设置有折痕，以实现固定盆收纳于延长框架 31 内。

需要说明，本发明实施例中所有方向性指示（诸如上、下、左、右、前、后……）仅用于解释在某一特定姿态（如附图所示）下各部件之间的相对位置关系、运动情况等，如果该特定姿态发生改变时，则该方向性指示也相应
25 地随之改变。

另外，在本发明中涉及“第一”、“第二”等的描述仅用于描述目的，而不能理解为指示或暗示其相对重要性或者隐含指明所指示的技术特征的数量。由此，限定有“第一”、“第二”的特征可以明示或者隐含地包括至少一个该特征。另外，全文中的“和/或”包括三个方案，以 A 和/或 B 为例，包括 A 技术方案、
30 B 技术方案，以及 A 和 B 同时满足的技术方案；另外，各个实施例之间的技

术方案可以相互结合，但是必须是以本领域普通技术人员能够实现为基础，当技术方案的结合出现相互矛盾或无法实现时应当认为这种技术方案的结合不存在，也不在本发明要求的保护范围之内。

- 以上所述仅为本发明的优选实施例，并非因此限制本发明的专利范围，
- 5 凡是在本发明的发明构思下，利用本发明说明书及附图内容所作的等效结构变换，或直接/间接运用在其他相关的技术领域均包括在本发明的专利保护范围内。

<i>Notice of References Cited</i>	Application/Control No. 18/392,888		Applicant(s)/Patent Under Reexamination TANG, TIEQIANG	
	Examiner ZOE TRAN		Art Unit 3647	Page 1 of 2

U.S. PATENT DOCUMENTS						
*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-20110297096-A1	2011-12-08	Northrop; Melaney	A01K1/0107	119/161
*	B	US-20220117190-A1	2022-04-21	Van Wert; Carrie	A01K1/0114	1/1
*	C	US-20060169214-A1	2006-08-03	Turkalo; Brian	A01K1/011	119/165
*	D	US-20230217889-A1	2023-07-13	RUSCH; Kathy	A01K1/0107	119/166
*	E	US-20230217888-A1	2023-07-13	Simard; Jo-Anne	A01K1/011	119/161
*	F	US-20240114874-A1	2024-04-11	Zhang; Xianqiang	A01K1/0114	1/1
*	G	US-20130333625-A1	2013-12-19	Baxter; Brad	A01K1/011	119/166
*	H	US-20020139312-A1	2002-10-03	Reitz, Donald D.	A01K1/0114	119/165
*	I	US-20220142114-A1	2022-05-12	Baxter; Brad	A01K1/011	1/1
*	J	US-20020000205-A1	2002-01-03	Yamamoto, Kazuko	A01K1/0114	119/161
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	N	WO-2017150086-A1	2017-09-08	WO	HIRATA M A01K1/0114
	O				
	P				
	Q				
	R				
	S				
	T				

NON-PATENT DOCUMENTS		
*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
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	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
 Dates in YYYY-MM-DD format are publication dates. Classifications may be US or foreign.

<i>Notice of References Cited</i>	Application/Control No. 18/392,888		Applicant(s)/Patent Under Reexamination TANG, TIEQIANG	
	Examiner ZOE TRAN		Art Unit 3647	Page 2 of 2

U.S. PATENT DOCUMENTS						
*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Name	CPC Classification	US Classification
*	A	US-7584717-B2	2009-09-08	Skovron; Tobi	A01K1/0107	119/165
*	B	US-10517263-B1	2019-12-31	Perez; Jose L.	A01K1/011	1/1
*	C	US-7395784-B2	2008-07-08	Hirokawa; Satoshi	A01K1/0107	119/161
*	D	US-20130042563-A1	2013-02-21	PERVAN; Darko	E04F15/02038	52/582.2
*	E	US-20190242415-A1	2019-08-08	WANG; TING-JUI	F16B5/0016	1/1
*	F	US-20130071172-A1	2013-03-21	Maertens; Luc	F16B5/00	403/376
	G					
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	K					
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	M					

FOREIGN PATENT DOCUMENTS					
*		Document Number Country Code-Number-Kind Code	Date YYYY-MM-DD	Country	Name CPC Classification
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186096	7590	02/06/2025	EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@ippivot.com

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Pet Toilet with a detachable fecal collection box to a bottom of a base

Claim Rejections - 35 USC § 112

The following is a quotation of 35 U.S.C. 112(b):
(b) CONCLUSION.—The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the inventor or a joint inventor regards as the invention.

Claims 7 and 10-19 are rejected under 35 U.S.C. 112(b), as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor, regards as the invention.

Claim 7 recites the limitation "the strip-type holes" in lines 2-3. There is insufficient antecedent basis for this limitation in the claim. Strip-type holes were first introduced in claim 4 but claim 7 depends upon claim 2.

Claim 10 recites "the extension frame" but it is unclear if it referring back to "at least one extension frame" due to inconsistent terminology. Is it referencing to just one

extension frame or embodiments of both one extension frame and more than one extension frame? The inconsistent terminology is seen in claims 11-14, 17, and 19.

Dependent claims 11-19 fail to solve the deficiency.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise available to the public before the effective filing date of the claimed invention.

Claims 1, and 20 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Baxter et al. (US 20220142114), hereinafter Baxter.

Regarding claim 1, Baxter teaches of (fig. 4) a pet toilet (abstract, litter device) comprising:

- a base (base 12) and a fecal collection box (waste drawer 16) detachably provided on the base (seen in fig. 4),
- the base (12) defines a through hole (opening from the top of base 12 to the bottom) running through itself from top to bottom (through hole in the base 12 runs from the top to the bottom of the base; Examiner notes that the claim does not claim that it extends past both the top and bottom surfaces), and
- the fecal collection box (16) defines a fecal collection chamber (interior of waste bin 80) in communication with the through hole and configured to collect excrement (fig. 2, when the drawer 16 is closed into the base 12, it

communicates with the through hole to collect excrement from the chamber 10).

Regarding claim 20, Baxter teaches of claim 1, and (fig. 16) wherein the fecal collection box (16) is provided thereon with a handle groove (¶0067, The step may function as a handle. The step may include an indentation, groove, smaller thickness, or the like to provide a handle. The indentation, groove, or smaller thickness may be located opposite an upper surface which is used for the animal to step thereon.), and the base (12) is provided with at least three support legs around the fecal collection box (fig. 6, ¶0064, The one or more feet may be adjustable so that the litter device may rest level on a surface; ¶0121, The bottom ridge 76 includes a plurality of feet 78, which is interpreted as support legs. The feet 78 may include threaded shafts (not shown). Fig. 6 shows 4 feet 78).

Claims 1-2 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Turkalo (US 20060169214).

Regarding claim 1, Turkalo teaches of (fig. 1) a pet toilet (abstract, animal waste receptacle) comprising:

- a base (top panel 14) and a fecal collection box (bag dispenser 20) detachably provided on the base (seen in fig. 1),
- the base (14) defines a through hole (slot 16) running through itself from top to bottom (runs through the top and bottom of base 14), and

- the fecal collection box (20) defines a fecal collection chamber (chamber of bag 18) in communication with the through hole and configured to collect excrement (fig. 2, when the bag dispenser 20 is mounted to the base 14 under the through hole 16, it communicates with the through hole 16 to collect excrement).

Regarding claim 2, Turkalo teaches of (fig. 1) wherein a bottom of the base (14) is provided with insertion slots (brackets 44) at two sides of the through hole (at left and right sides of the slot 16), two sides of the fecal collection box protrude outward to form insertion flanges (sides of the box dispenser 20 that inserts into the insertion slots 44), the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base (seen in fig. 2).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 2 is rejected under 35 U.S.C. 103 as being unpatentable over Baxter in view of Turkalo (US 20060169214).

Regarding claim 2, Baxter teaches of claim 1, and wherein (fig. 18)

- a bottom of the base (12) is provided with mating surfaces at two sides of the through hole (¶0130, seals 104 located on the perimeter of the waste bin 80, which is located on the left and right sides of the through hole, contact the chamber support 62),
- two sides of the fecal collection box protrude outward to form insertion flanges (fig. 4, plurality of seals 104), the insertion flanges are inserted in the mating surfaces when the fecal collection box is mounted on the base (¶0130, seals 104 located on the perimeter of the waste bin 80 contact the chamber support 62. The seal 104 may seal a gap between the chamber 10 and the chamber support 62.).

Baxter does not appear to teach of insertion slots at two sides of the through hole, the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base.

Turkalo teaches of (fig. 1) insertion slots (brackets 44) at two sides of the through hole (at left and right sides of slot 16), the insertion flanges (sides of bag dispenser 20) are inserted in the insertion slots when the fecal collection box is mounted on the base (top panel 14) (figs. 1-2, bag dispenser 20 is inserted into slot 16 when mounted on the base 16).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Baxter to incorporate the teachings of Turkalo of insertion slots at two sides of the through hole, the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base in

order to guide and secure the mounting of the fecal collection box along an enclosed passage.

Claim 7 is rejected under 35 U.S.C. 103 as being unpatentable over Baxter, as modified by Turkalo as applied to claim 2 above, and further in view of Zhang (US 20240114874).

Regarding claim 7, Baxter as modified teaches of claim 2, and wherein the insertion flange extends out and downwards at a side away from the through hole to form an enhancing flange (fig. 4, seal 104 extends downwards at a side away from the through hole to form an enhancing flange).

Baxter does not appear to teach of the strip-type holes run through the enhancing flange from top to bottom.

Zhang teaches of the strip-type holes run through the enhancing flange from top to bottom (fig. 8, notches at the flanges near the front of the feces storage case 15).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Turkalo to incorporate the teachings of Zhang of the strip-type holes run through the enhancing flange from top to bottom in order to have a notch or hook-like area to securely attach a bag, another attachment, or to a fastener on the base.

Claim 8 is rejected under 35 U.S.C. 103 as being unpatentable over Baxter, as modified by Turkalo as applied to claim 2 above, and further in view of Hirata et al. (WO 2017150086), hereinafter Hirata.

Regarding claim 8, Baxter as modified teaches of claim 2, but does not appear to teach of wherein the base extends downward at a bottom of the insertion slot to form a block flange.

Hirata teaches of (fig. 4a-d) wherein the base (container 10) extends downward at a bottom of the insertion passage (passage along first guide rail 30 and second guide rail 31) to form a block flange (barrier 35 extends downward from a bottom of insertion slots along rails 30, 31 to form a block flange).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Baxter to incorporate the teachings of Hirata of wherein the base extends downward at a bottom of the insertion slot to form a block flange in order to stop the insertion of the drawer as motivated by Hirata on p. 2.

Claim 9 is rejected under 35 U.S.C. 103 as being unpatentable over Baxter, as modified by Turkalo as applied to claim 2 above, and further in view of Simard (US 20230217888).

Regarding claim 9, Baxter as modified teaches of claim 2, but does not appear to teach of wherein a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber.

Simard teaches of (fig. 5) wherein a rear side wall of the fecal collection box (rear wall of litter tray 200) defines a first gap (gap for litter evacuation door system 100) in communication with the fecal collection chamber (in communication with interior of litter tray 200).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Baxter to incorporate the teachings of Simard of wherein a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber in order to be able to tilt the fecal collection box towards the gap such that debris and other substances in the fecal collection box can easily exit through the gap.

Claims 10, 11, and 13 are rejected under 35 U.S.C. 103 as being unpatentable over Baxter and in view of Rusch et al. (US 20230217889), hereinafter Rusch.

Regarding claim 10, Baxter teaches of claim 1, and wherein (fig. 4) the fecal collection box comprises a fixing basin (waste bin 80);

the fixing basin is of a hollow shape (seen in fig. 4), and a top thereof is a second opening (top of waste bin 80 is a second opening); the fecal collection chamber is surrounded and formed by the fixing basin (seen in fig. 4).

Baxter does not appear to teach of wherein the fecal collection box comprises at least one extension frame, the extension frame is sheathed on an outer side of the fixing basin and detachably connected with the fixing basin; the extension frame is of a hollow shape, and both a bottom and top thereof are first openings; the fecal collection chamber is surrounded and formed by the extension frame and the fixing basin.

Rusch teaches of (fig. 2) wherein the fecal collection box (cat litter box system 100) comprises at least one extension frame (top shield section 102), the extension frame (102) is sheathed on an outer side of the fixing basin (collection pan 106) (seen in

fig. 1) and detachably connected with the fixing basin (seen in fig. 2); the extension frame is of a hollow shape (hollow interior of extension frame 102), and both a bottom and top thereof are first openings (seen in figs. 2 and 3A); the fecal collection chamber (chamber of shifter pan 104 and pan 106) is surrounded and formed by the extension frame (102) and the fixing basin (106) (seen in fig. 3A).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Baxter to incorporate the teachings of Rusch of wherein the fecal collection box comprises at least one extension frame, the extension frame is sheathed on an outer side of the fixing basin and detachably connected with the fixing basin; the extension frame is of a hollow shape, and both a bottom and top thereof are first openings; the fecal collection chamber is surrounded and formed by the extension frame and the fixing basin in order to have an overspray barrier to prevent debris and excrement from spraying over the edges of the fixing basin as motivated by Rusch in para. 003.

Regarding claim 11, Baxter as modified teaches of claim 10, and further comprising (fig. 1) a roller (chamber 1) rotatably provided on the base (seen in fig. 1), the roller defines an entrance/exit used for pets to enter and exit (opening 22 for pets to enter and exit), a width of the extension frame is less than a width of the entrance/exit (fig. 4, as modified by Rusch to have an extension frame along the edges of waste bin 80, the width of waste bin 80 is less than a width of the entrance/exit), and a length of the roller is larger than a length of the extension frame (one of ordinary skill in the art would have modified the extension frame onto the waste bin 80 to be shorter than a

length of the roller in order to fit inside of the base 12 since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.).

Regarding claim 13, Baxter as modified teaches of claim 10, but does not appear to teach of wherein an inner side wall of the extension frame is provided thereon with a first limit member, an outer side wall of the fixing basin is provided thereon with a second limit member, the first limit member abuts against the second limit member when the fixing basin is assembled with the extension frame.

Rusch teaches of wherein (fig. 3B) an inner side wall of the extension frame (102) is provided thereon with a first limit member (lip portion 146), an outer side wall of the fixing basin (106) is provided thereon with a second limit member (rim 152), the first limit member (146) abuts against the second limit member (152) when the fixing basin (106) is assembled with the extension frame (the extension frame 102 can be mounted to the fixing basin 106 without the shifting pan 104 in between such that the first limit member 146 abuts against the second limit member 152).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Baxter to incorporate the teachings of Rusch of wherein an inner side wall of the extension frame is provided thereon with a first limit member, an outer side wall of the fixing basin is provided thereon with a second limit member, the first limit member abuts against the second limit member when the fixing basin is assembled with the extension frame in order to secure the extension frame to the fixing basin.

Claim 7 is rejected under 35 U.S.C. 103 as being unpatentable over Turkalo in view of Zhang (US 20240114874).

Regarding claim 7, Turkalo teaches of claim 2, and wherein the insertion flange extends downwards at a side away from the through hole to form an enhancing flange (fig. 1, the sides of bag dispenser 20 extends downwards at a side away from through hole 16 to form an enhancing flange).

Turkalo does not appear to teach of the strip-type holes run through the enhancing flange from top to bottom.

Zhang teaches of the strip-type holes run through the enhancing flange from top to bottom (fig. 8, notches at the flanges near the front of the feces storage case 15).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Turkalo to incorporate the teachings of Zhang of the strip-type holes run through the enhancing flange from top to bottom in order to have a notch or hook-like area to securely a bag along the insertion flanges, another attachment, or to a fastener to the base.

Claim 8 is rejected under 35 U.S.C. 103 as being unpatentable over Turkalo in view of Hirata et al. (WO 2017150086), hereinafter Hirata.

Regarding claim 8, Turkalo teaches of claim 2, but does not appear to teach of wherein the base extends downward at a bottom of the insertion slot to form a block flange.

Hirata teaches of (fig. 4a-d) wherein the base (container 10) extends downward at a bottom of the insertion slot (passage along first guide rail 30 and second guide rail 31) to form a block flange (barrier 35 extends downward from a bottom of insertion slots along rails 30, 31 to form a block flange).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Turkalo to incorporate the teachings of Hirata of wherein the base extends downward at a bottom of the insertion slot to form a block flange in order to stop the insertion of the bag dispenser as motivated by Hirata on p. 2.

Claim 9 is rejected under 35 U.S.C. 103 as being unpatentable over Turkalo in view of Simard (US 20230217888).

Regarding claim 9, Turkalo as modified teaches of claim 2, but does not appear to teach of wherein a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber.

Simard teaches of (fig. 5) wherein a rear side wall of the fecal collection box (rear wall of litter tray 200) defines a first gap (gap for litter evacuation door system 100) in communication with the fecal collection chamber (in communication with interior of litter tray 200).

It would have been obvious to one of ordinary skill in the art before the effective filing date of the claimed invention to have modified Turkalo to incorporate the teachings of Simard of wherein a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber in order to be able to tilt the fecal

collection box towards the gap such that debris and other substances in the fecal collection box can easily exit through the gap.

Allowable Subject Matter

Claims 3-6, 12, and 14-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 12, and 14-19 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112(b) or 35 U.S.C. 112 (pre-AIA), 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Conclusion

The cited references made of record in the contemporaneously filed PTO-892 form and not relied upon in the instant office action are considered pertinent to applicant's disclosure, and may have one or more of the elements in Applicant's disclosure and at least claim 1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZOE TRAN whose telephone number is (571)272-8530. The examiner can normally be reached M-Th 7:30am-6pm EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an

interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tien Dinh can be reached on 571-272-6899. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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/ZOE TAM TRAN/
Examiner, Art Unit 3647

LITTER BOX

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Abstract

The purpose of the present invention is to easily measure the amount of bodily waste of an animal. This litter box (1) is provided with: a support base (12) on which an animal will step on; a waste tray (13) for receiving animal urine falling from the support base (12); a first weight scale (21) for measuring the weight of the waste tray (13) containing urine; and a transfer part (16) for transferring the waste tray (13). The waste tray (13) can be inserted between the first weight scale (21) and support base (12) together with the transfer part (16). When the waste tray (13) is inserted, the weight of the transfer part (16) is supported by a main container (10) and the first weight scale (21) supports the waste tray (13).

Description

INVENTION-TITLE

TECHNICAL-FIELD

The present invention relates to an animal toilet.

BACKGROUND-ART

Patent Document 1 discloses a pet toilet provided with a urine-permeable partition layer and a tray for

receiving urine under the partition layer. The tray is provided with a spout for pouring out the urine in the tray.

CITATION-LIST

PATENT-LITERATURE

[1] Japanese Patent Publication “JP 2011-004664 A”

DESCRIPTION-OF-EMBODIMENTS

Embodiment 1

(Composition of animal toilet)

FIG. 1 is a diagram illustrating a configuration of a pet toilet according to the present embodiment. 1A is a plan view of a pet toilet 1, FIGS. 1B and 1C are side views of the pet toilet 1, and FIG. 1D is a front view of FIG. FIG. 2 is a cross-sectional view of the pet toilet 1 along the direction in which the transport unit 16 is inserted. 2A is a boundary cross-sectional view of the transport unit 16 and the main body container 10, and FIG. 2B is a central cross-sectional view of the transport unit 16. FIG. 3 is a perspective view of the excretion tray 13 and the transport unit 16. FIG. 4 is a cross-sectional view showing how the excretion tray 13 and the transport unit 16 are inserted in the pet toilet 1. 4A shows a state when insertion is started, and FIG. 4B shows a state when the excretion tray 13 is lifted above the first weighing scale 21, and FIG. 4C shows a state when the excretion tray 13 starts to be detached from the transport unit 16, and FIG. 4D shows a state when the removal and insertion are completed.

The pet toilet 1 (animal toilet) has a function as a measuring device for measuring the weight of a pet animal and the weight of excrement. The pet toilet 1 includes a main body container 10 (a member other than a weighing scale), a cover 11, a support base 12, an excretion tray 13 (a metering tray), an absorbent sheet 14, a support section 15, a transport section 16, and a first weighing scale 21 (A weighing scale), a second weighing scale 22, and a control device 23. 2 to 4, the cover 11 is omitted.

The main body container 10 supports the cover 11, the support base 12, and the transport unit 16. A hole is formed in the center area (area corresponding to the first weighing scale 21) at the bottom of the main body container 10, and the excretion tray 13 and the transport section 16 are inserted into the side surface (front surface) of the main body container 10. And the hole which can be pulled out is formed. A pair of first guide rails 30 (insertion guides) and a pair of second guide rails 31 that slide (insert and pull out) the transport unit 16 are provided inside the main body container 10 (opposite inner side surfaces). And a barrier 35 for stopping the insertion of the transporting part 16 is provided.

The cover 11 is a cover that surrounds the four sides of the animal on the pet toilet 1, but is not limited thereto, and may be a cover that surrounds the three sides, for example.

The support stand 12 is a stand on which animals ride and excrete. A mesh 12a is formed on the lower surface of the support base 12. Animal excrement (urine here) passes through the mesh 12a and falls onto the excretion tray 13. The support 12 may have water repellency so that urine can easily flow so that urine does not adhere and accumulate. Here, the mesh 12a allows liquid to pass through, but does not pass feces and objects (toys) that animals have barked. In addition, the support base 12 may be formed with a hole through which excrement passes, instead of the mesh 12a. The support base 12 has a shape like a concave container in the present embodiment, but the shape of the support base 12 is arbitrary.

The excretion tray 13 is a member that receives excrement disposed below the support base 12, that is, at a predetermined position between the first weighing scale 21 and the support base 12. The range received by the excretion tray 13 includes a region where the mesh 12a of the support base 12 is formed (wider than the region). An absorbent sheet 14 may be disposed on the excretion tray 13. The absorption sheet 14 is a sheet (holding body) that absorbs (holds) liquid such as urine. The excretion tray 13 can be inserted and withdrawn from the hole formed in the side surface of the main body container 10 by the transport unit 16.

The support unit 15 is a base plate that supports the first weighing scale 21 and the main body container 10. Here, the control device 23 is disposed on the support portion 15, and the first weighing scale 21 is disposed on the control device 23. As described above, the support unit 15 may support the first weigh scale 21 via the control device 23.

The transport unit 16 is a member that transports the excretion tray 13 when the excretion tray 13 is inserted and withdrawn. The transport unit 16 supports the excretion tray 13 while the excretion tray 13 is transported. However, when the excretion tray 13 reaches a predetermined position below the support 12, the excretion tray 13 is detached from the transport unit 16. To do. The transport unit 16 can be inserted and withdrawn from a hole formed in the side surface of the main body container 10 while transporting the excretion tray 13.

The first weighing scale 21 passes through a hole in the bottom of the main body container 10 and contacts the excretion tray 13 to support the excretion tray 13. The first weigh scale 21 includes, for example, a load cell. The first weighing scale 21 measures the weight of the absorption sheet 14 and the excretion tray 13 including excrement. The excretion tray 13 does not bear the weight of the support 12 and the animal. The first weighing scale 21 outputs the measurement value to the control device 23. In the present embodiment, one first weighing scale 21 is provided, but a plurality of first weighing scales 21 for measuring the weight of the excretion tray 13 may be provided.

The second weighing scale 22 supports a structure including at least the support base 12. Here, four second weighing scales 22 are arranged below the support portion 15. The lower end of the second weighing scale 22 is in contact with the floor or the like, and the second weighing scale 22 supports the support portion 15. The second weight scale 22 supports a structure including the support base 12, the main body container 10, the cover 11, the support section 15, the transport section 16, the control device 23, the first weight scale 21, and the excretion tray 13. The second weighing scale 22 includes, for example, a load cell. The second weighing scale 22 is a total of the structure and the animal including the support base 12, the main body container 10, the cover 11, the support section 15, the transport section 16, the control device 23, the first weighing scale 21, and the excretion tray 13. Measure the weight. The second weighing scale 22 outputs the measurement value to the control device 23.

The control device 23 obtains the weight of the animal and the weight of the excrement from the measured values of the first weighing scale 21 and the second weighing scale 22. Here, the control device 23 includes a housing for housing a control board and the like. The control device 23 includes a power switch 24.

(Configuration of excretion tray and transport section)

First, the configuration of the excretion tray 13 and the transport unit 16 will be described.

3 (a), the excretion tray 13 includes a receiving part 13a for receiving animal excrement and a mounting part 13b for mounting on the transporting part 16. Here, the receiving part 13a is a recessed part which arrange | positions the absorption sheet 14, and the mounting part 13b is a horizontal part surrounding the circumference | surroundings of the receiving part 13a. Although not shown, a rib (rib) along the insertion direction is formed on the lower surface of the receiving portion 13a. This rib reduces friction that prevents the excretion tray 13 from sliding when the excretion tray 13 slides on the first weighing scale 21.

As shown in FIG. 3B, the transport unit 16 includes an opening 16a in which the receiving unit 13a of the excretion tray 13 is accommodated, a mounting unit 16b in which the mounting unit 13b of the excretion tray 13 is mounted, It includes a rising portion 16c that defines the position of the excretion tray 13 in the horizontal direction, and a handle portion 16d that is provided on the near side in the insertion direction and becomes a handle when being inserted and pulled out.

Since the transport unit 16 places and transports the excretion tray 13 (loads and transports it), the configuration of the excretion tray 13 and the transport unit 16 is simple and can be easily separated. For this reason, the conveyance part 16 and the excretion tray 13 can be easily cleaned and sterilized.

On both side surfaces along the insertion direction of the transport unit 16, the first guide pin 32 and the second guide pin 33 corresponding to the first guide rail 30 on the back side in the insertion direction, and the front side in the insertion direction A third guide pin 34 corresponding to the two guide rails 31 is provided. Here, the first to third guide pins 32 to 34 are cylindrical projections, but the present invention is not limited to this, and it is only necessary to be able to slide on the first to second guide rails 30 to 31. For example, ribs It may be.

(Insertion of excretion tray and transport part)

Next, the insertion of the excretion tray 13 and the transport unit 16 between the support 12 and the first weighing scale 21 will be described.

4A, the user places the excretion tray 13 on the transport unit 16 so that the excretion tray 13 slides integrally with the transport unit 16. The handle 16 d of the transport unit 16 is gripped, and the transport unit 16 together with the excretion tray 13 is started to be inserted into the hole formed in the side surface of the main body container 10. Then, the first guide pin 32 reaches the introduction portion 30 a of the first guide rail 30, and the first guide pin 32 and the second guide pin 33 slide on the first guide rail 30.

As shown in FIG. 4 (b), thanks to the introduction portion 30a of the first guide rail 30 that is inclined to rise toward the back side in the insertion direction, the transporting portion 16 together with the excretion tray 13 is While being inserted, the back side in the insertion direction can be lifted. The introduction portion 30a of the first guide rail 30 continues to a substantially horizontal upper step portion 30b (a part of the insertion guide). The user continues to insert the transport unit 16 together with the excretion tray 13 so that the first guide pin 32 and the second guide pin 33 slide on the upper step portion 30 b of the first guide rail 30.

Then, the third guide pin 34 reaches the introduction part 31 a of the second guide rail 31, and the third guide pin 34 slides on the second guide rail 31. And, thanks to the introduction part 31a of the second guide rail 31 that is inclined so as to rise toward the back side in the insertion direction, the transport part 16 together with the excretion tray 13 moves the near side in the insertion direction while being inserted. Lifted. The introduction portion 31a of the second guide rail 31 continues to the substantially horizontal upper step portion 31b. The user continues to insert the transport unit 16 together with the excretion tray 13 so that the third guide pin 34 slides on the upper step portion 31 b of the second guide rail 31.

Thus, the transport unit 16 lifts the excretion tray 13 above the first weighing scale 21 so that the excretion tray 13 does not contact the first weighing scale 21. And the upper stage part 31b of the 2nd guide rail 31 is following the transition part 31c which inclines so that it may descend | fall toward the back | inner side of an insertion direction.

As shown in FIG. 4C, the first guide pin 32 and the second guide pin 33 slide down the transition portion 30c of the first guide rail 30. Thereby, the conveyance part 16 with the excretion tray 13 is inserted between the 1st weighing scale 21 and the support stand 12, falling with dead weight. At this time, since the excretion tray 13 is above the first weighing scale 21, the conveyance section 16 is supported by the first weighing scale 21 and is detached from the conveyance section 16 while the conveyance section 16 is sliding down.

That is, the transport unit 16 is lowered to leave the excretion tray 13 on the first weighing scale 21, and the excretion tray 13 is supported by the opening 16 a and / or the rising part 16 c of the transport unit 16. Is pushed down to a predetermined position.

Also, the third guide pin 34 slides down the transition portion 31c of the second guide rail 31. As a result, the excretion tray 13 is completely detached from the transport unit 16 and is supported by the first weighing scale 21. Moreover, since the inclination of the transition part 31c of the second guide rail 31 is steep, the transport part 16 is locked by its own weight so as not to fall off from the main body container 10.

4 (d), the transport unit 16 hits the barrier 35, and the insertion of the excretion tray 13 and the transport unit 16 is completed. The transition portion 30c of the first guide rail 30 continues to the substantially horizontal lower step portion 30d (other portion of the insertion guide), and the transition portion 31c of the second guide rail 31 continues to the substantially horizontal lower step portion 31d. Yes.

Next, a state where the insertion of the excretion tray 13 and the transport unit 16 is completed will be described with reference to FIG.

The transport unit 16 is not supported by the first weighing scale 21 but is supported by the main body container 10 through the first to third guide pins 32 to 34 and the first to second guide rails 30 to 31. The weight of the excretion tray 13 is supported by the first weighing scale 21. The placement unit 13 b of the excretion tray 13 is separated from the placement unit 16 b of the transport unit 16 and is not supported by the transport unit 16. For this reason, the first weighing scale 21 can accurately measure the weight of excrement. Therefore, without removing the excretion tray 13 from the pet toilet 1, it is possible to easily measure the weight of animal excrement with the first weigh scale 21 while it is inserted.

The first guide pin 32 and the second guide pin 33 are positioned in the horizontal lower step portion 30d, and the second guide pin 33 and the transition portion 30c that is inclined so as to descend toward the back side in the insertion direction are horizontal. Located near the boundary with the lower step 30d. The third guide pin 34 is located in the horizontal lower step portion 31d, and is located near the boundary between the transition portion 31c and the horizontal lower step portion 31d that are inclined so as to descend toward the back side in the insertion direction. The rear side surface in the insertion direction of the transport unit 16 abuts against the barrier 35. The transport unit 16 is accurately held at a predetermined position in the main body container 10. The transport unit 16 defines the position of the excretion tray 13. The excretion tray 13 is accurately held at a predetermined position below the support 12 by the opening 16a and / or the rising portion 16c of the transport unit 16. Therefore, the excretion tray 13 can be easily inserted into a predetermined position between the support base 12 and the first weighing scale 21 using the transport unit 16. In addition, the position of the excretion tray 13 can be stabilized, and the measurement accuracy of the excrement weight can be increased.

(Withdrawal tray and transport section)

The user lifts the handle portion 16 d of the transport portion 16 so that the third guide pin 34 exceeds the transition portion 31 c of the second guide rail 31. Thereby, the lock | rock by the dead weight of the conveyance part 16 is cancelled | released, and the conveyance part 16 can be pulled out. Contrary to the insertion, the transporting part 16 is lifted while being pulled out thanks to the transition part 30 c of the first guide rail 30. The transport unit 16 is lifted from the first weighing scale 21 while pushing out the excretion tray 13 and is integrated with the excretion tray 13. The transport unit 16 together with the excretion tray 13 is pulled out from between the first weighing scale 21 and the support base 12.

Then, the user continues to pull out the transport unit 16 together with the excretion tray 13 so that the first guide pin 32 and the second guide pin 33 slide on the upper step 30b of the first guide rail 30. The transport unit 16 transports the excretion tray 13 so that the excretion tray 13 does not contact the first weighing scale 21. And the conveyance part 16 with the excretion tray 13 is pulled out from the hole formed in the side

surface of the main body container 10. FIG.

[Embodiment 2]

Another embodiment of the present invention will be described. For convenience of explanation, members having the same functions as those described in the above embodiment are denoted by the same reference numerals and description thereof is omitted.

FIG. 5 is a cross-sectional view of the pet toilet 2 along the direction in which the transport unit 16 is inserted. FIG. 5A is a central cross-sectional view of the transporting portion 16 and corresponds to FIG. FIG. 5B is an enlarged view of a box A in FIG. 6 (a) to 6 (c) are cross-sectional views for explaining modifications 1 to 3 of the excretion tray 13 and the first weighing scale 21 of the pet toilet 2, and corresponds to FIG. 5 (b). .

The pet toilet 2 (animal toilet) has a function as a measuring device for measuring the weight of a pet animal and the weight of excrement. The pet toilet 2 includes a main body container 10 (member other than a weighing scale), a cover 11, a support base 12, an excretion tray 13 (weighing tray), an absorbent sheet 14, a support section 15, a transport section 16, a first weighing scale 21 (A weighing scale), a second weighing scale 22, and a control device 23. 5 to 6, the cover 11 is omitted.

The pet toilet 2 is the same as the pet toilet 1 of the first embodiment except for the following two changes. One is that the first magnet 40 is provided on the lower surface of the receiving portion 13 a of the excretion tray 13, and the second magnet 41 is provided on the upper surface of the first weighing scale 21. The other is that a concave portion 46 is formed on the lower surface of the receiving portion 13 a of the excretion tray 13 and a convex portion 45 is formed on the upper surface of the first weighing scale 21.

When the excretion tray 13 is located at a predetermined position below the support 12, the first magnet 40 and the second magnet 41 overlap with each other so that different magnetic poles face each other, and attract each other. They are arranged on the weighing scale 21, respectively. Since the excretion tray 13 is attracted to the first weighing scale 21 by the magnetic attraction (magnetic force) between the first magnet 40 and the second magnet 41, the position of the excretion tray 13 is stabilized and the weight of the excrement is measured. The accuracy can be increased.

Here, the convex portion 45 and the concave portion 46 are provided on the near side in the insertion direction with respect to the first magnet 40 and the second magnet 41. When the excretion tray 13 is located at a predetermined position below the support base 12, the convex portion 45 is accommodated in the concave portion 46, and the excretion tray 13 is close to the first weighing scale 21. When the excretion tray 13 is pulled out, the convex portion 45 is displaced from the concave portion 46 and lifts the excretion tray 13. As a result, the excretion tray 13 is separated from the first weighing scale 21, and the first magnet 40 is also separated from the second magnet 41. Depending on the distance, the magnetic attractive force between the first magnet 40 and the second magnet 41 is rapidly weakened, and the excretory tray 13 is slid on the first weighing scale 21 and from the first weighing scale 21. Easy to lift.

(Modification 1)

Either one of the first magnet 40 and the second magnet 41 may be replaced with a ferromagnetic material.

As shown in FIG. 6 (a), even when the first magnet 40 is replaced with the iron piece 44, the iron piece 44, the second magnet 41, and the excretion tray 13 are located at a predetermined position below the support 12. Magnetic attraction between is generated.

(Modification 2)

Instead of the convex part 45, when pulling out the excretion tray 13, a further magnet may be provided so that a magnetic repulsive force is generated.

As shown in FIG. 6 (b), in addition to the first magnet 40, a fourth magnet 43 is provided on the lower surface of the receiving portion 13 a of the excretion tray 13, and in addition to the second magnet 41 on the upper surface of the first weighing scale 21. The third magnet 42 is provided.

When the excretion tray 13 is located at a predetermined position below the support base 12, the third magnet 42 and the fourth magnet 43 overlap the second magnet 41 and the first magnet 41 so that different magnetic poles face each other. The excretion tray 13 and the first weighing scale 21 are respectively arranged on the near side in the insertion direction adjacent to the magnet 40. Since the excretion tray 13 is attracted to the first weighing scale 21 by the magnetic attraction between the first magnet 40 and the second magnet 41, the position of the excretion tray 13 is stabilized, and the measurement accuracy of the excrement weight is increased. can do.

When the first magnet 40 (first magnet) and the third magnet 42 (second magnet) pull out the excretion tray 13, the first magnet 40 and the third magnet 42 overlap with the same magnetic poles facing each other. The excretion tray 13 and the first weighing scale 21 are disposed so as to repel each other. The magnetic repulsion between the first magnet 40 and the third magnet 42 lifts the excretion tray 13 from the first weighing scale 21, so that the excretion tray 13 slides on the first weighing scale 21, and It is easy to lift from the one weight scale 21. The first magnet 40, the second magnet 41, and the third magnet 42 may be provided without providing the fourth magnet 43. In this case, the second magnet 41 may be replaced with a ferromagnetic material. Alternatively, the first magnet 40, the third magnet 42, and the fourth magnet 43 may be provided without providing the second magnet 41. In this case, the fourth magnet 43 may be replaced with a ferromagnetic material.

(Modification 3)

The first magnet 40 and the second magnet 41 are respectively disposed on the excretion tray 13 and the first weighing scale 21 so as to be slightly shifted and overlap when the excretion tray 13 is located at a predetermined position below the support base 12. May be.

As shown in FIG. 6C, when the excretion tray 13 is positioned at a predetermined position below the support base 12, the first magnet 40 is positioned closer to the front side in the insertion direction than the third magnet 42. Be placed. When the excretion tray 13 is located at a predetermined position below the support base 12, the horizontal component of the magnetic attraction between the first magnet 40 and the second magnet 41 causes the excretion tray 13 to move to the back in the insertion direction. pull.

Further, the excretion tray 13 and the first weighing scale 21 are respectively provided with a step 48 (a part of the weighing tray) and a stopper 47 (a part of the weighing scale), and the excretion tray 13 is located at a predetermined position below the support 12. The step 48 of the excretion tray 13 is formed so as to abut against the stopper 47 of the first weighing scale 21 when inserted to the position. When the stepped portion 48 abuts against the stop portion 47, the excretion tray 13 is positioned so that it does not advance from the predetermined position between the support base 12 and the first weighing scale 21 in the insertion direction. By this positioning, the position of the excretion tray 13 is stabilized, and the measurement accuracy of the excrement weight can be increased.

Since the first magnet 40 and the second magnet 41 are already displaced from the time when the excretion tray 13 is located at a predetermined position below the support base 12, when the excretion tray 13 is pulled out, the first excretion tray 13 is moved to the first magnet 40. It is easy to slide on the weighing scale 21 and to lift it from the first weighing scale 21.

[Embodiment 3]

Still another embodiment of the present invention will be described. For convenience of explanation, members having the same functions as those described in the above embodiment are denoted by the same reference numerals and description thereof is omitted.

FIG. 7 is a cross-sectional view of the pet toilet 3 along the direction in which the transport unit 16 is inserted. FIG. 8 is a cross-sectional view of the excretion tray 13 and the transport unit 16. FIG. 9 is a cross-sectional view showing how the excretion tray 13 and the transport unit 16 are inserted in the pet toilet 1. 9A shows a state when insertion is started, and FIG. 9B shows a state when the excretion tray 13 rides on the first weighing scale 21, and FIG. 9C shows a state when the excretion tray 13 slides on the first weighing scale 21, and (d) of FIG. 9 shows a state when the insertion is completed.

The pet toilet 3 (animal toilet) has a function as a measuring device for measuring the weight of a pet animal and the weight of excrement. The pet toilet 3 includes a main body container 10 (a member other than a weighing scale), a cover 11, a support base 12, an excretion tray 13 (weighing tray), an absorbent sheet 14, a support section 15, a transport section 16, and a first weighing scale 21 (A weighing scale), a second weighing scale 22, and a control device 23. 7 to 9, the cover 11 is omitted.

The pet toilet 3 is equivalent to the pet toilet 1 of the first embodiment except for the following two changes. One is that a guide mechanism including the first guide rail 30, the second guide rail 31, the first guide pin 32, the second guide pin 33, and the third guide pin 34 is not provided. The other is that the excretion tray 13 and the transport unit 16 are rotatably connected (connected).

(Configuration of excretion tray and transport section)

First, the configuration of the excretion tray 13 and the transport unit 16 will be described.

The excretion tray 13 includes a receiving part 13a for receiving animal excrement, an introduction part 13c for the excretion tray 13 to ride on the first weighing scale 21, and a connection for rotatably connecting to the transporting part 16. Part 13d. Although not shown, a rib (rib) along the insertion direction is formed on the lower surface of the receiving portion 13a. The introduction part 13c is inclined so as to rise toward the back side in the insertion direction.

The transporting part 16 includes a connecting part 16e for rotatably connecting with the connecting part 13d of the excretion tray 13, a handle part 16d that is provided at the front side in the insertion direction and becomes a handle when inserted and pulled out, including. The connection pin of the connection part 16e of the conveyance part 16 is fitted in the small hole of the connection part 13d of the excretion tray 13 so that it can rotate within a predetermined angle range.

(Insertion tray and transport part insertion and withdrawal)

Next, the insertion of the excretion tray 13 and the transport unit 16 between the support 12 and the first weighing scale 21 will be described.

As shown in FIG. 9A, the user grasps the handle 16 d of the transport unit 16 to which the excretion tray 13 is connected, and places the transport unit 16 together with the excretion tray 13 on the side surface of the main body container 10. Start inserting into the formed hole.

As shown in FIG. 9 (b), the introduction portion 13 c of the excretion tray 13 reaches the corner on the near side of the upper surface of the first weighing scale 21, and the excretion tray 13 is placed on the upper surface of the first weighing scale 21. Get on.

As shown in (c) of FIG. 9, the user can transport the excretion tray 13 connected so that the lower surface of

the receiving portion 13a of the excretion tray 13 slides on the upper surface of the first weighing scale 21. Continue to insert part 16.

As shown in FIG. 9 (d), the tip of the introduction part 13c of the excretion tray 13 hits the barrier 35. In a state where the excretion tray 13 and the transporting part 16 are inserted all the way, the transporting part 16 is directly supported and fixed to the main body container 10. Since the excretion tray 13 is rotatable with respect to the transport unit 16, the weight of the excretion tray 13 is supported by the first weighing scale 21 at a predetermined position below the support base 12.

And contrary to the time of insertion, a user grasps the handle part 16d of the conveyance part 16, and pulls out the conveyance part 16 connected with the excretion tray 13 from the hole formed in the side surface of the main body container 10. .

Therefore, similarly to the first embodiment, the guide mechanism (the first guide rail 30, the second guide rail 31, the first guide pin 32, the second guide pin 33, and the third guide pin 34) is not provided. The excretion tray 13 can be easily inserted between the first weighing scale 21 and the support base 12 by the transport unit 16. Even if the guide mechanism is not provided, the excretion tray 13 is placed on the first weighing scale 21 and supported by the first weighing scale 21 in the state where the insertion is completed as in the first embodiment. Even if the guide mechanism is not provided, the transport unit 16 is supported by the main body container 10 in the state where the insertion is completed, as in the first embodiment, but the excretion tray 13 is rotatable with respect to the transport unit 16. Therefore, the weight of the transport unit 16 does not affect the measurement of the first weigh scale 21.

In the above embodiments, the animal toilets (pet toilets 1, 2, and 3) have been described as being able to measure the weight of the animal on the support base by the second weighing scale 22, but in the present invention, The function of measuring the body weight of an animal is not essential, and it is sufficient if it has a function of measuring the weight of excrement.

Moreover, in each said embodiment, although the guide pin 30 and the guide rails 30 and 31 were provided in the inside of the main body container 10 in the conveyance part 16, it is not limited to this combination, a guide rail, The combination which provides a pin in the inside of the main body container 10 may be sufficient.

[Summary]

The animal toilet (pet toilet 1, 2, 3) according to the first aspect of the present invention includes a support table (12) on which an animal is placed and a measuring tray that receives the excrement (urine) of the animal dropped from the support table. (The excretion tray 13), a weighing scale (first weighing scale 21) for measuring the weight of the weighing tray, and a transporting section (16) for transporting the weighing tray, the weighing tray including the transporting section, The transport unit can be inserted between the weighing scale and the support base as a whole, and the transporting portion is other than the weight scale in a state where the weighing tray is inserted between the weighing scale and the support base. Supported by a member (main body container 10), the weighing scale is configured to support the weight of the weighing tray.

According to the above configuration, the weighing tray can be easily arranged between the support base and the weighing scale by the transport unit. Excretion from animals on the support is received in the weighing tray. Moreover, since a conveyance part is supported by members other than a weight scale, the weight scale can measure the weight of excrement correctly. Therefore, it is possible to easily measure the weight of animal excrement without removing the weighing tray from the animal toilet.

The animal toilet (pet toilets 1 and 2) according to aspect 2 of the present invention is the above aspect 1, wherein the transporting part (16) carries the weighing tray (excretion tray 13) and carries the weighing tray.

Is inserted between the weighing scale (the first weighing scale 21) and the support base, the weighing tray may be placed on the weighing scale away from the transport unit.

According to the above configuration, the transport unit carries the weighing tray. For this reason, the structure of a conveyance part and a measurement tray can be simplified, and washing | cleaning and disinfection of a conveyance part and a measurement tray can be made easy. By separating the weighing tray from the transport unit, the transport unit is supported by a member other than the weighing scale in a state where the weighing tray is inserted between the weighing scale and the support base, and the weighing scale supports the weight of the weighing tray. The configuration can be realized reliably.

The animal toilet (pet toilet 1, 2) according to aspect 3 of the present invention includes the insertion guide (first guide rail 30) for sliding the transporting part (16) in the above aspect 1 or 2, and It is good also as a structure where a part (upper part 30b) of the said insertion guide is higher than another part (lower step part 30d) so that the said insertion guide may lift the said conveyance part when pulling out a conveyance part.

According to the above configuration, when pulling out the transport unit, a part of the insertion guide lifts the transport unit. The lifted transport unit lifts the weighing tray from the weighing scale, and the weighing tray can be pulled out from between the weighing scale and the support base together with the transportation unit.

The animal toilet (pet toilet 2) according to aspect 4 of the present invention is the above-described aspect 1 to 3, wherein the weighing tray (excretion tray 13) includes the weighing scale (first weighing scale 21) and the support base (12), the weighing tray may be configured to be attracted to the scale by magnetic force (magnetic attraction).

According to the above configuration, since the weighing tray is attracted to the weighing scale by magnetic force, the weighing tray is stable on the weighing scale, and the measurement accuracy of the weight of excrement by the weighing scale can be increased.

The animal toilet (pet toilet 2) according to aspect 5 of the present invention is the above aspect 4, wherein a convex portion (45) is formed on the upper surface of the weighing scale (first weighing scale 21). When the tray (excretion tray 13) is pulled out, the convex portion may lift the weighing tray.

According to the above configuration, when the weighing tray is pulled out, the convex portion lifts the weighing tray, so that the magnetic force attracting the weighing tray to the weighing scale is weakened. This makes it easy to slide the weighing tray.

The animal toilet (pet toilet 2) according to aspect 6 of the present invention is the above aspect 4 or 5, wherein the weighing tray (excretion tray 13) is provided with a first magnet (first magnet 40). The weighing scale (first weighing scale 21) is provided with a second magnet (third magnet 42), and the first magnet or the weighing scale is inserted between the weighing scale and the support base. The weighing tray may be attracted to the weighing scale by the magnetic force (magnetic attractive force) of the second magnet, and the first magnet may repel the second magnet when the weighing tray is pulled out. .

According to the above configuration, since the first magnet repels the second magnet when the weighing tray is pulled out, the weighing tray is lifted. This facilitates sliding (drawing out) the weighing tray.

The animal toilet (pet toilet 2) according to aspect 7 of the present invention is the above aspect 4 to 6, wherein a part (stepped portion 48) of the inserted measuring tray (excretion tray 13) is the weight scale (The weighing tray may be positioned by hitting a part of the first weighing scale 21) (stopping portion 47).

According to the above configuration, the weighing tray is positioned when a part of the weighing tray hits a part of the weighing scale. By this positioning, the position of the weighing tray is stabilized, and the

measurement accuracy of the weight of excrement can be increased.

The animal toilet (pet toilet 3) according to aspect 8 of the present invention is the above-described aspect 1, wherein the weighing tray (excretion tray 13) is rotatably connected to the transport unit (16). It is good also as a structure.

The animal toilet (pet toilet 1, 2, 3) according to aspect 9 of the present invention is the excrement (urine) on the support base (12) in any one of the above aspects 1 to 8. It is good also as a structure in which the hole or mesh (12a) which passes is formed.

The present invention is not limited to the above-described embodiments, and various modifications are possible within the scope shown in the claims, and embodiments obtained by appropriately combining technical means disclosed in different embodiments. Is also included in the technical scope of the present invention. Furthermore, a new technical feature can be formed by combining the technical means disclosed in each embodiment.

REFERENCE-SIGNS-LIST

1, 2, 3 Pet toilet (animal toilet)

10 Main body container (members other than weighing scale)

12 support base, 12a mesh, 13 excretion tray (weighing tray), 16 transport unit 21 first weight scale (weight scale), 22 second weight scale 30 first guide rail (insertion guide), 30b upper stage portion (insertion guide Part), 30d

Lower part (other part of insertion guide)

40 1st magnet (1st magnet), 42 3rd magnet (2nd magnet)

45 Convex part, 47 Stop part (part of weighing scale), 48 Step part (part of weighing tray)

DRAWING DESCRIPTION

[1]It is a figure which shows the structure of the pet toilet which concerns on Embodiment 1 of this invention. [2]It is sectional drawing along the direction which inserts a conveyance part of the toilet for pets shown by FIG. [3]It is a perspective view of the excretion tray and the conveyance part of the pet toilet shown in FIG. [4]It is sectional drawing which shows the mode of insertion of the excretion tray and the conveyance part in the toilet for pets shown by FIG. [5]It is sectional drawing along the direction which inserts a conveyance part which shows the structure of the pet toilet which concerns on Embodiment 2 of this invention. [6]It is sectional drawing which shows the modification of the toilet for pets shown by FIG. [7]It is sectional drawing along the direction which inserts a conveyance part which shows the structure of the pet toilet which concerns on Embodiment 3 of this invention. [8]It is sectional drawing of the excretion tray and conveyance part of the toilet for pets shown by FIG. [9]It is sectional drawing which shows the mode of insertion of the excretion tray and the conveyance part in the toilet for pets shown by FIG.

Claims

A support table on which animals are placed;

A weighing tray that receives the excrement of the animal that has fallen from the support; and

A weighing scale for measuring the weight of the weighing tray;

A transport unit for transporting the weighing tray,
The weighing tray can be inserted between the weighing scale and the support base integrally with the transport unit,
In the state where the weighing tray is inserted between the weighing scale and the support base, the transport unit is supported by a member other than the weighing scale, and the weighing scale supports the weight of the weighing tray. Toilet for animals.
The transport unit carries the weighing tray and carries it,
The animal tray according to claim 1, wherein the weighing tray is placed on the weighing scale apart from the transport unit in a state where the weighing tray is inserted between the weighing scale and the support base. toilet.
An insertion guide for sliding the transporting part is provided,
The animal toilet according to claim 1 or 2, wherein a part of the insertion guide is higher than another part so that the insertion guide lifts the transportation part when the transportation part is pulled out. .
4. The weighing tray according to any one of claims 1 to 3, wherein the weighing tray is attracted to the weighing scale by a magnetic force in a state where the weighing tray is inserted between the weighing scale and the support base. Animal toilet as described.
A convex portion is formed on the upper surface of the weighing scale,
The animal toilet according to claim 4, wherein when the weighing tray is pulled out, the convex portion lifts the weighing tray.
The weighing tray is provided with a first magnet,
The weighing scale is provided with a second magnet,
In a state where the weighing tray is inserted between the weighing scale and the support base, the weighing tray is attracted to the weighing scale by the magnetic force of the first magnet or the second magnet.
The animal toilet according to claim 4 or 5, wherein the first magnet repels the second magnet when the weighing tray is pulled out.
The animal toilet according to any one of claims 4 to 6, wherein the weighing tray is positioned when a part of the inserted weighing tray hits a part of the weighing scale. .
The animal toilet according to claim 1, wherein the weighing tray is rotatably connected to the transport unit.
The animal toilet according to any one of claims 1 to 8, wherein the support base is formed with a hole or a mesh through which the excrement passes.

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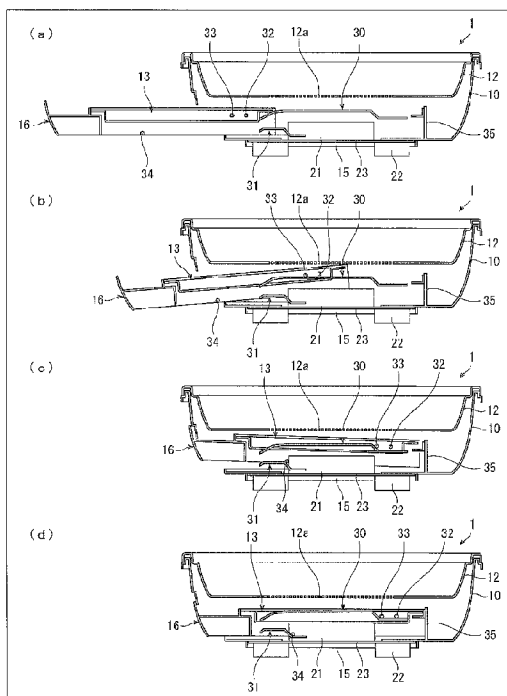
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[続葉有]

(54) Title: LITTER BOX

(54) 発明の名称 : 動物用トイレ

[図4]



(57) Abstract The purpose of the present invention is to easily measure the amount of bodily waste of an animal. This litter box (1) is provided with: a support base (12) on which an animal will step on; a waste tray (13) for receiving animal urine falling from the support base (12); a first weight scale (21) for measuring the weight of the waste tray (13) containing urine; and a transfer part (16) for transferring the waste tray (13). The waste tray (13) can be inserted between the first weight scale (21) and support base (12) together with the transfer part (16). When the waste tray (13) is inserted, the weight of the transfer part (16) is supported by a main container (10) and the first weight scale (21) supports the waste tray (13).

(57) 要約 : 簡単に動物の排泄物の重量を計測する。ペット用トイレ (1) は、動物が載る支持台 (12) と、支持台 (12) から落ちた動物の尿を受ける排泄トレー (13) と、尿を含む排泄トレー (13) の重量を計測する第 1 重量計 (21) と、排泄トレー (13) を運搬する運搬部 (16) とを備える。排泄トレー (13) が、運搬部 (16) と一体となって第 1 重量計 (21) と支持台 (12) との間に挿入可能であり、排泄トレー (13) が挿入された状態において、運搬部 (16) の重量は本体容器 (10) によって支持され、第 1 重量計 (21) は排泄トレー (13) を支持する。

2017/150086 1

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明 細 書

発明の名称 : 動物用 トイレ

技術分野

[0001] 本発明は動物用トイレに関する。

背景技術

[0002] 特許文献 1 には、尿透過性の仕切層と、仕切層の下に尿を受けるトレーとを備えるペット用トイレが開示されている。該トレーには、トレー内の尿を注ぎ出す注ぎ口が設けられている。

先行技術文献

特許文献

[0003] 特許文献 1 : 日本国公開特許公報 特開2011-004664号公報」

発明の概要

発明が解決しようとする課題

[0004] 特許文献 1 に記載の構成では、動物の排泄物の重量を計測するためには、ペット用トイレからトレーを引き出して、別に設けられる重量計に載せる必要がある。そのため、ペットの排泄物の量を計測するには非常に手間が掛かっていた。

[0005] 本発明は、上記の問題点に鑑みてなされたものであり、その目的は、簡単に動物の排泄物の重量を計測可能な動物用トイレを実現することにある。

課題を解決するための手段

[0006] 上記の課題を解決するために、本発明に係る動物用トイレは、動物が載る支持台と、上記支持台から落ちた上記動物の排泄物を受ける計量トレーと、上記計量トレーの重量を計測する重量計と、上記計量トレーを運搬する運搬部とを備え、上記計量トレーは、上記運搬部と一体となって上記重量計と上記支持台との間に挿入可能であり、上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記運搬部は上記重量計以外の部材によって支持され、上記重量計は上記計量トレーの重量を支持する構成である

。

発明の効果

[0007] 本発明の一態様によれば、簡単に動物の排泄物の重量を計測可能な動物用トイレを実現することができる。

図面の簡単な説明

[0008] [図1] 本発明の実施形態1に係るペット用トイレの構成を示す図である。

[図2] 図1に示されるペット用トイレの、運搬部を挿入する方向に沿った断面図である。

[図3] 図1に示されるペット用トイレの、排泄トレーおよび運搬部の斜視図である。

[図4] 図1に示されるペット用トイレにおける、排泄トレーおよび運搬部の挿入の様子を示す断面図である。

[図5] 本発明の実施形態2に係るペット用トイレの構成を示す、運搬部を挿入する方向に沿った断面図である。

[図6] 図5に示されるペット用トイレの変形例を示す断面図である。

[図7] 本発明の実施形態3に係るペット用トイレの構成を示す、運搬部を挿入する方向に沿った断面図である。

[図8] 図7に示されるペット用トイレの、排泄トレーおよび運搬部の断面図である。

[図9] 図1に示されるペット用トイレにおける、排泄トレーおよび運搬部の挿入の様子を示す断面図である。

発明を実施するための形態

[0009] 実施形態1]

(動物用トイレの構成)

図1は、本実施形態に係るペット用トイレの構成を示す図である。図1の(a)は、ペット用トイレ1の平面図であり、図1の(b)(c)は、ペット用トイレ1の側面図であり、図1の(d)は、ペット用トイレ1の正面図である。図2は、運搬部16を挿入する方向に沿った、ペット用トイレ1の

断面図である。図 2 の (a) は、運搬部 16 と本体容器 10 との境界断面図であり、図 2 の (b) は、運搬部 16 の中心断面図である。図 3 は、排泄トレー 13 および運搬部 16 の斜視図である。図 4 は、ペット用トイレ 1 における、排泄トレー 13 と運搬部 16 との挿入の様子を示す断面図である。図 4 の (a) は、挿入を開始する時の様子を示し、図 4 の (b) は、排泄トレー 13 が第 1 重量計 21 の上方に持ち上げられる時の様子を示し、図 4 の (c) は、排泄トレー 13 が運搬部 16 から離脱を開始する時の様子を示し、図 4 の (d) は、離脱と挿入とが完了した時の様子を示す。

[001 0] ペット用トイレ 1 (動物用トイレ) は、ペットである動物の体重および排泄物の重量を計測する計測装置としての機能を有する。ペット用トイレ 1 は、本体容器 10 (重量計以外の部材)、カバー 11、支持台 12、排泄トレー 13 (計量トレー)、吸収シート 14、支持部 15、運搬部 16、第 1 重量計 21 (重量計)、第 2 重量計 22、および制御装置 23 を備える。図 2〜4 では、カバー 11 は省略している。

[001 1] 本体容器 10 は、カバー 11 と、支持台 12 と、運搬部 16 と、を支持する。本体容器 10 の底部には、中央の領域 (第 1 重量計 21 に対応する領域) に穴が形成されており、本体容器 10 の側面 (正面) には、排泄トレー 13 および運搬部 16 の挿入および引出しが可能な穴が形成されている。本体容器 10 の内部 (対向する内側側面) には、運搬部 16 をスライド (挿入と引出し) させる 1 対の第 1 ガイドレール 30 (挿入ガイド) および 1 対の第 2 ガイドレール 31 が設けられており、運搬部 16 の挿入を停止させるための障壁 35 が設けられている。

[001 2] カバー 11 は、ペット用トイレ 1 に乗った動物の四方を囲むカバーであるが、これに限らず、例えば、三方を囲むカバーでもよい。

[001 3] 支持台 12 は、動物がそこに乗り、排泄をする台である。支持台 12 の下面にはメッシュ 12a が形成されている。動物の排泄物 (ここでは尿) は、メッシュ 12a を通過して、排泄トレー 13 の上に落ちる。支持台 12 は、尿が付着して溜まらないように、尿が流れやすいように、撥水性を有してい

てもよい。ここでは、メッシュ 12 a は、液体は通過させるが、糞および動物が至ってきた物体（おもちゃ）等は通過させない。なお、支持台 12 には、メッシュ 12 a の代わりに、排泄物が通過する穴が形成されていてもよい。支持台 12 は、本実施形態では凹型の容器のような形状であるが、支持台 12 の形状は任意である。

[0014] 排泄トレー 13 は、支持台 12 の下、すなわち第 1 重量計 2 1 と支持台 12 との間の所定位置に配置される、排泄物を受ける部材である。排泄トレー 13 が受ける範囲は、支持台 12 のメッシュ 12 a が形成された領域を含む（該領域より広い）。排泄トレー 13 上に、吸収シート 14 を配置してもよい。吸収シート 14 は、尿等の液体を吸収（保持）するシート（保持体）である。排泄トレー 13 は、運搬部 16 により、本体容器 10 の側面に形成された穴から挿入および引出されることができる。

[0015] 支持部 15 は、第 1 重量計 2 1、および本体容器 10 を支持する台板である。ここでは、支持部 15 上に制御装置 23 が配置されており、制御装置 23 上に第 1 重量計 2 1 が配置されている。このように、支持部 15 は、制御装置 23 を介して第 1 重量計 2 1 を支持してもよい。

[0016] 運搬部 16 は、排泄トレー 13 を挿入および引出すときに、排泄トレー 13 を運搬する部材である。運搬部 16 は、排泄トレー 13 が運搬されている間は、排泄トレー 13 を支持するが、排泄トレー 13 が支持台 12 の下の所定位置に到達すると、排泄トレー 13 は、運搬部 16 から離脱する。運搬部 16 は、排泄トレー 13 を運搬しながら、本体容器 10 の側面に形成された穴から挿入および引出されることができる。

[0017] 第 1 重量計 2 1 は、本体容器 10 の底部の穴を貫通して排泄トレー 13 に接触し、排泄トレー 13 を支持する。第 1 重量計 2 1 は、例えば、ロードセルを含む。第 1 重量計 2 1 は、吸収シート 14 および排泄物を含む排泄トレー 13 の重量を計測する。排泄トレー 13 には、支持台 12 および動物の重量は掛からない。第 1 重量計 2 1 は、計測値を制御装置 23 に出力する。なお、本実施形態では 1 つの第 1 重量計 2 1 が設けられているが、排泄トレー

13の重量を計測する複数の第1重量計21を設けてもよい。

[0018] 第2重量計22は、少なくとも支持台12を含む構造物を支持する。ここでは、支持部15の下側に4つの第2重量計22が配置されている。第2重量計22の下端は、床等に接触し、第2重量計22は支持部15を支持する。第2重量計22は、支持台12、本体容器10、カバー11、支持部15、運搬部16、制御装置23、第1重量計21、および排泄トレー13を含む構造物を支持する。第2重量計22は、例えば、ロードセルを含む。第2重量計22は、支持台12、本体容器10、カバー11、支持部15、運搬部16、制御装置23、第1重量計21、および排泄トレー13を含む構造物と動物との合計の重量を計測する。第2重量計22は、計測値を制御装置23に出力する。

[0019] 制御装置23は、第1重量計21および第2重量計22の測定値から、動物の体重および排泄物の重量の値を求める。ここでは、制御装置23は、制御基板等を収める筐体を備える。制御装置23は、電源スイッチ24を備える。

[0020] (排泄トレーおよび運搬部の構成)

まず、排泄トレー13および運搬部16の構成について、説明する。

[0021] 図3の(a)に示されるように、排泄トレー13は、動物の排泄物を受けるための受け部13aと、運搬部16に載置されるための載置部13bと、を含む。ここでは、受け部13aは、吸収シート14を配置する凹部であり、載置部13bは、受け部13aの周囲を取り囲む水平部である。図示されないが、受け部13aの下面には、挿入方向に沿った畝(リブ)が形成されている。このリブは、排泄トレー13が第1重量計21の上をスライド(摺動)するときに、排泄トレー13の摺動を妨げる摩擦を低減する。

[0022] 図3の(b)に示されるように、運搬部16は、排泄トレー13の受け部13aが収まる開口部16aと、排泄トレー13の載置部13bが載置される載置部16bと、排泄トレー13の水平方向の位置を規定する立ち上がり部16cと、挿入方向の手前側に設けられた挿入および引出しのときに持ち

手になる持ち手部 16 d と、を含む。

[0023] 運搬部 16 は排泄トレー 13 を載置して運搬する（載せて運ぶ）ので、排泄トレー 13 および運搬部 16 の構成は単純であり、容易に分離可能である。このため、運搬部 16 および排泄トレー 13 の洗浄および殺菌などが容易である。

[0024] 運搬部 16 の挿入方向に沿った両側側面には、挿入方向の奥側に、第 1 ガイドレール 30 に対応する第 1 ガイドピン 32 および第 2 ガイドピン 33 と、挿入方向の手前側に、第 2 ガイドレール 31 に対応する第 3 ガイドピン 34 と、が設けられている。ここでは、第 1 〜第 3 ガイドピン 32 〜34 は円柱状の突起であるが、これに限らず、第 1 〜第 2 ガイドレール 30 〜31 の上を滑動可能であればよく、例えば、リップであつてもよい。

[0025] （排泄トレーおよび運搬部の挿入）

次に、支持台 12 と第 1 重量計 21 との間への排泄トレー 13 および運搬部 16 の挿入について、説明する。

[0026] 図 4 の（a）に示されるように、ユーザは、排泄トレー 13 を運搬部 16 に、排泄トレー 13 が運搬部 16 と一体となってスライドするように、載置する。運搬部 16 の持ち手部 16 d を把持して、排泄トレー 13 と共に運搬部 16 を、本体容器 10 の側面に形成された穴に、挿入し始める。そして、第 1 ガイドピン 32 が第 1 ガイドレール 30 の導入部 30 a に行き当たり、第 1 ガイドピン 32 と第 2 ガイドピン 33 とが、第 1 ガイドレール 30 の上を滑動する。

[0027] 図 4 の（b）に示されるように、挿入方向の奥側に向かって上昇するように傾斜している第 1 ガイドレール 30 の導入部 30 a のおかげで、排泄トレー 13 と共に運搬部 16 は、挿入されながら、挿入方向の奥側を持ち上げられる。そして、第 1 ガイドレール 30 の導入部 30 a は、略水平な上段部 30 b（挿入ガイドの一部）に続いている。第 1 ガイドピン 32 と第 2 ガイドピン 33 とが第 1 ガイドレール 30 の上段部 30 b を滑動するように、ユーザは、排泄トレー 13 と共に運搬部 16 を挿入し続ける。

- [0028] そして、第3ガイドピン34が第2ガイドレール31の導入部31aに行き当たり、第3ガイドピン34が、第2ガイドレール31の上を滑動する。そして、挿入方向の奥側に向かって上昇するように傾斜している第2ガイドレール31の導入部31aのおかげで、挿入されながら、排泄トレー13と共に運搬部16は、挿入方向の手前側を持ち上げられる。そして、第2ガイドレール31の導入部31aは、略水平な上段部31bに続いている。第3ガイドピン34が第2ガイドレール31の上段部31bを滑動するように、ユーザは、排泄トレー13と共に運搬部16を挿入し続ける。
- [0029] このように、運搬部16は、排泄トレー13が第1重量計21に接触しないように、第1重量計21の上方へ排泄トレー13を持ち上げる。そして、第2ガイドレール31の上段部31bは、挿入方向の奥側に向かって下降するように傾斜している移行部31cに続いている。
- [0030] 図4の(c)に示されるように、第1ガイドレール30の移行部30cを第1ガイドピン32と第2ガイドピン33とが滑り落ちる。これにより、排泄トレー13と共に運搬部16は自重により、下がりながら第1重量計21と支持台12との間に挿入される。このとき、排泄トレー13は、第1重量計21の上方にあるため、運搬部16が滑り落ちる途中で、第1重量計21に支持されるようになり、運搬部16から離脱する。つまり、運搬部16は、下がることにより、排泄トレー13を第1重量計21の上に残し、かつ、排泄トレー13は、運搬部16の開口部16aおよび/または立ち上がり部16cにより、支持台12の下の所定位置まで押し進められる。
- [0031] また、第2ガイドレール31の移行部31cを第3ガイドピン34が滑り落ちる。これにより、排泄トレー13は完全に、運搬部16から離脱し、第1重量計21に支持されるようになる。また、第2ガイドレール31の移行部31cの傾斜は急であるため、運搬部16は自重により、本体容器10から抜け落ちないようにロックされる。
- [0032] 図4の(d)に示されるように、運搬部16は障壁35に突き当たり、排泄トレー13および運搬部16の挿入は完了する。第1ガイドレール30の

移行部 30c は、略水平な下段部 30d（挿入ガイドの他の部分）に続いており、第 2 ガイドレール 31 の移行部 31c は、略水平な下段部 31d に続いている。

[0033] 次に、排泄トレー 13 および運搬部 16 の挿入が完了した状態について、図 2 に基づき説明する。

[0034] 運搬部 16 は、第 1 重量計 21 に支持されず、本体容器 10 に第 1～第 3 ガイドピン 32～34 と第 1～第 2 ガイドレール 30～31 を介して支持されている。排泄トレー 13 の重量は、第 1 重量計 21 に支持されている。排泄トレー 13 の載置部 13b は、運搬部 16 の載置部 16b から離間しており、運搬部 16 に支持されていない。このため、第 1 重量計 21 は排泄物の重量を正確に測定することができる。したがって、ペット用トイレ 1 から排泄トレー 13 を取り外すことなく、挿入したまま、第 1 重量計 21 で簡単に動物の排泄物の重量を計測することができる。

[0035] 第 1 ガイドピン 32 および第 2 ガイドピン 33 は、水平な下段部 30d に位置し、第 2 ガイドピン 33 は、挿入方向の奥側に向かって下降するように傾斜している移行部 30c と水平な下段部 30d との境界付近に位置する。第 3 ガイドピン 34 は、水平な下段部 31d に位置し、挿入方向の奥側に向かって下降するように傾斜している移行部 31c と水平な下段部 31d との境界付近に位置する。運搬部 16 の挿入方向の奥側側面は障壁 35 に、突き当たっている。運搬部 16 は、本体容器 10 内の所定位置に正確に保持される。運搬部 16 は、排泄トレー 13 の位置を規定する。排泄トレー 13 は、運搬部 16 の開口部 16a および/または立ち上がり部 16c により、支持台 12 の下の所定位置に正確に保持される。したがって、運搬部 16 を用いて排泄トレー 13 を、支持台 12 と第 1 重量計 21 との間の所定位置に容易に挿入することができる。また、排泄トレー 13 の位置を安定させることが可能になり、排泄物の重量の計測精度を高くすることができる。

[0036] （排泄トレーおよび運搬部の引出し）

ユーザは、運搬部 16 の持ち手部 16d を、第 3 ガイドピン 34 が第 2 ガ

イドレール 31 の移行部 31c を超えるように、持ち上げる。これにより、運搬部 16 の自重によるロックを解除、運搬部 16 を引き出すことを可能にする。挿入するときとは逆に、運搬部 16 は、第 1 ガイドレール 30 の移行部 30c のおかげで、引き出されながら持ち上げられる。運搬部 16 は、排泄トレー 13 を押し出ししながら、第 1 重量計 21 から持ち上げ、排泄トレー 13 と一体となる。排泄トレー 13 と共に運搬部 16 は、第 1 重量計 21 と上記支持台 12 との間から引出される。

[0037] そして、第 1 ガイドピン 32 と第 2 ガイドピン 33 とが第 1 ガイドレール 30 の上段部 30b を滑動するように、ユーザは、排泄トレー 13 と共に運搬部 16 を引出し続ける。運搬部 16 は、排泄トレー 13 が第 1 重量計 21 に接触しないように、排泄トレー 13 を運搬する。そして、排泄トレー 13 と共に運搬部 16 は、本体容器 10 の側面に形成された穴から、引出される。

[0038] 実施形態 2)

本発明の他の実施形態について、説明する。なお、説明の便宜上、上記実施形態にて説明した部材と同じ機能を有する部材については、同じ符号を付記し、その説明を省略する。

[0039] 図 5 は、運搬部 16 を挿入する方向に沿った、ペット用トイレ 2 の断面図である。図 5 の (a) は、運搬部 16 の中心断面図であり、図 2 の (b) に対応する。図 5 の (b) は、図 5 の (a) の囲み A の拡大図である。図 6 の (a) ~ (c) は、ペット用トイレ 2 の排泄トレー 13 と第 1 重量計 21 との変形例 1 ~ 3 を説明する断面図であり、図 5 の (b) に対応する。

[0040] ペット用トイレ 2 (動物用トイレ) は、ペットである動物の体重および排泄物の重量を計測する計測装置としての機能を有する。ペット用トイレ 2 は、本体容器 10 (重量計以外の部材)、カバー 11、支持台 12、排泄トレー 13 (計量トレー)、吸収シート 14、支持部 15、運搬部 16、第 1 重量計 21 (重量計)、第 2 重量計 22、および制御装置 23 を備える。図 5 ~ 6 では、カバー 11 は省略している。

[0041] ペット用トイレ2は、次の2つの変更を除き、上記実施形態1のペット用トイレ1と同等である。1つは、排泄トレー13の受け部13aの下面に第1磁石40を設け、第1重量計21の上面に第2磁石41を設けたことである。もう1つは、排泄トレー13の受け部13aの下面に凹部46を形成し、第1重量計21の上面に凸部45を形成したことである。

[0042] 第1磁石40と第2磁石41とは、排泄トレー13が支持台12の下所定位置に位置するときに、異なる磁極を互いに向け合うように重なり、引き合うように、排泄トレー13と第1重量計21とにそれぞれ配置されている。第1磁石40と第2磁石41との間の磁氣的引力（磁力）により、排泄トレー13は第1重量計21に引きつけられるため、排泄トレー13の位置が安定し、排泄物の重量の計測精度を高くすることができる。

[0043] ここでは、凸部45と凹部46とは、第1磁石40と第2磁石41とに対して、挿入方向の手前側に設けられている。排泄トレー13が支持台12の下所定位置に位置するとき、凸部45は凹部46の内に収まっており、排泄トレー13は、第1重量計21と近接している。排泄トレー13を引き出すときに、凸部45は凹部46からずれて、排泄トレー13を持ち上げる。これにより、排泄トレー13は第1重量計21から離間し、第1磁石40も第2磁石41から離間する。距離に応じて、第1磁石40と第2磁石41との間の磁氣的引力は急速に弱まり、排泄トレー13を第1重量計21の上で摺動すること、および第1重量計21から持ち上げること、が容易になる。

[0044] （変形例1）

第1磁石40と第2磁石41との何れか一方を、強磁性体に置換してもよい。

[0045] 図6（a）に示されるように、第1磁石40を鉄片44に置換しても、排泄トレー13が支持台12の下所定位置に位置するときに、鉄片44と第2磁石41との間の磁氣的引力が生じる。

[0046] （変形例2）

凸部45の代わりに、排泄トレー13を引き出すときに、磁氣的反発力が

生じるように、さらなる磁石を設けてもよい。

[0047] 図6 (b) に示されるように、排泄トレー13の受け部13aの下面に第1磁石40に加えて、第4磁石43を設け、第1重量計21の上面に第2磁石41に加えて、第3磁石42を設ける。

[0048] 第3磁石42と第4磁石43とは、排泄トレー13が支持台12の下の所定位置に位置するときに、異なる磁極を互いに向け合って重なり、引き合うように、第2磁石41と第1磁石40とに隣接して挿入方向の手前側に、排泄トレー13と第1重量計21とにそれぞれ配置されている。第1磁石40と第2磁石41との間の磁氣的引力により、排泄トレー13は第1重量計21に引きつけられるため、排泄トレー13の位置が安定し、排泄物の重量の計測精度を高くすることができる。

[0049] 第1磁石40 (第1磁石) と第3磁石42 (第2磁石) とは、排泄トレー13を引き出すときに、第1磁石40と第3磁石42とが、同じ磁極を互いに向け合って重なり、反発し合うように、排泄トレー13と第1重量計21とにそれぞれ配置されている。第1磁石40と第3磁石42との間の磁氣的斥力が、排泄トレー13を第1重量計21から持ち上げるため、排泄トレー13を第1重量計21の上で摺動すること、および第1重量計21から持ち上げること、が容易になる。なお、第4磁石43を設けずに、第1磁石40と第2磁石41と第3磁石42とを設けてもよく、この場合、第2磁石41を強磁性体に置換してもよい。また、第2磁石41を設けずに、第1磁石40と第3磁石42と第4磁石43とを設けてもよく、この場合、第4磁石43を強磁性体に置換してもよい。

[0050] (変形例3)

第1磁石40と第2磁石41とは、排泄トレー13が支持台12の下の所定位置に位置するときに、少しずれて重なるように、排泄トレー13と第1重量計21とにそれぞれ配置されてもよい。

[0051] 図6 (c) に示されるように、第1磁石40は、排泄トレー13が支持台12の下の所定位置に位置するときに、第3磁石42より挿入方向の手前側

に位置するように配置される。排泄トレー 13 が支持台 12 の下の所定位置に位置するときに、第 1 磁石 40 と第 2 磁石 41 との間の磁氣的引力の水平分力が、排泄トレー 13 を挿入方向の奥側に引っ張る。

[0052] さらに、排泄トレー 13 と第 1 重量計 21 とにそれぞれ段差部 48 (計量トレーの一部) と止め部 47 (重量計の一部) とを、排泄トレー 13 が支持台 12 の下の所定位置に位置まで挿入されたときに、排泄トレー 13 の段差部 48 が第 1 重量計 21 の止め部 47 に突き当たるように、形成する。段差部 48 が止め部 47 に突き当たることにより、排泄トレー 13 は、支持台 12 と第 1 重量計 21 との間の所定位置より挿入方向の奥側に進まないように、位置決めされる。この位置決めにより、排泄トレー 13 の位置が安定し、排泄物の重量の計測精度を高くすることができる。

[0053] 第 1 磁石 40 と第 2 磁石 41 とは、排泄トレー 13 が支持台 12 の下の所定位置に位置するときから、既にずれているため、排泄トレー 13 を引き出すときに、排泄トレー 13 を第 1 重量計 21 の上で摺動すること、および第 1 重量計 21 から持ち上げること、が容易である。

[0054] 実施形態 3)

本発明のさらに他の実施形態について、説明する。なお、説明の便宜上、上記実施形態にて説明した部材と同じ機能を有する部材については、同じ符号を付記し、その説明を省略する。

[0055] 図 7 は、運搬部 16 を挿入する方向に沿った、ペット用トイレ 3 の断面図である。図 8 は、排泄トレー 13 および運搬部 16 の断面図である。図 9 は、ペット用トイレ 1 における、排泄トレー 13 と運搬部 16 との挿入の様子を示す断面図である。図 9 の (a) は、挿入を開始する時の様子を示し、図 9 の (b) は、排泄トレー 13 が第 1 重量計 21 の上に乗り上げる時の様子を示し、図 9 の (c) は、排泄トレー 13 が第 1 重量計 21 の上を摺動する時の様子を示し、図 9 の (d) は、挿入が完了した時の様子を示す。

[0056] ペット用トイレ 3 (動物用トイレ) は、ペットである動物の体重および排泄物の重量を計測する計測装置としての機能を有する。ペット用トイレ 3 は

、本体容器 10（重量計以外の部材）、カバー 11、支持台 12、排泄トレ
- 13（計量トレー）、吸収シート 14、支持部 15、運搬部 16、第 1 重
量計 21（重量計）、第 2 重量計 22、および制御装置 23 を備える。図 7
〜9 では、カバー 11 は省略している。

[0057] ペット用トイレ 3 は、次の 2 つの変更を除き、上記実施形態 1 のペット用
トイレ 1 と同等である。1 つは、第 1 ガイドレール 30、第 2 ガイドレール
31、第 1 ガイドピン 32、第 2 ガイドピン 33、および第 3 ガイドピン 3
4 から成るガイド機構が設けられていないことである。もう 1 つは、排泄 ト
レー 13 と運搬部 16 とが、回転可能に連結（接続）されている構成となっ
ていることである。

[0058] （排泄 トレーおよび運搬部の構成）

まず、排泄 トレー 13 および運搬部 16 の構成について、説明する。

[0059] 排泄 トレー 13 は、動物の排泄物を受けるための受け部 13a と、第 1 重
量計 21 の上へ排泄 トレー 13 が乗り上げるための導入部 13c と、運搬部
16 と回転可能に連結するための連結部 13d、を含む。図示されないが、
受け部 13a の下面には、挿入方向に沿った畝（リブ）が形成されている。
導入部 13c は、挿入方向の奥側に向かって上昇するように傾斜している。

[0060] 運搬部 16 は、排泄 トレー 13 の連結部 13d と回転可能に連結するた
めの連結部 16e と、挿入方向の手前側に設けられた挿入および引出しのとき
に持ち手になる持ち手部 16d と、を含む。排泄 トレー 13 の連結部 13d
の小孔に、運搬部 16 の連結部 16e の連結ピンが、所定角度範囲内で回転
可能なように、嵌合されている。

[0061] （排泄 トレーおよび運搬部の挿入および引出し）

次に、支持台 12 と第 1 重量計 21 との間への排泄 トレー 13 および運搬
部 16 の挿入について、説明する。

[0062] 図 9 の（a）に示されるように、ユーザは、排泄 トレー 13 が連結された
運搬部 16 の持ち手部 16d を把持して、排泄 トレー 13 と共に運搬部 16
を、本体容器 10 の側面に形成された穴に、挿入し始める。

- [0063] 図9の(b)に示されるように、排泄トレー13の導入部13cが第1重量計21の上面の手前側の角に行き当たり、排泄トレー13は第1重量計21の上面の上に乗上げる。
- [0064] 図9の(c)に示されるように、排泄トレー13の受け部13aの下面が、第1重量計21の上面の上を摺動するように、ユーザは、排泄トレー13が連結された運搬部16を挿入し続ける。
- [0065] 図9の(d)に示されるように、排泄トレー13の導入部13cの先端は障壁35に突き当たる。排泄トレー13および運搬部16が奥まで挿入された状態において運搬部16は、本体容器10に直接に支持され固定される。排泄トレー13は、運搬部16に対して回転可能であるため、排泄トレー13の重量は、支持台12の下在所定位置において、第1重量計21に支持されている。
- [0066] そして、挿入するときとは逆に、ユーザは運搬部16の持ち手部16dを把持して、排泄トレー13と連結された運搬部16を、本体容器10の側面に形成された穴から、引出す。
- [0067] したがって、ガイド機構(第1ガイドレール30、第2ガイドレール31、第1ガイドピン32、第2ガイドピン33、および第3ガイドピン34)を設けなくても、上記実施形態1と同様に、運搬部16により排泄トレー13を容易に、第1重量計21と支持台12との間に挿入することができる。ガイド機構を設けなくても、上記実施形態1と同様に、挿入が完了した状態において、排泄トレー13は第1重量計21の上に載置され、第1重量計21に支持される。ガイド機構を設けなくても、上記実施形態1と同様に、挿入が完了した状態において、運搬部16は、本体容器10に支持されるが、排泄トレー13は運搬部16に対して回転可能であるため、運搬部16の重量は、第1重量計21の計測に影響しない。
- [0068] なお、上記各実施の形態において動物用トイレ(ペット用トイレ1, 2, 3)は、第2重量計22によって支持台に乗った動物の体重も計測できるものとして説明をしたが、本発明において動物の体重を計測する機能は必須で

はなく、排泄物の重量を計測できる機能を有していればよい。

[0069] また、上記各実施の形態において、運搬部 16 にガイドピン、本体容器 10 の内部にガイドレール 30、31 を設けていたが、この組合せに限定されることは無く、運搬部 16 にガイドレール、本体容器 10 の内部にピンを設ける組合せであってもよい。

[0070] (まとめ)

本発明の態様 1 に係る動物用トイレ（ペット用トイレ 1, 2, 3）は、動物が載る支持台（12）と、上記支持台から落ちた上記動物の排泄物（尿）を受け取る計量トレー（排泄トレー 13）と、上記計量トレーの重量を計測する重量計（第 1 重量計 21）と、上記計量トレーを運搬する運搬部（16）とを備え、上記計量トレーは、上記運搬部と一体となって上記重量計と上記支持台との間に挿入可能であり、上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記運搬部は上記重量計以外の部材（本体容器 10）によって支持され、上記重量計は上記計量トレーの重量を支持する構成である。

[0071] 上記の構成によれば、運搬部によって計量トレーを容易に支持台と重量計との間に配置することができる。支持台に載った動物からの排泄物は計量トレーに受けられる。また、運搬部は重量計以外の部材によって支持されるので、重量計は排泄物の重量を正確に測定することができる。よって、動物用トイレから計量トレーを取り外すことなく、簡単に動物の排泄物の重量を計測することができる。

[0072] 本発明の態様 2 に係る動物用トイレ（ペット用トイレ 1, 2）は、上記の態様 1 において、上記運搬部（16）は、上記計量トレー（排泄トレー 13）を載せて運び、上記計量トレーが上記重量計（第 1 重量計 21）と上記支持台との間に挿入された状態において、上記計量トレーは、上記運搬部から離れて上記重量計に載る構成としてもよい。

[0073] 上記構成によれば、運搬部は、計量トレーを載せて運ぶ。このため運搬部と計量トレーとの構成を単純にすることができ、運搬部および計量トレーの

洗浄および殺菌を容易にすることができる。計量トレーは運搬部から離れることにより、計量トレーが重量計と支持台との間に挿入された状態において、運搬部は重量計以外の部材によって支持され、重量計は計量トレーの重量を支持する構成を確実に実現できる。

[0074] 本発明の態様3に係る動物用トイレ（ペット用トイレ1, 2）は、上記の態様1または2において、上記運搬部（16）をスライドさせる挿入ガイド（第1ガイドレール30）を備え、上記運搬部を引き出すときに上記挿入ガイドが上記運搬部を持ち上げるように、上記挿入ガイドの一部（上段部30b）が他の部分（下段部30d）より高くなっている構成としてもよい。

[0075] 上記構成によれば、運搬部を引き出すときに、挿入ガイドの一部は運搬部を持ち上げる。持ち上げられた運搬部は、計量トレーを重量計から持ち上げ、計量トレーは運搬部と一体となって上記重量計と上記支持台との間から引出し可能である。

[0076] 本発明の態様4に係る動物用トイレ（ペット用トイレ2）は、上記の態様1から3において、上記計量トレー（排泄トレー13）が上記重量計（第1重量計21）と上記支持台（12）との間に挿入された状態において、上記計量トレーは、磁力（磁氣的引力）によって上記重量計に引きつけられる構成としてもよい。

[0077] 上記構成によれば、計量トレーは、磁力により重量計に引きつけられるため、計量トレーは重量計の上で安定し、重量計による排泄物の重量の計測精度を高くすることができる。

[0078] 本発明の態様5に係る動物用トイレ（ペット用トイレ2）は、上記の態様4において、上記重量計（第1重量計21）の上面に凸部（45）が形成されており、上記計量トレー（排泄トレー13）を引き出すと上記凸部が上記計量トレーを持ち上げる構成としてもよい。

[0079] 上記構成によれば、計量トレーを引き出すと凸部が計量トレーを持ち上げるため、計量トレーを重量計に引きつける磁力が弱まる。これにより、計量トレーをスライドさせることが容易になる。

- [0080] 本発明の態様6に係る動物用トイレ（ペット用トイレ2）は、上記の態様4または5において、上記計量トレー（排泄トレー13）には第1磁石（第1磁石40）が設けられ、上記重量計（第1重量計21）には第2磁石（第3磁石42）が設けられ、上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記第1磁石または上記第2磁石の磁力（磁気的引力）によって、上記計量トレーは上記重量計に引きつけられ、上記計量トレーを引き出したときに、上記第1磁石は上記第2磁石と反発する構成としてもよい。
- [0081] 上記構成によれば、計量トレーを引き出すと第1磁石は、第2磁石と反発するため、計量トレーが持ち上げられる。これにより、計量トレーをスライドさせる（引き出す）ことが容易になる。
- [0082] 本発明の態様7に係る動物用トイレ（ペット用トイレ2）は、上記の態様4から6において、挿入された上記計量トレー（排泄トレー13）の一部（段差部48）が上記重量計（第1重量計21）の一部（止め部47）に突き当たることにより、上記計量トレーの位置決めがされる構成としてもよい。
- [0083] 上記構成によれば、計量トレーの一部が重量計の一部に突き当たることにより、上記計量トレーの位置決めがされる。この位置決めにより、計量トレーの位置が安定し、排泄物の重量の計測精度を高くすることができる。
- [0084] 本発明の態様8に係る動物用トイレ（ペット用トイレ3）は、上記の態様1において、上記計量トレー（排泄トレー13）は、上記運搬部（16）に対して回転可能に接続されている構成としてもよい。
- [0085] 本発明の態様9に係る動物用トイレ（ペット用トイレ1, 2, 3）は、上記の態様1から8のいずれか一項において、上記支持台（12）には、上記排泄物（尿）が通過する穴またはメッシュ（12a）が形成されている構成としてもよい。
- [0086] 本発明は上述した各実施形態に限定されるものではなく、請求項に示した範囲で種々の変更が可能であり、異なる実施形態にそれぞれ開示された技術的手段を適宜組み合わせて得られる実施形態についても本発明の技術的範囲

に含まれる。さらに、各実施形態にそれぞれ開示された技術的手段を組み合わせることにより、新しい技術的特徴を形成することができる。

符号の説明

[0087] 1、2、3 ペット用トイレ（動物用トイレ）

10 本体容器（重量計以外の部材）

12 支持台、12a メッシュ、13 排泄トレー（計量トレー）、16
運搬部

21 第1重量計（重量計）、22 第2重量計

30 第1ガイドレール（挿入ガイド）、30b 上段部（挿入ガイドの一部）、30d

下段部（挿入ガイドの他の部分）

40 第1磁石（第1磁石）、42 第3磁石（第2磁石）

45 凸部、47 止め部（重量計の一部）、48 段差部（計量トレーの一部）

請求の範囲

- [請求項 1] 動物が載る支持台と、
上記支持台から落ちた上記動物の排泄物を受ける計量トレーと、
上記計量トレーの重量を計測する重量計と、
上記計量トレーを運搬する運搬部とを備え、
上記計量トレーは、上記運搬部と一体となって上記重量計と上記支持台との間に挿入可能であり、
上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記運搬部は上記重量計以外の部材によって支持され、上記重量計は上記計量トレーの重量を支持することを特徴とする動物用トイレ。
- [請求項 2] 上記運搬部は、上記計量トレーを載せて運び、
上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記計量トレーは、上記運搬部から離れて上記重量計に載ることを特徴とする請求項 1 に記載の動物用トイレ。
- [請求項 3] 上記運搬部をスライドさせる挿入ガイドを備え、
上記運搬部を引き出すときに上記挿入ガイドが上記運搬部を持ち上げるように、上記挿入ガイドの一部が他の部分より高くなっていることを特徴とする請求項 1 または 2 に記載の動物用トイレ。
- [請求項 4] 上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記計量トレーは、磁力によって上記重量計に引きつけられることを特徴とする請求項 1 から 3 のいずれか一項に記載の動物用トイレ。
- [請求項 5] 上記重量計の上面に凸部が形成されており、
上記計量トレーを引き出すと上記凸部が上記計量トレーを持ち上げることを特徴とする請求項 4 に記載の動物用トイレ。
- [請求項 6] 上記計量トレーには第 1 磁石が設けられ、
上記重量計には第 2 磁石が設けられ、

上記計量トレーが上記重量計と上記支持台との間に挿入された状態において、上記第1磁石または上記第2磁石の磁力によって、上記計量トレーは上記重量計に引きつけられ、

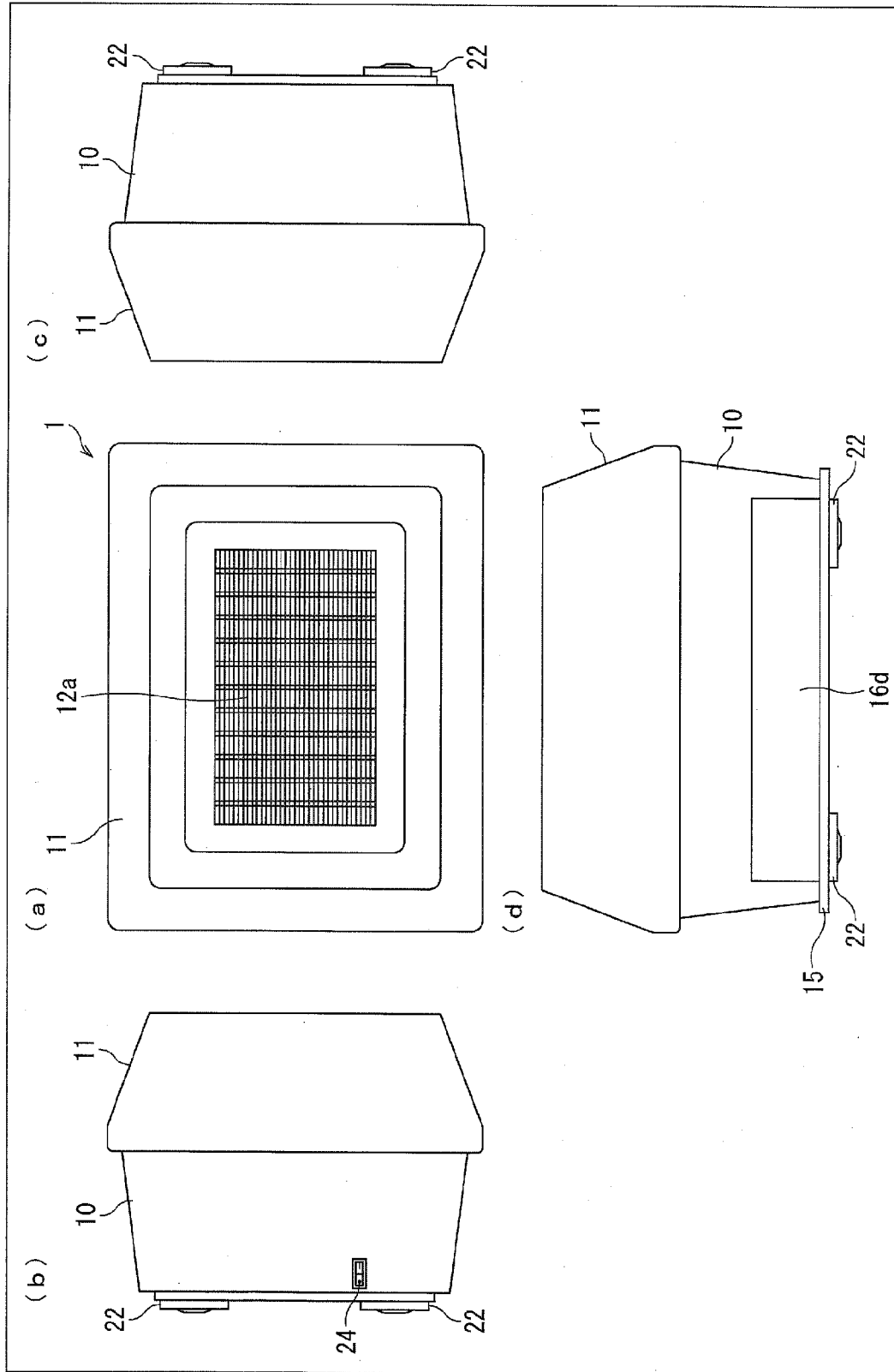
上記計量トレーを引き出したときに、上記第1磁石は上記第2磁石と反発することを特徴とする請求項4または5に記載の動物用トイレ。

[請求項7] 挿入された上記計量トレーの一部が上記重量計の一部に突き当たることにより、上記計量トレーの位置決めがされることを特徴とする請求項4から6のいずれか一項に記載の動物用トイレ。

[請求項8] 上記計量トレーは、上記運搬部に対して回転可能に接続されていることを特徴とする請求項1に記載の動物用トイレ。

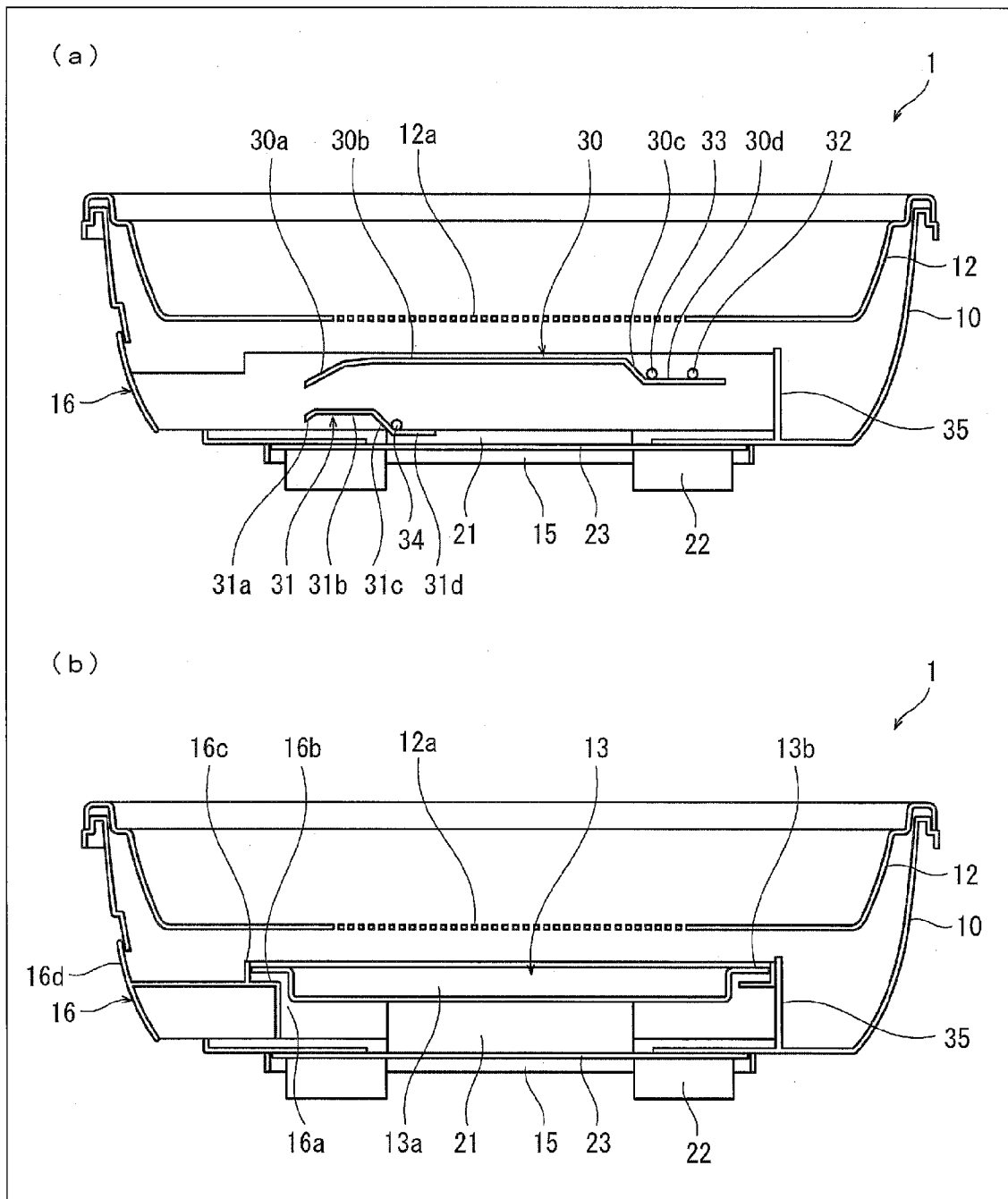
[請求項9] 上記支持台には、上記排泄物が通過する穴またはメッシュが形成されていることを特徴とする請求項1から8のいずれか一項に記載の動物用トイレ。

[図1]



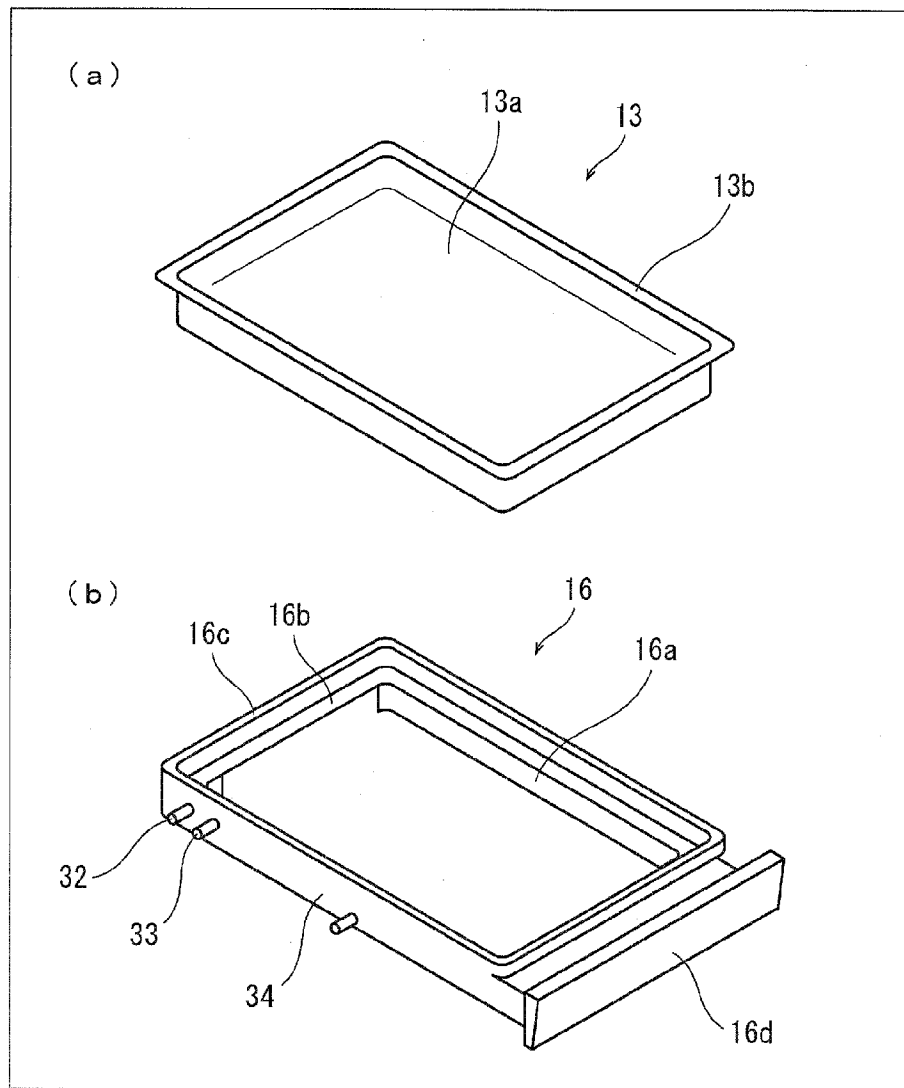
[図2]

図 2



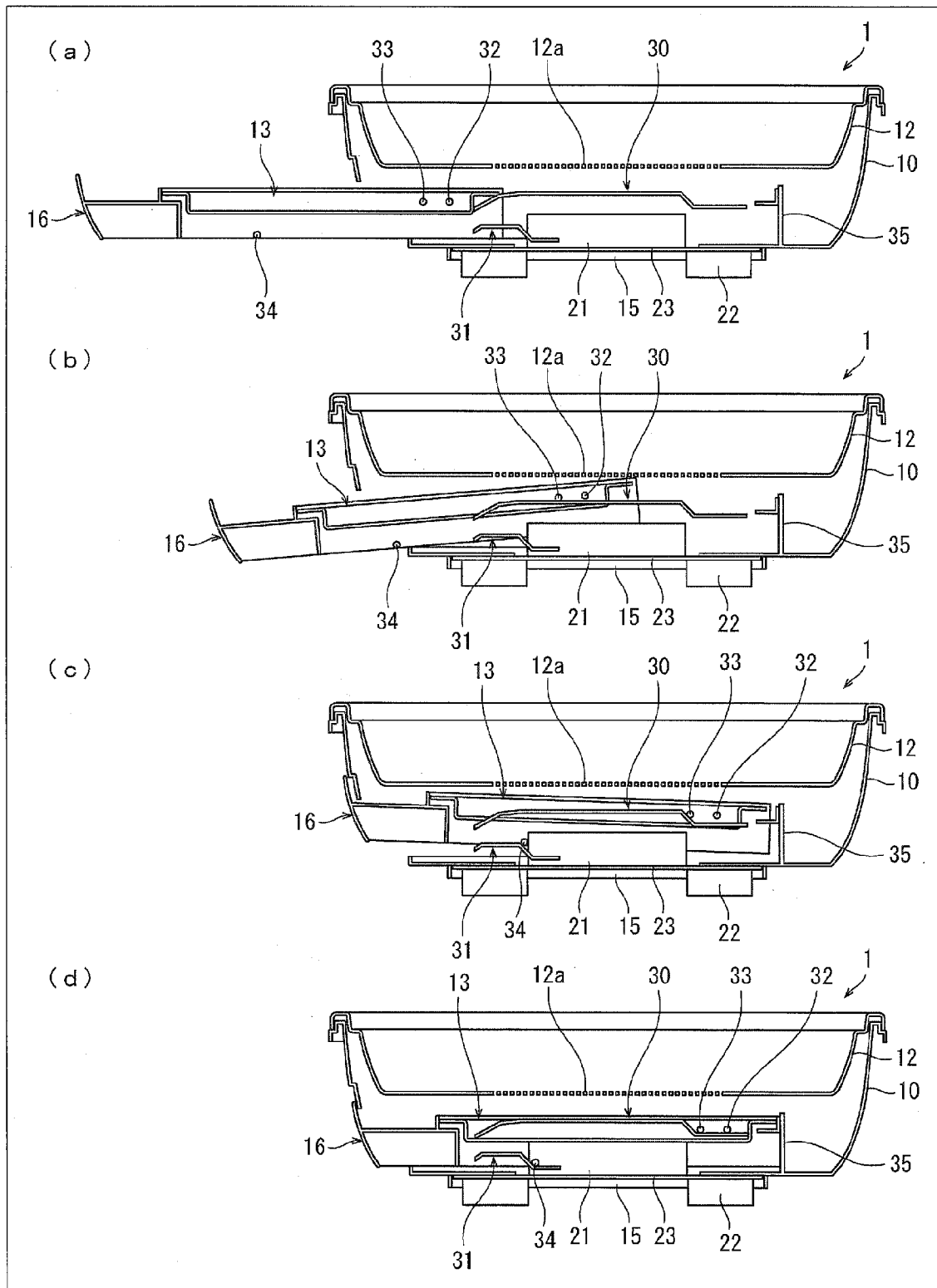
[図3]

図 3



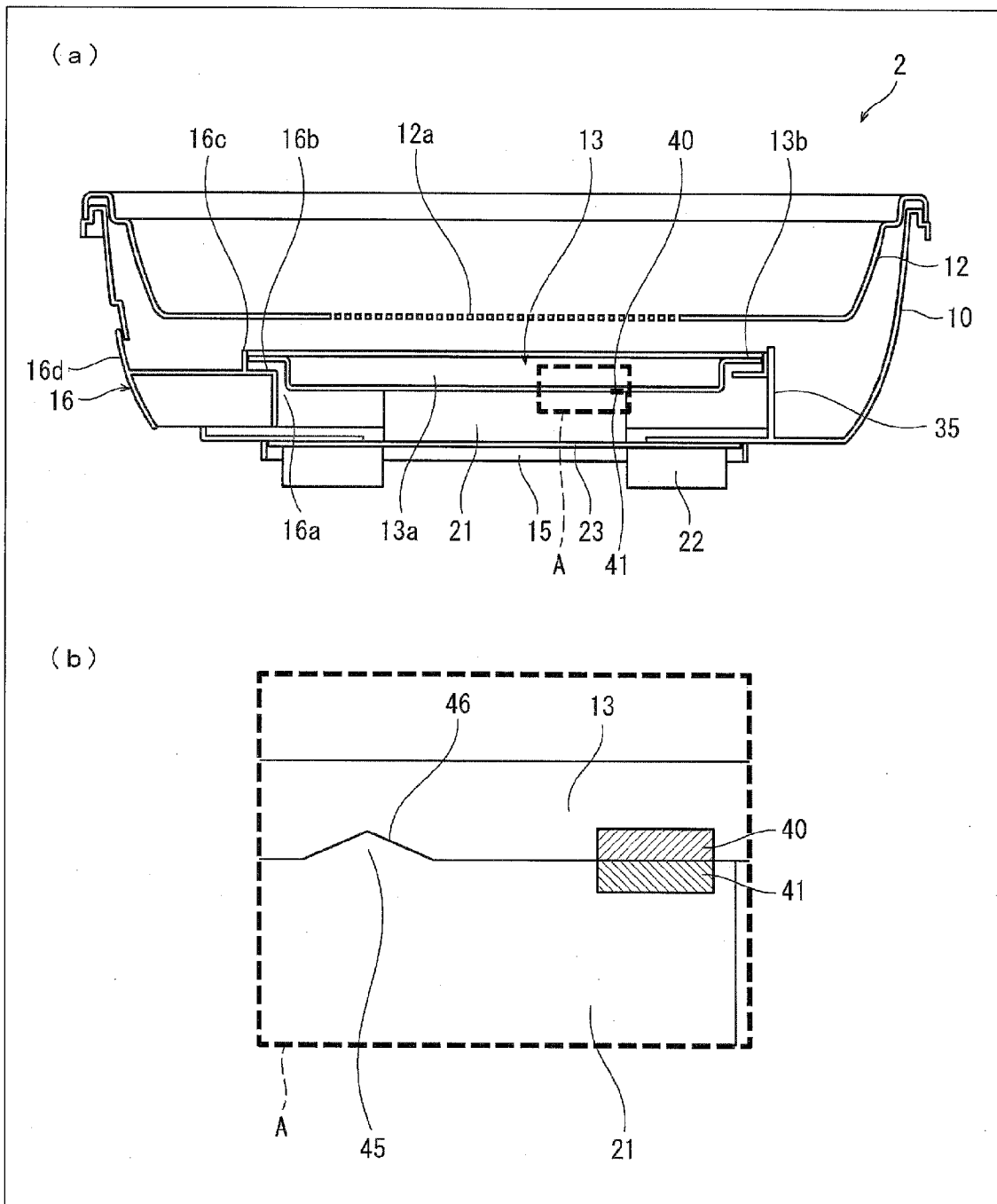
[図4]

図 4



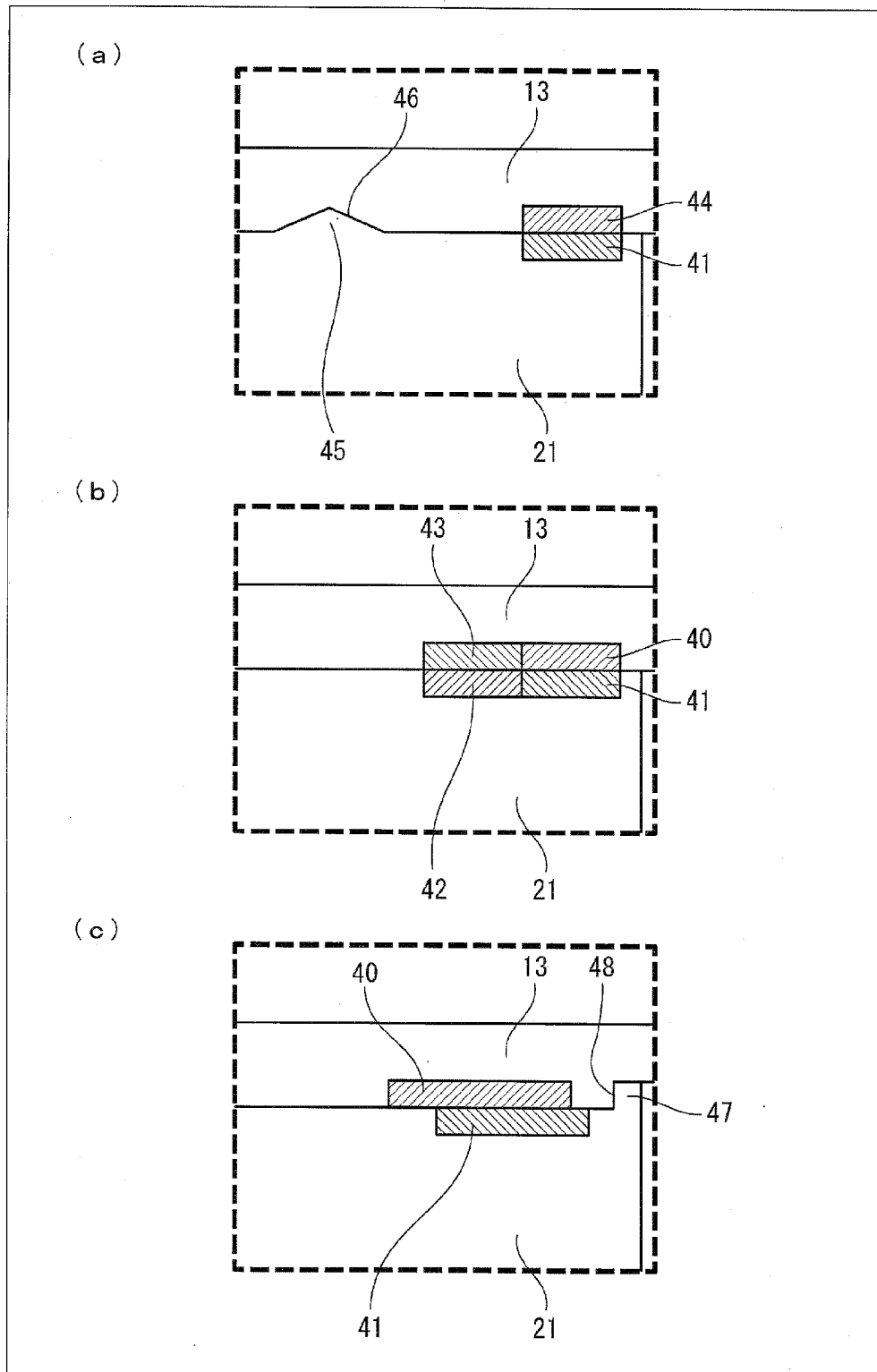
[図5]

図 5



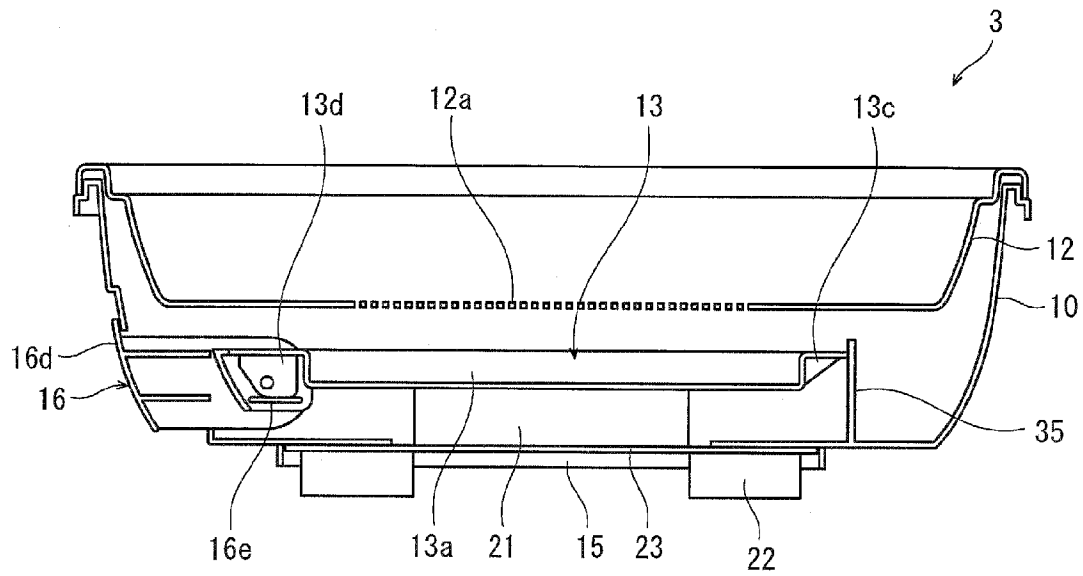
[図6]

図 6



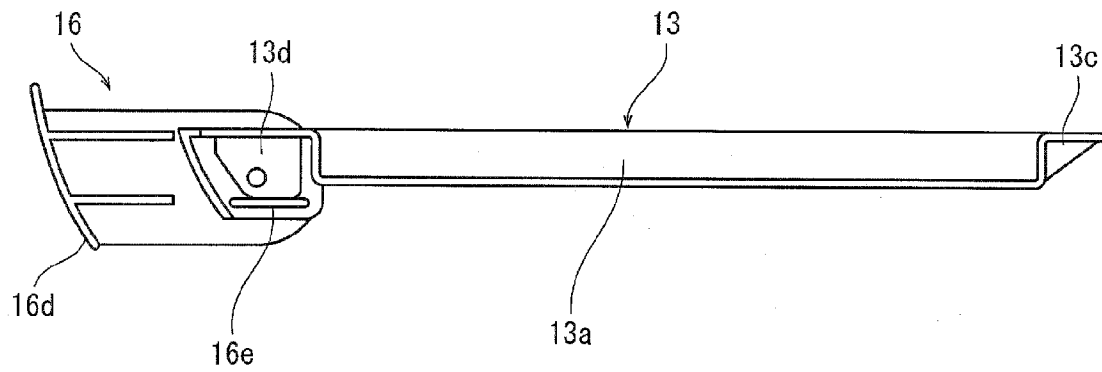
[図7]

图 7



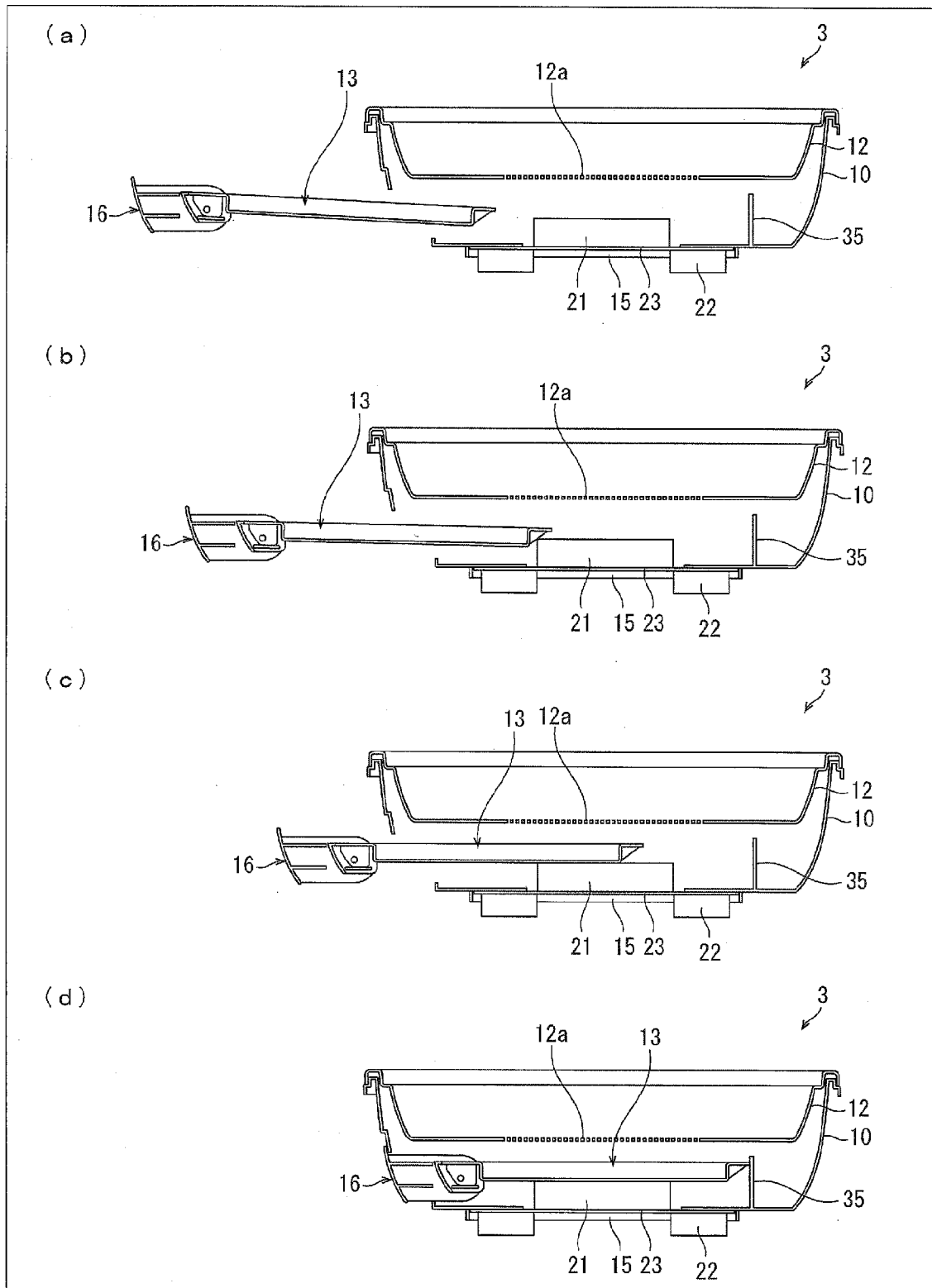
[図8]

图 8



[図9]

図 9



INTERNATIONAL SEARCH REPORT

International application No.

PCT / JP2 017 / 004276

A. CLASSIFICATION OF SUBJECT MATTER

A 01K23/00 (2006.01) i, A 01K67 / 00 (2006.01) i

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

A 01K23 / 00, A 01K67 / 00, A 01K1 / 00, G 01G1 7 / 04, G 01G1 7 / 08, G 01N3 3 / 493

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Jitsuyo	Shinan	Koho	1922-1996	Jitsuyo	Shinan	Toroku	Koho	1996-2017	
Kokai	Jitsuyo	Shinan	Koho	1971-2017	Toroku	Jitsuyo	Shinan	Koho	1994-2017

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	J P 2006-226919 A (Astellas Pharma Inc.), 31 August 2006 (31.08.2006), entire text; all drawings (Family: none)	1-9
A	WO 2011/019068 A1 (Mitsubishi Chemical Medience Corp.), 17 February 2011 (17.02.2011), entire text; all drawings & US 2012/0137758 A1 entire text; all drawings & EP 2466305 A1 & CN 102472740 A & KR 10-2012-0046304 A	1-9

☒ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

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"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
30 March 2017 (30.03.17)Date of mailing of the international search report
11 April 2017 (11.04.17)

Name and mailing address of the ISA/

Japan Patent Office
3-4-3, Kasumigasaka, Chiyoda-ku,
Tokyo 100-8915, Japan

Authorized officer

Telephone No.

INTERNATIONAL SEARCH REPORT

International application No.

PCT / JP2 017 / 004276

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 2007-330200 A (Harada Electronics Co., Ltd.), 27 December 2007 (27.12.2007), entire text; all drawings (Family: none)	1-9
A	WO 2012/166662 A1 (PET WIRELESS, LLC), 06 December 2012 (06.12.2012), entire text; all drawings & US 2012/0299731 A1 & EP 2713709 A	1-9

A. 発明の属する分野の分類 (国際特許分類 (IPC))

Int.Cl. A01K23/00 (2006.01) i, A01K67/00 (2006.01) i

B. 調査を行った分野

調査を行った最小限資料 (国際特許分類 (IPC))

Int.Cl. A01K23/00, A01K67/00, A01K1/00, G01G17/04, G01G17/08, G01N33/493

最小限資料以外の資料で調査を行った分野に含まれるもの

日本国実用新案公報	1922-19
日本国公開実用新案公報	1971-20
日本国実用新案登録公報	1996-20
日本国登録実用新案公報	1994-20

国際調査で使用した電子データベース (データベースの名称、調査に使用した用語)
年

C. 関連すると認められる文献

引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求項の番号
A	JP 2006-226919 A (アステラス製薬株式会社) 2006. 08. 31, 全文, 全図 (ファミリーなし)	1-9
A	W0 2011/019068 A1 (三菱化学メディエンス株式会社) 2011. 02. 17, 全文, 全図 & US 2012/0137758 A1, 全文, 全図 & EP 2466305 A1 & CN 102472740 A & KR 10-2012-0046304 A	1-9

C欄の続きにも文献が列挙されている。

「: パテントファミリーに関する別紙を参照。

* 引用文献のカテゴリー

- A 「特に関連のある文献ではなく、一般的技術水準を示すもの」
 E 「国際出願日前の出願または特許であるが、国際出願日以後に公表されたもの」
 F 「優先権主張に疑義を提起する文献又は他の文献の発行日若しくは他の特別な理由を確立するために引用する文献 (理由を付す)」
 G 「口頭による開示、使用、展示等に言及する文献」
 H 「国際出願日前で、かつ優先権の主張の基礎となる出願

の日後に公表された文献

- I 「国際出願日又は優先日後に公表された文献であって出願と矛盾するものではなく、発明の原理又は理論の理解のために引用するもの」
 J 「特に関連のある文献であって、当該文献のみで発明の新規性又は進歩性がないと考えられるもの」
 K 「特に関連のある文献であって、当該文献と他の1以上の文献との、当業者にとって自明である組合せによって進歩性がないと考えられるもの」
 L 「同一パテントファミリー文献」

国際調査を完了した日

30.03.2017

国際調査報告の発送日

11.04.2017

国際調査機関の名称及びあて先

日本国特許庁 (ISA/J P)

郵便番号 100-8915

東京都千代田区霞が関三丁目4番3号

特許庁審査官 (権限のある職員)

門 良成

電話番号 03-3581-1101 内線 3237

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C (続き) . 関連すると認められる文献		
引用文献の カテゴリー*	引用文献名 及び一部の箇所が関連するときは、その関連する箇所の表示	関連する 請求項の番号
A	JP 2007-330200 A (原田電子工業株式会社) 2007. 12. 27, 全文, 全図 (ファミリーなし)	1-9
A	Wo 2012/166662 AI (PET WIRELESS, LLC) 2012. 12. 06, 全文, 全図 & US 2012/0299731 AI & EP 2713709 A	1-9

<i>Search Notes</i> 	Application/Control No. 18/392,888	Applicant(s)/Patent Under Reexamination TANG, TIEQIANG
	Examiner ZOE TRAN	Art Unit 3647

CPC - Searched*		
Symbol	Date	Examiner
A01K1/0114, 0107, 011, 0152		

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
119	161, 165		

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Classification, Text, and Inventor Search in US and Foreign Databases	01/30/2025	ZT
Consulted Joshua Skroupa in class 403 for a cross search	01/30/2025	ZT

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	474	119/161.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 02:42 PM
L2	11	("2002/0000205").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 03:06 PM
L3	13	("2011/0297096").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 03:08 PM
L4	44	("4096827" "4120264" "4886014" "5048464" "5107797" "5477812" "5509379" "5551375" "5622140" "5662066" "5752465" "6055935" "6082302" "6126015" "6463881" "6851386" "7137355" "7198006" "7278372" "7487742" "7647889" "7762231" "7798101" "8413608" "8475367" "8544418").pn. OR ("8757094").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 03:22 PM
L5	785	A01K1/0114.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 04:03 PM
L6	3	("20210267158" "20220142114" "20230103710").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 04:31 PM
L7	7	("20020139312" "20190166789" "20210267158" "20230103710" "20230247967" "5662066" "20230363348").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 04:37 PM
L8	2	"115623991"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2025/01/29 04:38 PM

L9	15	"2021026158"	AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 04:38 PM
L10	4	("2021026158").pn.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 04:38 PM
L11	8	"20210267158"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO;	OR	ON	ON	2025/01/29 04:39 PM

L12	3076	A01K1/0114.cpc.	JPO) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 04:58 PM
L14	85	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092- A1 OR US- 20140299068-A1 OR US-20150007777-A1 OR US-20160374307- A1 OR US- 20110011347-A1 OR US-20140360436-A1 OR US-20090288610- A1 OR US- 20080105207-A1 OR US-20130098301-A1 OR US-20050224005- A1 OR US- 20150059653-A1 OR US-20130333624-A1 OR US-20100300367- A1 OR US- 20020000205-A1 OR US-20110297096-A1 OR US-20090000556- A1 OR US- 20200267928-A1 OR US-20210037781-A1 OR US-20180192610- A1 OR US- 20080314328-A1 OR US-20040177816-A1 OR US-20220117190- A1 OR US- 20020139312-A1 OR US-20160113230-A1 OR US-20190343066- A1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2025/01/29 04:58 PM

		20240260535-A1 OR US-20230217889-A1 OR US-20200260684- A1 OR US- 20050126504-A1 OR US-20210267158-A1 OR US-20230103710- A1 OR US- 20220142114-A1 OR US-20230247967-A1 OR US-20200187450- A1 OR US- 20240114874-A1 OR US-20160029587-A1 OR US-20190021273- A1 OR US- 20240306595-A1 OR US-20210051916-A1 OR US-20130333625- A1 OR US- 20240000037-A1 OR US-20160251134- A1).did. AND PGPB.dbnm.) OR ((US- 7395784-B2 OR US- 5042430-A OR US- 8733286-B2 OR US- 6615765-B1 OR US- 7380519-B2 OR US- 6394033-B1 OR US- 8757094-B2 OR US- 11944066-B2 OR US- 10098315-B2 OR US- D1035182-S OR US- 6463881-B2 OR US- 5662066-A OR US- 7137355-B1 OR US- 11523586-B2 OR US- 6055935-A OR US- 6126015-A OR US- 12099231-B2 OR US- 9713315-B2 OR US- D880790-S OR US- 9565830-B1 OR US- 5598811-A OR US- 4217857-A OR US- 4325325-A OR US- 12171188-B2 OR US- 5797346-A OR US- 5031578-A OR US- 5755182-A OR US- 4970987-A OR US- 5598810-A OR US- 7222584-B1 OR US- 5577462-A OR US- 4505226-A OR US- 6824114-B1 OR US- 5499610-A OR US-					
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L15	50	<p>5749317-A OR US-11963512-B1).did. AND USPT.dbnm.) OR ((CN-115623991-A).did. AND FTDB.dbnm.)</p> <p>(Artificial Intelligence)</p> <p>Similar to: 18/392,888 with 0 CPC Selections and 0 Text Selections</p> <p>Text: (US-10280605-B2 OR NL-1024058-C2 OR CN-220528920-U OR US-20190010689-A1 OR DE-102008035406-A1 OR CN-118383290-A OR EP-3439714-B1 OR US-11123478-B2 OR US-20190046718-A1 OR CN-210113906-U OR AU-2017248237-A1 OR US-20210330485-A1 OR US-20230293336-A1 OR US-20240156632-A1 OR WO-2021217078-A1 OR AU-2021261028-A1 OR CA-3176209-A1 OR WO-2024053673-A1 OR CA-3216535-A1 OR WO-2017177093-A1 OR AU-2017248237-B2 OR CN-213719285-U OR EP-4374833-A2 OR JP-3231886-U OR EP-4138742-B1 OR US-20240108319-A1 OR US-11963512-B1 OR FR-3046837-A1 OR CA-3016626-A1 OR CA-3016626-C OR WO-2024073645-A1 OR CN-214339278-U OR WO-0077312-A1 OR WO-2019239433-A1 OR US-10273674-B2 OR JP-2011089376-A OR WO-2021112793-A1 OR KR-20210046939-A OR WO-2023101838-A1 OR AU-2022400681-A1 OR JP-2024520979-A OR US-20230173481-A1 OR US-</p>	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/01/29 04:59 PM
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L16	50	<p>20140276494-A1 OR CN-210168689-U OR KR-102281603-B1 OR WO-2014153077-A9 OR WO-2014153077-A1 OR CN-220023816-U OR US-20140033983-A1 OR EP-3624709-B1).did.</p> <p>(Artificial Intelligence) Similar to: 18/392,888 with 1 CPC Selection and 8 Text Selections</p> <p>Text: (US-11963512-B1 OR US-20220248630-A1 OR US-7942460-B2 OR US-20180192610-A1 OR US-10159215-B2 OR US-20080164704-A1 OR US-20230337623-A1 OR US-20060065203-A1 OR US-7114459-B2 OR US-4784082-A OR US-10159214-B2 OR US-20160295829-A1 OR US-5921596-A OR US-9609844-B2 OR US-20110266817-A1 OR US-20170231190-A1 OR US-7047907-B1 OR US-7213535-B2 OR WO-9522892-A1 OR US-5363808-A OR EP-0610993-A1 OR EP-0610993-B1 OR WO-2011126846-A2 OR US-8459707-B2 OR US-20070283896-A1 OR US-10111402-B2 OR US-8851014-B2 OR US-20070012255-A1 OR CA-2448830-C OR US-20090058115-A1 OR US-20180192609-A1 OR US-20150075438-A1 OR US-5076627-A OR DE-202009013750-U1 OR US-20230380378-A1 OR EP-2324705-A1 OR US-20020149215-A1 OR US-11096372-B1 OR US-20150020743-A1 OR US-5752465-A</p>	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN))	OR	ON	ON	2025/01/29 05:03 PM
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L17	50	<p>OR US-20230000050-A1 OR US-20170164577-A1 OR DE-202018102593-U1 OR DE-102014111448-A1 OR US-4870924-A OR US-8408614-B2 OR US-12048289-B1 OR EP-3005864-A1 OR US-20230000051-A1 OR US-20160135420-A1).did.</p> <p>(Artificial Intelligence) Similar to: 18/392,888 with 0 CPC Selections and 8 Text Selections</p> <p>Text: (US-11963512-B1 OR US-20220248630-A1 OR US-7942460-B2 OR US-20180192610-A1 OR US-10159215-B2 OR US-20080164704-A1 OR US-20230337623-A1 OR US-20060065203-A1 OR US-7114459-B2 OR US-4784082-A OR US-20160295829-A1 OR US-10159214-B2 OR US-9609844-B2 OR US-5921596-A OR US-20170231190-A1 OR US-20110266817-A1 OR US-7047907-B1 OR US-7213535-B2 OR WO-9522892-A1 OR US-5363808-A OR EP-0610993-A1 OR EP-0610993-B1 OR US-8459707-B2 OR WO-2011126846-A2 OR US-20070283896-A1 OR US-10111402-B2 OR US-8851014-B2 OR US-20070012255-A1 OR CA-2448830-C OR US-20090058115-A1 OR US-20180192609-A1 OR US-20150075438-A1 OR US-5076627-A OR DE-202009013750-U1 OR US-20230380378-A1 OR EP-2324705-A1 OR US-20020149215-A1</p>	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/01/29 05:03 PM
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		OR US-11096372-B1 OR US-20150020743-A1 OR US-5752465-A OR US-20230000050-A1 OR US-20170164577-A1 OR DE-202018102593-U1 OR DE-102014111448-A1 OR US-4870924-A OR US-8408614-B2 OR US-12048289-B1 OR EP-3005864-A1 OR US-20230000051-A1 OR US-20160135420-A1).did.					
L18	1397	L12 AND (groove OR flange OR protrusion OR insertion OR slot)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:05 PM
L19	861	L12 AND (groove OR flange OR protrusion OR insertion OR slot)	(FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:06 PM
L20	107	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092-A1 OR US-20140299068-A1 OR US-20150007777-A1 OR US-20160374307-A1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN,	OR	ON	ON	2025/01/29 05:28 PM

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L21	6864	6394033-B1 OR US-8757094-B2 OR US-11944066-B2 OR US-10098315-B2 OR US-D1035182-S OR US-6463881-B2 OR US-5662066-A OR US-7137355-B1 OR US-11523586-B2 OR US-6055935-A OR US-6126015-A OR US-12099231-B2 OR US-9713315-B2 OR US-D880790-S OR US-9565830-B1 OR US-5598811-A OR US-4217857-A OR US-4325325-A OR US-12171188-B2 OR US-5797346-A OR US-5031578-A OR US-5755182-A OR US-4970987-A OR US-5598810-A OR US-7222584-B1 OR US-5577462-A OR US-4505226-A OR US-6824114-B1 OR US-5499610-A OR US-5749317-A OR US-11963512-B1).did. AND USPT.dbnm.) OR ((CN-115623991-A OR CN-220528920-U OR CN-220023816-U OR WO-2022087531-A2 OR WO-2023027174-A1 OR KR-20240088289-A OR WO-9730583-A1 OR JP-3244427-U OR CN-113163730-A OR WO-2017008168-A1 OR CN-113854160-A OR WO-2014022903-A1 OR CN-118020650-A OR CA-2520495-A1 OR WO-2021041088-A1 OR CH-688428-A5 OR AU-642388-B3 OR CN-117016398-A OR CN-117322349-A OR WO-2017150086-A1 OR WO-2024025004-A1 OR EP-2676543-A1).did. AND FTDB.dbnm.)					
		(A01K1/0107).cpc. OR	(US-PGPUB; USPAT;	OR	ON	ON	2025/01/29

		(119/165).ccls.	USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)				05:32 PM
L22	516	(119/165).ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:32 PM
L23	6690	(A01K1/0107).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:39 PM
L24	1318	(A01K1/0107).cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 05:39 PM
L25	114	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092-A1 OR US-20140299068-A1 OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL,	OR	ON	ON	2025/01/30 09:49 AM

		US-20150007777-A1 OR US-20160374307-A1 OR US-20110011347-A1 OR US-20140360436-A1 OR US-20090288610-A1 OR US-20080105207-A1 OR US-20130098301-A1 OR US-20050224005-A1 OR US-20150059653-A1 OR US-20130333624-A1 OR US-20100300367-A1 OR US-20020000205-A1 OR US-20110297096-A1 OR US-20090000556-A1 OR US-20200267928-A1 OR US-20210037781-A1 OR US-20180192610-A1 OR US-20080314328-A1 OR US-20040177816-A1 OR US-20220117190-A1 OR US-20020139312-A1 OR US-20160113230-A1 OR US-20190343066-A1 OR US-20240260535-A1 OR US-20230217889-A1 OR US-20200260684-A1 OR US-20050126504-A1 OR US-20210267158-A1 OR US-20230103710-A1 OR US-20220142114-A1 OR US-20230247967-A1 OR US-20200187450-A1 OR US-20240114874-A1 OR US-20160029587-A1 OR US-20190021273-A1 OR US-20240306595-A1 OR US-20210051916-A1 OR US-20130333625-A1 OR US-20240000037-A1 OR US-20160251134-A1 OR US-20230380378-A1 OR US-20090199778-A1 OR US-20230263125-A1 OR US-20060005777-	PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
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		A1 OR US- 20150334981-A1 OR US-20060032452- A1).did. AND PGPB.dbnm.) OR ((US- 7395784-B2 OR US- 5042430-A OR US- 8733286-B2 OR US- 6615765-B1 OR US- 7380519-B2 OR US- 6394033-B1 OR US- 8757094-B2 OR US- 11944066-B2 OR US- 10098315-B2 OR US- D1035182-S OR US- 6463881-B2 OR US- 5662066-A OR US- 7137355-B1 OR US- 11523586-B2 OR US- 6055935-A OR US- 6126015-A OR US- 12099231-B2 OR US- 9713315-B2 OR US- D880790-S OR US- 9565830-B1 OR US- 5598811-A OR US- 4217857-A OR US- 4325325-A OR US- 12171188-B2 OR US- 5797346-A OR US- 5031578-A OR US- 5755182-A OR US- 4970987-A OR US- 5598810-A OR US- 7222584-B1 OR US- 5577462-A OR US- 4505226-A OR US- 6824114-B1 OR US- 5499610-A OR US- 5749317-A OR US- 11963512-B1 OR US- 5814327-A OR US- 11647731-B2).did. AND USPT.dbnm.) OR ((CN- 115623991-A OR CN- 220528920-U OR CN- 220023816-U OR WO- 2022087531-A2 OR WO-2023027174-A1 OR KR-20240088289-A OR WO-9730583-A1 OR JP-3244427-U OR CN-113163730-A OR WO-2017008168-A1 OR CN-113854160-A OR WO-2014022903- A1 OR CN-118020650- A OR CA-2520495-A1					
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		OR WO-2021041088-A1 OR CH-688428-A5 OR AU-642388-B3 OR CN-117016398-A OR CN-117322349-A OR WO-2017150086-A1 OR WO-2024025004-A1 OR EP-2676543-A1).did. AND FTDB.dbnm.)					
L26	1233	(A01K1/011 OR A01K1/0152).cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/30 09:50 AM
L37	1	"20060169214"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/30 11:32 AM
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L39	4	"2021/0112770" "10517263" "2020/0022331").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/30 11:54 AM
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L41	11	("D245348" "5107797" "D858006" "D923887" "D954364" "D971527" "D993552" "D1007081" "D1037579" "20130333625" "20220104452").pn. OR ("D1048598").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/30 12:32 PM
L42	135	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092- A1 OR US- 20140299068-A1 OR US-20150007777-A1 OR US-20160374307- A1 OR US- 20110011347-A1 OR US-20140360436-A1 OR US-20090288610- A1 OR US- 20080105207-A1 OR US-20130098301-A1 OR US-20050224005- A1 OR US- 20150059653-A1 OR US-20130333624-A1 OR US-20100300367- A1 OR US- 20020000205-A1 OR US-20110297096-A1 OR US-20090000556- A1 OR US- 20200267928-A1 OR US-20210037781-A1 OR US-20180192610-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2025/01/30 03:24 PM

		A1 OR US- 20080314328-A1 OR US-20040177816-A1 OR US-20220117190- A1 OR US- 20020139312-A1 OR US-20160113230-A1 OR US-20190343066- A1 OR US- 20240260535-A1 OR US-20230217889-A1 OR US-20200260684- A1 OR US- 20050126504-A1 OR US-20210267158-A1 OR US-20230103710- A1 OR US- 20220142114-A1 OR US-20230247967-A1 OR US-20200187450- A1 OR US- 20240114874-A1 OR US-20160029587-A1 OR US-20190021273- A1 OR US- 20240306595-A1 OR US-20210051916-A1 OR US-20130333625- A1 OR US- 20240000037-A1 OR US-20160251134-A1 OR US-20230380378- A1 OR US- 20090199778-A1 OR US-20230263125-A1 OR US-20060005777- A1 OR US- 20150334981-A1 OR US-20060032452-A1 OR US-20190191660- A1 OR US- 20200037571-A1 OR US-20210112770-A1 OR US-20200022331- A1 OR US- 20060169214-A1).did. AND PGPB.dbnm.) OR ((US-7395784-B2 OR US-5042430-A OR US- 8733286-B2 OR US- 6615765-B1 OR US- 7380519-B2 OR US- 6394033-B1 OR US- 8757094-B2 OR US- 11944066-B2 OR US- 10098315-B2 OR US- D1035182-S OR US- 6463881-B2 OR US-					
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		5662066-A OR US- 7137355-B1 OR US- 11523586-B2 OR US- 6055935-A OR US- 6126015-A OR US- 12099231-B2 OR US- 9713315-B2 OR US- D880790-S OR US- 9565830-B1 OR US- 5598811-A OR US- 4217857-A OR US- 4325325-A OR US- 12171188-B2 OR US- 5797346-A OR US- 5031578-A OR US- 5755182-A OR US- 4970987-A OR US- 5598810-A OR US- 7222584-B1 OR US- 5577462-A OR US- 4505226-A OR US- 6824114-B1 OR US- 5499610-A OR US- 5749317-A OR US- 11963512-B1 OR US- 5814327-A OR US- 11647731-B2 OR US- 10517263-B1 OR US- 8683953-B2 OR US- 9433186-B2 OR US- 5785000-A OR US- 6523495-B1 OR US- 11412704-B2 OR US- D1053476-S OR US- 12075750-B2 OR US- D1048598-S OR US- D1048599-S OR US- D1037579-S OR US- 7584717-B2 OR US- 11540486-B2 OR US- 9258977-B1 OR US- D1007081-S OR US- 6341386-B1).did. AND USPT.dbnm.) OR ((CN- 115623991-A OR CN- 220528920-U OR CN- 220023816-U OR WO- 2022087531-A2 OR WO-2023027174-A1 OR KR-20240088289-A OR WO-9730583-A1 OR JP-3244427-U OR CN-113163730-A OR WO-2017008168-A1 OR CN-113854160-A OR WO-2014022903- A1 OR CN-118020650- A OR CA-2520495-A1					
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L43	68	OR WO-2021041088-A1 OR CH-688428-A5 OR AU-642388-B3 OR CN-117016398-A OR CN-117322349-A OR WO-2017150086-A1 OR WO-2024025004-A1 OR EP-2676543-A1).did. AND FTDB.dbnm.) L42 AND handle	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2025/01/30 03:25 PM
L44	3760	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/02/03 03:19 PM
L45	4725	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/02/03 03:20 PM

L46	497	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 03:26 PM
L47	1598	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 03:26 PM
L48	196	L47 AND (bump OR protrusion OR insert) SAME (groove OR clamp OR aperture)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 04:26 PM
L49	420	((Y10T403/70,7043.cpc.) OR L44) AND (bump OR protrusion OR insert) SAME (groove OR clamp OR aperture)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 04:38 PM
L50	50	(Artificial Intelligence) Similar to: 18/392,888 with 0 CPC Selections and 0 Text Selections Text: (US-10280605-B2 OR NL-1024058-C2 OR US-20190010689-A1 OR CN-220528920-U OR DE-102008035406-A1 OR CN-118383290-A OR CN-210113906-U OR EP-3439714-B1 OR US-11123478-B2 OR US-20190046718-A1 OR WO-2024053673-A1 OR AU-2017248237-A1 OR CN-213719285-U OR JP-3231886-U OR US-20210330485-A1 OR US-20230293336-A1 OR US-20240156632-A1 OR WO-2021217078-A1 OR AU-2021261028-A1 OR CA-3176209-A1 OR FR-3046837-A1 OR CA-3216535-A1 OR WO-2017177093-A1 OR AU-2017248237-B2 OR EP-4374833-A2 OR WO-0077312-A1 OR US-10273674-B2 OR US-20240108319-A1 OR EP-4138742-B1 OR JP-2011089376-A OR CN-214339278-U OR WO-2024073645-A1 OR CA-3016626-A1 OR CA-3016626-C OR WO-2019239433-A1	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/02/03 04:38 PM

		OR JP-2024520979-A OR KR-102281603-B1 OR WO-2021112793-A1 OR KR-20210046939-A OR US-11963512-B1 OR ES-1180536-U OR WO-2023101838-A1 OR AU-2022400681-A1 OR US-4309782-A OR US-20140276494-A1 OR CN-220023816-U OR CN-210168689-U OR US-20230173481-A1 OR US-20190083294-A1 OR WO-2014153077-A9).did.					
L51	2750	((Y10T403/70,7043.cpc.) OR L44) AND ((bump OR plug) OR (protrusion OR bulge OR projection OR hump OR knob OR rib OR jut OR "protruding ridge" OR "protruding element" OR "protruding member" OR "projecting lip") OR insert) SAME ((groove OR hole OR opening OR recess OR slit OR perforation OR slot OR rib OR gap OR slits) OR (clamp OR fastening OR grasp) OR aperture)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/02/03 04:41 PM
L52	50	(Artificial Intelligence) Query text sorted by similarity to 18/392,888 with 0 CPC Selections and 0 Text Selections Text: (((Y10T403/70,7043.cpc.) OR L44) AND ((bump OR plug) OR (protrusion OR bulge OR projection OR hump OR knob OR rib OR jut OR "protruding ridge" OR "protruding element" OR "protruding member" OR "projecting lip") OR insert) SAME ((groove OR hole OR opening OR recess OR slit OR perforation OR slot OR rib OR gap OR slits) OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/02/03 04:41 PM

L53	998	(clamp OR fastening OR grasp) OR aperture)) AND (US-6702507-B2 OR US-20020064423-A1 OR TW-I465180-B OR TW-201336387-A OR NO-752963-L OR US-3921365-A OR WO-2006132667-A2 OR US-8177657-B2 OR US-20100069171-A1 OR US-20110098128-A1 OR CN-103292135-B OR US-5246196-A OR CN-201172041-Y OR US-8992111-B2 OR US-20180328018-A1 OR US-10030379-B2 OR US-7878924-B2 OR US-10604928-B2 OR US-20170335560-A1 OR US-20080125239-A1 OR US-7621820-B2 OR US-20130150175-A1 OR US-8715108-B2 OR US-8403772-B2 OR US-20030228189-A1 OR US-20120196704-A1 OR JP-H10510762-A OR CN-201963035-U OR CN-103292135-A OR US-20200284023-A1 OR US-20120189379-A1 OR DE-60016339-T2 OR US-11668335-B2 OR US-10975563-B2 OR US-9243817-B2 OR TW-201244286-A OR US-4691960-A OR US-20120328390-A1 OR EP-1418284-A1 OR US-8757920-B2 OR US-20140202615-A1 OR CA-2776166-C OR US-9091468-B2 OR WO-2014116380-A1 OR US-6415829-B1 OR TW-M432226-U OR US-20020074061-A1 OR US-20110097143-A1 OR US-20130087656-A1 OR CA-2776166-A1).did. ((Y10T403/70,7043.cpc.) OR L44) AND ((bump	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 04:45 PM
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		OR plug) OR (protrusion OR bulge OR projection OR hump OR knob OR rib OR jut OR "protruding ridge" OR "protruding element" OR "protruding member" OR "projecting lip") OR insert) SAME ((groove OR hole OR opening OR recess OR slit OR perforation OR slot OR rib OR gap OR slits) OR (clamp OR fastening OR grasp) OR aperture)					
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PE2E SEARCH - Search History (Interference)

There are no Interference searches to show.

**PATENT APPLICATION
IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.	:	18/392,888
Application Filing Date	:	December 21, 2023
First Inventor	:	TIEQIANG TANG
Attorney Docket No.	:	4202/YAYI-US-IP-0414
Confirmation No.	:	7728
Examiner	:	TRAN, ZOE T
Art Unit	:	3647
	:	

Mail Stop Amendment

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

RESPONSE

Sir/Madam:

In response to the Office Action of **February 06, 2025**, please consider the following.

Amendments to the Specification begin on page **2** of this paper.

Amendments to the Claims begin on page **3** of this paper.

Remarks begin on page **8** of this paper.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (currently amended) A pet toilet comprising: a base and a fecal collection box detachably provided on the base, the base defines a through hole running through itself from top to bottom, and the fecal collection box defines a fecal collection chamber in communication with the through hole and configured to collect excrement,

wherein a bottom of the base is provided with insertion slots at two sides of the through hole, two sides of the fecal collection box protrude outward to form insertion flanges, the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base,

wherein between the insertion flange and the base there is provided with a joint structure, the joint structure comprises a first bump and a first clamping groove used in conjunction with the first bump, the first bump is placed in the first clamping groove when the fecal collection box is mounted on the base.

2.(canceled)

3.(canceled)

4. (currently amended) The pet toilet according to claim [[3]] 1, wherein the first bump is formed by upward protrusion of a top surface of the insertion flange, the insertion flange defines strip-type holes at both front and rear sides of the first bump, and the insertion flange forms a resilient piece between the two strip-type holes, the first bump is located on the resilient piece.

5.(currently amended) ~~The pet toilet according to claim 2,~~ A pet toilet comprising: a base and a fecal collection box detachably provided on the base, the base defines a

through hole running through itself from top to bottom, and the fecal collection box defines a fecal collection chamber in communication with the through hole and configured to collect excrement,

wherein a bottom of the base is provided with insertion slots at two sides of the through hole, two sides of the fecal collection box protrude outward to form insertion flanges, the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base,

wherein the base protrudes downward at two sides of the through hole to form limit protrusions, a cross-section of the insertion slot is C-shaped, the limit protrusions are located at a side of the insertion slot close to the through hole and are arranged separately from the insertion slot.

6. (original)The pet toilet according to claim 5, wherein the limit protrusion comprises a first housing provided on the base and a light guide casing connected to the first housing to form a mounting chamber, the mounting chamber is provided therein with a lamp board, the lamp board is provided thereon with a plurality of luminous bodies.

7.(currently amended) The pet toilet according to claim [[2]] 4, wherein the insertion flange extends downwards at a side away from the through hole to form an enhancing flange, the strip-type holes run through the enhancing flange from top to bottom.

8. (currently amended) The pet toilet according to claim [[2]] 1, wherein the base extends downward at a bottom of the insertion slot to form a block flange.

9.(currently amended) The pet toilet according to claim [[2]] 1, wherein a rear side wall of the fecal collection box defines a first gap in communication with the fecal collection chamber.

10.(currently amended) The pet toilet according to claim 1, wherein the fecal collection box comprises at least one extension frame and a fixing basin, the at least

one extension frame is sheathed on an outer side of the fixing basin and detachably connected with the fixing basin;

the at least one extension frame is of a hollow shape, and both a bottom and top thereof are first openings; the fixing basin is of a hollow shape, and a top thereof is a second opening; the fecal collection chamber is surrounded and formed by the at least one extension frame and the fixing basin.

11.(currently amended) The pet toilet according to claim 10, further comprising a roller rotatably provided on the base, the roller defines an entrance/exit used for pets to enter and exit, a width of the at least one extension frame is less than a width of the entrance/exit, and a length of the roller is larger than a length of the at least one extension frame.

12.(currently amended) ~~The pet toilet according to claim 10,~~ A pet toilet comprising: a base and a fecal collection box detachably provided on the base, the base defines a through hole running through itself from top to bottom, and the fecal collection box defines a fecal collection chamber in communication with the through hole and configured to collect excrement,

wherein the fecal collection box comprises at least one extension frame and a fixing basin, the at least one extension frame is sheathed on an outer side of the fixing basin and detachably connected with the fixing basin;

the at least one extension frame is of a hollow shape, and both a bottom and top thereof are first openings; the fixing basin is of a hollow shape, and a top thereof is a second opening; the fecal collection chamber is surrounded and formed by the at least one extension frame and the fixing basin,

wherein the ~~fecal collection box~~ at least one extension frame comprises a plurality of extension frames, the plurality of extension frames are sheathed sequentially from

inside to outside according to sizes, and there is interference fit between every two adjacent extension frames, the insertion flange is located on the outermost extension frame.

13.(currently amended) The pet toilet according to claim 10, wherein an inner side wall of [[the]] each extension frame is provided thereon with a first limit member, an outer side wall of the fixing basin is provided thereon with a second limit member, the first limit member abuts against the second limit member when the fixing basin is assembled with the extension frame.

14.(original) The pet toilet according to claim 12, wherein the first limit member comprises a first limit flange extending inward from a bottom of the extension frame and a first straight wall extending upward from a distal end of the first limit flange, an inner side wall of the extension frame, the first limit flange, and the first straight wall surround to form a first limit groove;

the second limit member comprises a second limit flange formed by outward extension from a top of the fixing basin and a second straight wall extending downward from a distal end of the second limit flange, an outer sidewall of the fixing basin, the second limit flange, and the second straight wall surround to form a second limit groove; the first straight wall is positioned in the second limit groove, and the second straight wall is positioned in the first limit groove.

15.(original) The pet toilet according to claim 12, wherein the first limit flange defines a plurality of drain holes.

16.(original) The pet toilet according to claim 12, wherein the second limit flange and/or the second straight wall defines a second gap.

17.(original) The pet toilet according to claim 12, wherein the inner side wall of the extension frame is provided thereon with a fixture block configured to stop relative

movement of the fixing basin and the extension frame, the fixture block is located above the first limit member.

18.(original) The pet toilet according to claim 12, wherein side walls of the first limit groove and/or the second limit groove are provided thereon with a plurality of pressing protrusions, and the first limit groove and/or the second limit groove defines second clamping grooves at positions corresponding to the pressing protrusions.

19.(original) The pet toilet according to claim 12, wherein a distance between two opposite side walls of the extension frame gradually reduces from top to bottom, and a distance between two opposite side walls of the fixing basin gradually reduces from top to bottom; the second limit member is in interference fit with the extension frame.

20.(original) The pet toilet according to claim 1, wherein the fecal collection box is provided thereon with a handle groove, and the base is provided with at least three support legs around the fecal collection box.



UNITED STATES
PATENT AND TRADEMARK OFFICE

P.O. Box 1450
Alexandria, VA 22313 - 1450
www.uspto.gov

ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION #
18/392,888

RECEIPT DATE / TIME
04/30/2025 11:37:42 AM Z ET

ATTORNEY DOCKET #
4202/YAYI-US-IP-0414

Title of Invention

PET TOILET

Application Information

APPLICATION TYPE Utility - Nonprovisional Application
under 35 USC 111(a)

PATENT # -

CONFIRMATION # 7728

FILED BY Alex Hu

PATENT CENTER # 70228637

FILING DATE 12/21/2023

CUSTOMER # 186096

FIRST NAMED INVENTOR TIEQIANG TANG

CORRESPONDENCE ADDRESS -

AUTHORIZED BY -

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
US18392888-response-0430.pdf	11	Amendment/Request for Reconsideration-After Non-Final Rejection	81 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
US18392888-response-0430.pdf	AAAD1BC1ACE7236F4542928B26001CC0CA9B56F67D2C2718658BFC0C4DE128257CF2F0889D9BB343B7773D4D6AEF4D8A5BA181B6201582AD4C320A8A77C718E5

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

REMARKS

The title and claims 1, 4, 5, 7-9, and 10-13 are amended. Claims 2-3 are canceled without prejudice. The amendment can be supported at original claims, specification and drawings. No new matter is added by this Response.

Applicant respectfully requests reconsideration and allowance of the pending claims in view of the following remarks. As Applicant's remarks with respect to the Examiner's rejections are sufficient to overcome these rejections, Applicant's silence as to assertions by the Examiner in the Office Action or certain requirements that may be applicable to such rejections is not a concession by Applicant that such assertions are accurate or such requirements have been met, and Applicant reserves the right to analyze and dispute such in the future.

Specification

The title of the invention is not descriptive.

In response, the title has been amended according to examiner's suggestion.

Claim Rejections- 35 USC § 112

Claims 7 and 10-19 are rejected under 35 U.S.C. 112(b) as being indefinite for failing to particularly point out and distinctly claim the subject matter which the inventor or a joint inventor regards as the invention.

In response, claims 7 and 10-13 are amended.

Claim Rejections- 35 USC § 102

(1) Claims 1, and 20 are rejected under 35 U.S.C. § 102 (a)(1) as being anticipated by Baxter et al. (US 20220142114), hereinafter Baxter.

(2) Claims 1-2 are rejected under 35 U.S.C. § 102 (a)(1) as being anticipated by Turkalo (US 20060169214).

Claim Rejections- 35 USC § 103

(1) Claim 2 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Turkalo (US 20060169214).

(2) Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Baxter as modified by Turkalo as applied to claim 2 above, and further in view of Zhang (US 20240114874).

(3) Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Baxter as modified by Turkalo as applied to claim 2 above, and further in view of Hirata et al. (WO 2017150086), hereinafter Hirata.

(4) Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Baxter as modified by Turkalo as applied to claim 2 above, and further in view of Simard (US 20230217888).

(5) Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Baxter and in view of Rusch (US 20230217889).

(6) Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Turkalo and in view of Rusch Zhang (US 20240114874).

(7) Claim 8 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Turkalo in view of Hirata et al. (WO 2017150086), hereinafter Hirata.

(8) Claim 9 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Turkalo in view of Simard (US 20230217888).

However, the Office Action says that claims 3-6, 12, 14-19 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

In response, claim 1 has been amended to add the limitation of claims 2-3, claims 2-3 have been canceled, claims 5 and 12 have been rewritten in independent

form, and claims 4, 7-11, and 13 have been amended. Thus, amended claims 1, 5 and 12 should be allowable. Claims 7-11, 13 and 20 depend on one of amended claims 1, 5 and 12, and should be allowable.

CONCLUSION

In view of the above, the undersigned representative respectfully submits that the foregoing Amendment and Response places this application in condition for allowance and a Notice to that effect is earnestly solicited. If Examiner believes that there are any issues that can be resolved by a telephone conference, or that there are any informalities that can be corrected by an Examiner's amendment, please call the undersigned representative at the number given below.

The undersigned representative requests any extension of time that may be deemed necessary to further the prosecution of this application.

Respectfully,

By

/Alex Hu/

Alex Hu

Reg. No. 77909

4000 Legato Road

Suite 1100

Fairfax, VA 22033

Amendments to the Specification:

Please amend the title as following:

PET TOILET WITH A DETACHABLE FECAL COLLECTION BOX TO A

BOTTOM OF A BASE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 18/392,888	Filing Date 12/21/2023	☐ To be Mailed
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 = *		x \$40 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 = *		x \$ 192 =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED - PART II

	(Column 1)		(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
AMENDMENT	04/30/2025		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	* 18	Minus	** 20	= 0	x \$ 80 = 0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0	x \$ 240 = 0
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						0
AMENDMENT			CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	
	Total (37 CFR 1.16(i))	*	Minus	**	=	x \$ 0 =
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x \$ 0 =
	☐ Application Size Fee (37 CFR 1.16(s))					
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					
TOTAL ADD'L FEE						
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.						LIE
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".						/ALANE C PUGH/
*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".						
The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.						

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Bibliographic Data

Application No: 18/392,888

Foreign Priority claimed: ☒ Yes ☐ No

35 USC 119 (a-d) conditions met: ☒ Yes ☐ No ☐ Met After Allowance

Verified and Acknowledged:

/ZOE TAM TRAN/

Examiner's Signature

Initials

Title:

PET TOILET

FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
12/21/2023	119	3647	4202/YAYI-US-IP-0414
RULE			

APPLICANTS

PETPIVOT INC, PORTLAND, OR, UNITED STATES

INVENTORS

TIEQIANG TANG, Shaoyang City, Hunan Province, CHINA

CONTINUING DATA

FOREIGN APPLICATIONS

CHINA CN202323419782.6 12/14/2023

IF REQUIRED, FOREIGN LICENSE GRANTED**

01/05/2024

** SMALL ENTITY **

STATE OR COUNTRY

CHINA

ADDRESS

ipPivot IP Agency
4000 Legato Road
Suite 1100
Fairfax, VA 22033
UNITED STATES

FILING FEE RECEIVED

\$664

Issue Classification 	Application/Control No. 18/392,888	Applicant(s)/Patent Under Reexamination TANG, TIEQIANG
	Examiner ZOE TRAN	Art Unit 3647

CPC					
Symbol				Type	Version
A01K	/	1	/	0114	F 2013-01-01

CPC Combination Sets					
Symbol			Type	Set	Ranking Version
	/		/		

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	18	
/ZOE TAM TRAN/ Examiner, Art Unit 3647	11 June 2025	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

Issue Classification 	Application/Control No. 18/392,888	Applicant(s)/Patent Under Reexamination TANG, TIEQIANG
	Examiner ZOE TRAN	Art Unit 3647

INTERNATIONAL CLASSIFICATION			
CLAIMED			
A01K1/01	/	1	/ 01
NON-CLAIMED			
	/		/

US ORIGINAL CLASSIFICATION	
CLASS	SUBCLASS
119	161

CROSS REFERENCES(S)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)					

NONE	Total Claims Allowed:	
(Assistant Examiner)	(Date)	18
/ZOE TAM TRAN/ Examiner, Art Unit 3647	11 June 2025	O.G. Print Claim(s)
(Primary Examiner)	(Date)	1
		O.G. Print Figure
		2

Issue Classification 	Application/Control No. 18/392,888	Applicant(s)/Patent Under Reexamination TANG, TIEQIANG
	Examiner ZOE TRAN	Art Unit 3647

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47															
CLAIMS															
Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	1	8	10	17	19										
	2	9	11	18	20										
	3	10	12												
2	4	11	13												
3	5	12	14												
4	6	13	15												
5	7	14	16												
6	8	15	17												
7	9	16	18												

NONE	Total Claims Allowed:	
(Assistant Examiner)	(Date)	18
/ZOE TAM TRAN/ Examiner, Art Unit 3647	11 June 2025	O.G. Print Claim(s) O.G. Print Figure
(Primary Examiner)	(Date)	1 2



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

186096 7590 06/20/2025
ipPivot IP Agency
4000 Legato Road
Suite 1100
Fairfax, VA 22033

EXAMINER	
TRAN, ZOE T	
ART UNIT	PAPER NUMBER
3647	

DATE MAILED: 06/20/2025

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/392,888	12/21/2023	TIEQIANG TANG	4202/YAYI-US-IP-0414	7728

TITLE OF INVENTION: PET TOILET

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$516	\$0.00	\$0.00	\$516	09/22/2025

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 40% the amount of undiscounted fees, and micro entity fees are 20% the amount of undiscounted fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), by mail or fax, or via the USPTO patent electronic filing system.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (571)-273-2885

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications. **Because electronic patent issuance may occur shortly after issue fee payment, any desired continuing application should preferably be filed prior to payment of this issue fee in order not to jeopardize copendency.**

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being transmitted to the USPTO via the USPTO patent electronic filing system or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/392,888	12/21/2023	TIEQIANG TANG	4202/YAYI-US-IP-0414	7728

TITLE OF INVENTION: PET TOILET

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$516	\$0.00	\$0.00	\$516	09/22/2025

EXAMINER	ART UNIT	CLASS-SUBCLASS
TRAN, ZOE T	3647	119-161000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

☐ Change of correspondence address (or Change of Correspondence Address form PTO/AIA/122 or PTO/SB/122) attached.

☐ "Fee Address" indication (or "Fee Address" Indication form PTO/AIA/47 or PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

(1) The names of up to 3 registered patent attorneys or agents OR, alternatively,

1 _____

(2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.

2 _____

3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent): ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. Fees submitted: ☐ Issue Fee ☐ Publication Fee (if required)

4b. Method of Payment: (Please first reapply any previously paid fee shown above)

☐ Electronic Payment via the USPTO patent electronic filing system ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

5. Change in Entity Status (from status indicated above)

☐ Applicant certifying micro entity status. See 37 CFR 1.29

☐ Applicant asserting small entity status. See 37 CFR 1.27

☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/392,888	12/21/2023	TIEQIANG TANG	4202/YAYI-US-IP-0414	7728
186096	7590	06/20/2025	EXAMINER	
ipPivot IP Agency			TRAN, ZOE T	
4000 Legato Road			ART UNIT	PAPER NUMBER
Suite 1100			3647	
Fairfax, VA 22033			DATE MAILED: 06/20/2025	

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. The United States Patent and Trademark Office (USPTO) collects the information in this record under authority of 35 U.S.C. 2. The USPTO's system of records is used to manage all applicant and owner information including name, citizenship, residence, post office address, and other information with respect to inventors and their legal representatives pertaining to the applicant's/owner's activities in connection with the invention for which a patent is sought or has been granted. The applicable Privacy Act System of Records Notice for the information collected in this form is COMMERCE/PAT-TM-7 Patent Application Files, available in the Federal Register at 78 FR 19243 (March 29, 2013).

<https://www.govinfo.gov/content/pkg/FR-2013-03-29/pdf/2013-07341.pdf>

Routine uses of the information in this record may include disclosure to:

- 1) law enforcement, in the event that the system of records indicates a violation or potential violation of law;
- 2) a federal, state, local, or international agency, in response to its request;
- 3) a contractor of the USPTO having need for the information in order to perform a contract;
- 4) the Department of Justice for determination of whether the Freedom of Information Act (FOIA) requires disclosure of the record;
- 5) a Member of Congress submitting a request involving an individual to whom the record pertains, when the individual has requested the Member's assistance with respect to the subject matter of the record;
- 6) a court, magistrate, or administrative tribunal, in the course of presenting evidence, including disclosures to opposing counsel in the course of settlement negotiations;
- 7) the Administrator, General Services Administration (GSA), or their designee, during an inspection of records conducted by GSA under authority of 44 U.S.C. 2904 and 2906, in accordance with the GSA regulations and any other relevant (i.e., GSA or Commerce) directive, where such disclosure shall not be used to make determinations about individuals;
- 8) another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c));
- 9) the Office of Personnel Management (OPM) for personnel research purposes; and
- 10) the Office of Management and Budget (OMB) for legislative coordination and clearance.

If you do not furnish the information requested on this form, the USPTO may not be able to process and/or examine your submission, which may result in termination of proceedings, abandonment of the application, and/or expiration of the patent.

Notice of Allowability	Application No. 18/392,888	Applicant(s) TANG, TIEQIANG	
	Examiner ZOE TRAN	Art Unit 3647	AIA (First Inventor to File) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Claim Set 4/30/2025.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1 and 4-20. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☐ Examiner's Amendment/Comment |
| 2. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____. | 6. ☒ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material _____. | 7. ☐ Other _____. |
| 4. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

/ZOE TAM TRAN/
Examiner, Art Unit 3647

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file provisions of the AIA.

Allowable Subject Matter

Claims 1, and 4-20 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record fails to disclose or make obvious the combined limitations of Applicant's claimed invention. With regard to independent claim 1 (independent claim 5 being substantively similar), Baxter et al. (US 20220142114) teaches of (fig. 4) a pet toilet (abstract, litter device) comprising:

- a base (base 12) and a fecal collection box (waste drawer 16) detachably provided on the base (seen in fig. 4),
- the base (12) defines a through hole (opening from the top of base 12 to the bottom) running through itself from top to bottom (through hole in the base 12 runs from the top to the bottom of the base; Examiner notes that the claim does not claim that it extends past both the top and bottom surfaces), and
- the fecal collection box (16) defines a fecal collection chamber (interior of waste bin 80) in communication with the through hole and configured to collect excrement (fig. 2, when the drawer 16 is closed into the base 12, it communicates with the through hole to collect excrement from the chamber 10).

Turkalo (US 20060169214) teaches of (fig. 1) a pet toilet (abstract, animal waste receptacle) comprising:

- a base (top panel 14) and a fecal collection box (bag dispenser 20) detachably provided on the base (seen in fig. 1),
- the base (14) defines a through hole (slot 16) running through itself from top to bottom (runs through the top and bottom of base 14), and
- the fecal collection box (20) defines a fecal collection chamber (chamber of bag 18) in communication with the through hole and configured to collect excrement (fig. 2, when the bag dispenser 20 is mounted to the base 14 under the through hole 16, it communicates with the through hole 16 to collect excrement),
- wherein a bottom of the base (14) is provided with insertion slots (brackets 44) at two sides of the through hole (at left and right sides of the slot 16), two sides of the fecal collection box protrude outward to form insertion flanges (sides of the box dispenser 20 that inserts into the insertion slots 44), the insertion flanges are inserted in the insertion slots when the fecal collection box is mounted on the base (seen in fig. 2).

However, the prior art does not teach the combined limitations of the claimed invention, specifically, wherein between the insertion flange and the base there is provided with a joint structure, the joint structure comprises a first bump and a first clamping groove used in conjunction with the first bump, the first bump is placed in the first clamping groove when the fecal collection box is mounted on the base, and

wherein the base protrudes downward at two sides of the through hole to form limit protrusions, a cross-section of the insertion slot is C-shaped, the limit protrusions are located at a side of the insertion slot close to the through hole and are arranged separately from the insertion slot.

With regard to independent claim 12, Baxter et al. (US 20220142114) teaches of (fig. 4) a pet toilet (abstract, litter device) comprising:

- a base (base 12) and a fecal collection box (waste drawer 16) detachably provided on the base (seen in fig. 4),
- the base (12) defines a through hole (opening from the top of base 12 to the bottom) running through itself from top to bottom (through hole in the base 12 runs from the top to the bottom of the base; Examiner notes that the claim does not claim that it extends past both the top and bottom surfaces), and
- the fecal collection box (16) defines a fecal collection chamber (interior of waste bin 80) in communication with the through hole and configured to collect excrement (fig. 2, when the drawer 16 is closed into the base 12, it communicates with the through hole to collect excrement from the chamber 10)
- wherein (fig. 4) the fecal collection box comprises a fixing basin (waste bin 80);
- the fixing basin is of a hollow shape (seen in fig. 4), and a top thereof is a second opening (top of waste bin 80 is a second opening); the fecal collection chamber is surrounded and formed by the fixing basin (seen in fig. 4).

Rusch et al. (US 20230217889) teaches of (fig. 2) wherein the fecal collection box (cat litter box system 100) comprises at least one extension frame (top shield section 102), the extension frame (102) is sheathed on an outer side of the fixing basin (collection pan 106) (seen in fig. 1) and detachably connected with the fixing basin (seen in fig. 2); the extension frame is of a hollow shape (hollow interior of extension frame 102), and both a bottom and top thereof are first openings (seen in figs. 2 and 3A); the fecal collection chamber (chamber of shifter pan 104 and pan 106) is surrounded and formed by the extension frame (102) and the fixing basin (106) (seen in fig. 3A).

However, the prior art does not teach the combined limitations of the claimed invention, specifically, wherein the at least one extension frame comprises a plurality of extension frames, the plurality of extension frames are sheathed sequentially from inside to outside according to sizes, and there is interference fit between every two adjacent extension frames, the insertion flange is located on the outermost extension frame.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ZOE TRAN whose telephone number is (571)272-8530. The examiner can normally be reached M-Th 7:30am-6pm EST.

Examiner interviews are available via telephone, in-person, and video conferencing using a USPTO supplied web-based collaboration tool. To schedule an interview, applicant is encouraged to use the USPTO Automated Interview Request (AIR) at <http://www.uspto.gov/interviewpractice>.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kimberly Berona can be reached at 571-272-6909. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of published or unpublished applications may be obtained from Patent Center. Unpublished application information in Patent Center is available to registered users. To file and manage patent submissions in Patent Center, visit: <https://patentcenter.uspto.gov>. Visit <https://www.uspto.gov/patents/apply/patent-center> for more information about Patent Center and <https://www.uspto.gov/patents/docx> for information about filing in DOCX format. For additional questions, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/ZOE TAM TRAN/
Examiner, Art Unit 3647



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
18/392,888	12/21/2023	TIEQIANG TANG	4202/YAYI-US-IP-0414

CONFIRMATION NO. 7728

186096
ipPivot IP Agency
4000 Legato Road
Suite 1100
Fairfax, VA 22033

PUBLICATION NOTICE



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Date Mailed: 06/20/2025

Title:PET TOILET

Publication No.US-2025-0194554-A1

Publication Date:06/19/2025

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be viewed using the USPTO's publicly available Searchable Databases via the Patent Public Search tool at www.uspto.gov. The direct link to access the Patent Public Search tool is currently <https://ppubs.uspto.gov/pubwebapp/static/pages/ppubsbasic.html>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Public Records Division. The Public Records Division can be reached by telephone at (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through Patent Center, the USPTO's electronic patent application filing and management system. The direct link to access this status information is currently <https://patentcenter.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of Patent Center.

Further assistance in electronically accessing the publication, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

<i>Search Notes</i> 	Application/Control No. 18/392,888	Applicant(s)/Patent Under Reexamination TANG, TIEQIANG
	Examiner ZOE TRAN	Art Unit 3647

CPC - Searched*		
Symbol	Date	Examiner
A01K1/0114, 0107, 011, 0152	06/11/2025	ZT

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
119	161, 165	06/11/2025	ZT

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

Search Notes		
Search Notes	Date	Examiner
Classification, Text, and Inventor Search in US and Foreign Databases	01/30/2025	ZT
Consulted Joshua Skroupa in class 403 for a cross search	01/30/2025	ZT
Updated Search	06/11/2025	ZT
Consulted Michael Ferguson in class 403 for Search Help	06/11/2025	ZT

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<i>Search Notes</i> 	Application/Control No. 18/392,888	Applicant(s)/Patent Under Reexamination TANG, TIEQIANG
	Examiner ZOE TRAN	Art Unit 3647

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
119	161, 165	06/11/2025	ZT
Y10T	403/70, 7043, 5773, 70	06/11/2025	ZT
A01K	1/107	06/11/2025	ZT
F16B	5/0012, 0016	06/11/2025	ZT

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PE2E SEARCH - Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
L1	474	119/161.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 02:42 PM
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L3	13	("2011/0297096").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 03:08 PM
L4	44	("4096827" "4120264" "4886014" "5048464" "5107797" "5477812" "5509379" "5551375" "5622140" "5662066" "5752465" "6055935" "6082302" "6126015" "6463881" "6851386" "7137355" "7198006" "7278372" "7487742" "7647889" "7762231" "7798101" "8413608" "8475367" "8544418").pn. OR ("8757094").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 03:22 PM
L5	785	A01K1/0114.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 04:03 PM
L6	3	("20210267158" "20220142114" "20230103710").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 04:31 PM
L7	7	("20020139312" "20190166789" "20210267158" "20230103710" "20230247967" "5662066" "20230363348").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 04:37 PM
L8	2	"115623991"	(US-PGPUB; USPAT; USOCR; FIT (AU, AP,	OR	ON	ON	2025/01/29 04:38 PM

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L12	3076	A01K1/0114.cpc.	JPO) (US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 04:58 PM
L14	85	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092- A1 OR US- 20140299068-A1 OR US-20150007777-A1 OR US-20160374307- A1 OR US- 20110011347-A1 OR US-20140360436-A1 OR US-20090288610- A1 OR US- 20080105207-A1 OR US-20130098301-A1 OR US-20050224005- A1 OR US- 20150059653-A1 OR US-20130333624-A1 OR US-20100300367- A1 OR US- 20020000205-A1 OR US-20110297096-A1 OR US-20090000556- A1 OR US- 20200267928-A1 OR US-20210037781-A1 OR US-20180192610- A1 OR US- 20080314328-A1 OR US-20040177816-A1 OR US-20220117190- A1 OR US- 20020139312-A1 OR US-20160113230-A1 OR US-20190343066- A1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2025/01/29 04:58 PM

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L15	50	<p>5749317-A OR US-11963512-B1).did. AND USPT.dbnm.) OR ((CN-115623991-A).did. AND FTDB.dbnm.)</p> <p>(Artificial Intelligence)</p> <p>Similar to: 18/392,888 with 0 CPC Selections and 0 Text Selections</p> <p>Text: (US-10280605-B2 OR NL-1024058-C2 OR CN-220528920-U OR US-20190010689-A1 OR DE-102008035406-A1 OR CN-118383290-A OR EP-3439714-B1 OR US-11123478-B2 OR US-20190046718-A1 OR CN-210113906-U OR AU-2017248237-A1 OR US-20210330485-A1 OR US-20230293336-A1 OR US-20240156632-A1 OR WO-2021217078-A1 OR AU-2021261028-A1 OR CA-3176209-A1 OR WO-2024053673-A1 OR CA-3216535-A1 OR WO-2017177093-A1 OR AU-2017248237-B2 OR CN-213719285-U OR EP-4374833-A2 OR JP-3231886-U OR EP-4138742-B1 OR US-20240108319-A1 OR US-11963512-B1 OR FR-3046837-A1 OR CA-3016626-A1 OR CA-3016626-C OR WO-2024073645-A1 OR CN-214339278-U OR WO-0077312-A1 OR WO-2019239433-A1 OR US-10273674-B2 OR JP-2011089376-A OR WO-2021112793-A1 OR KR-20210046939-A OR WO-2023101838-A1 OR AU-2022400681-A1 OR JP-2024520979-A OR US-20230173481-A1 OR US-</p>	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/01/29 04:59 PM
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L16	50	<p>20140276494-A1 OR CN-210168689-U OR KR-102281603-B1 OR WO-2014153077-A9 OR WO-2014153077-A1 OR CN-220023816-U OR US-20140033983-A1 OR EP-3624709-B1).did.</p> <p>(Artificial Intelligence) Similar to: 18/392,888 with 1 CPC Selection and 8 Text Selections</p> <p>Text: (US-11963512-B1 OR US-20220248630-A1 OR US-7942460-B2 OR US-20180192610-A1 OR US-10159215-B2 OR US-20080164704-A1 OR US-20230337623-A1 OR US-20060065203-A1 OR US-7114459-B2 OR US-4784082-A OR US-10159214-B2 OR US-20160295829-A1 OR US-5921596-A OR US-9609844-B2 OR US-20110266817-A1 OR US-20170231190-A1 OR US-7047907-B1 OR US-7213535-B2 OR WO-9522892-A1 OR US-5363808-A OR EP-0610993-A1 OR EP-0610993-B1 OR WO-2011126846-A2 OR US-8459707-B2 OR US-20070283896-A1 OR US-10111402-B2 OR US-8851014-B2 OR US-20070012255-A1 OR CA-2448830-C OR US-20090058115-A1 OR US-20180192609-A1 OR US-20150075438-A1 OR US-5076627-A OR DE-202009013750-U1 OR US-20230380378-A1 OR EP-2324705-A1 OR US-20020149215-A1 OR US-11096372-B1 OR US-20150020743-A1 OR US-5752465-A</p>	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN))	OR	ON	ON	2025/01/29 05:03 PM
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L17	50	<p>OR US-20230000050-A1 OR US-20170164577-A1 OR DE-202018102593-U1 OR DE-102014111448-A1 OR US-4870924-A OR US-8408614-B2 OR US-12048289-B1 OR EP-3005864-A1 OR US-20230000051-A1 OR US-20160135420-A1).did.</p> <p>(Artificial Intelligence) Similar to: 18/392,888 with 0 CPC Selections and 8 Text Selections</p> <p>Text: (US-11963512-B1 OR US-20220248630-A1 OR US-7942460-B2 OR US-20180192610-A1 OR US-10159215-B2 OR US-20080164704-A1 OR US-20230337623-A1 OR US-20060065203-A1 OR US-7114459-B2 OR US-4784082-A OR US-20160295829-A1 OR US-10159214-B2 OR US-9609844-B2 OR US-5921596-A OR US-20170231190-A1 OR US-20110266817-A1 OR US-7047907-B1 OR US-7213535-B2 OR WO-9522892-A1 OR US-5363808-A OR EP-0610993-A1 OR EP-0610993-B1 OR US-8459707-B2 OR WO-2011126846-A2 OR US-20070283896-A1 OR US-10111402-B2 OR US-8851014-B2 OR US-20070012255-A1 OR CA-2448830-C OR US-20090058115-A1 OR US-20180192609-A1 OR US-20150075438-A1 OR US-5076627-A OR DE-202009013750-U1 OR US-20230380378-A1 OR EP-2324705-A1 OR US-20020149215-A1</p>	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/01/29 05:03 PM
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L19	861	L12 AND (groove OR flange OR protrusion OR insertion OR slot)	(FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:06 PM
L20	107	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092-A1 OR US-20140299068-A1 OR US-20150007777-A1 OR US-20160374307-A1 OR US-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN,	OR	ON	ON	2025/01/29 05:28 PM

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L21	6864	6394033-B1 OR US-8757094-B2 OR US-11944066-B2 OR US-10098315-B2 OR US-D1035182-S OR US-6463881-B2 OR US-5662066-A OR US-7137355-B1 OR US-11523586-B2 OR US-6055935-A OR US-6126015-A OR US-12099231-B2 OR US-9713315-B2 OR US-D880790-S OR US-9565830-B1 OR US-5598811-A OR US-4217857-A OR US-4325325-A OR US-12171188-B2 OR US-5797346-A OR US-5031578-A OR US-5755182-A OR US-4970987-A OR US-5598810-A OR US-7222584-B1 OR US-5577462-A OR US-4505226-A OR US-6824114-B1 OR US-5499610-A OR US-5749317-A OR US-11963512-B1).did. AND USPT.dbnm.) OR ((CN-115623991-A OR CN-220528920-U OR CN-220023816-U OR WO-2022087531-A2 OR WO-2023027174-A1 OR KR-20240088289-A OR WO-9730583-A1 OR JP-3244427-U OR CN-113163730-A OR WO-2017008168-A1 OR CN-113854160-A OR WO-2014022903-A1 OR CN-118020650-A OR CA-2520495-A1 OR WO-2021041088-A1 OR CH-688428-A5 OR AU-642388-B3 OR CN-117016398-A OR CN-117322349-A OR WO-2017150086-A1 OR WO-2024025004-A1 OR EP-2676543-A1).did. AND FTDB.dbnm.)					
		(A01K1/0107).cpc. OR	(US-PGPUB; USPAT;	OR	ON	ON	2025/01/29

		(119/165).ccls.	USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)				05:32 PM
L22	516	(119/165).ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:32 PM
L23	6690	(A01K1/0107).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/29 05:39 PM
L24	1318	(A01K1/0107).cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/29 05:39 PM
L25	114	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092-A1 OR US-20140299068-A1 OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL,	OR	ON	ON	2025/01/30 09:49 AM

		US-20150007777-A1 OR US-20160374307-A1 OR US-20110011347-A1 OR US-20140360436-A1 OR US-20090288610-A1 OR US-20080105207-A1 OR US-20130098301-A1 OR US-20050224005-A1 OR US-20150059653-A1 OR US-20130333624-A1 OR US-20100300367-A1 OR US-20020000205-A1 OR US-20110297096-A1 OR US-20090000556-A1 OR US-20200267928-A1 OR US-20210037781-A1 OR US-20180192610-A1 OR US-20080314328-A1 OR US-20040177816-A1 OR US-20220117190-A1 OR US-20020139312-A1 OR US-20160113230-A1 OR US-20190343066-A1 OR US-20240260535-A1 OR US-20230217889-A1 OR US-20200260684-A1 OR US-20050126504-A1 OR US-20210267158-A1 OR US-20230103710-A1 OR US-20220142114-A1 OR US-20230247967-A1 OR US-20200187450-A1 OR US-20240114874-A1 OR US-20160029587-A1 OR US-20190021273-A1 OR US-20240306595-A1 OR US-20210051916-A1 OR US-20130333625-A1 OR US-20240000037-A1 OR US-20160251134-A1 OR US-20230380378-A1 OR US-20090199778-A1 OR US-20230263125-A1 OR US-20060005777-	PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)				
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		OR WO-2021041088-A1 OR CH-688428-A5 OR AU-642388-B3 OR CN-117016398-A OR CN-117322349-A OR WO-2017150086-A1 OR WO-2024025004-A1 OR EP-2676543-A1).did. AND FTDB.dbnm.)					
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L37	1	"20060169214"	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/01/30 11:32 AM
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		"4622920" "5143023" "5146877" "5267532" "5371054" "5685259" "3246630" "3482546" "3618568" "3830200" "3885523" "3990397" "4085705" "5058528" "5092270" "5184568" "5195464" "5220886" "5361725" "5785000" "5806461" "6176201" "6237534" "6341579" "6371048" "6945193" "7628118" "7673585" "8733286" "9107383" "D754406" "20030075115" "20090000559" "20090250014" "20110067639" "20130276714" "20130327278" "20160302379" "20180055002" "20190373844" "4171683" "4299190" "4572107" "4803952" "4852520" "5253612" "5471950" "5503107" "5622140" "5678509" "5988110" "6131534" "6338318" "7036458" "7458337" "D608505" "8132537" "8336500" "D677012" "9504230" "9713315" "20060005777" "20090205578" "20100282179" "20140318469" "20160057968").pn. OR ("2023/0217888" "2013/0092092" "2014/0299068" "2015/0007777" "2016/0374307" "2011/0011347" "2014/0360436" "2009/0288610" "2008/0105207" "2013/0098301" "7395784" "2005/0224005" "2015/0059653" "2013/0333624" "2010/0300367" "2002/0000205" "2011/0297096"					
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		"5042430" "8733286" "6615765" "7380519" "6394033" "2009/0000556" "8757094" "11944066" "10098315" "D1035182" "6463881" "5662066" "7137355" "11523586" "6055935" "6126015" "12099231" "9713315" "D880790" "9565830" "2020/0267928" "5598811" "2021/0037781" "2018/0192610" "4217857" "4325325" "2008/0314328" "12171188" "2004/0177816" "2022/0117190" "2002/0139312" "5797346" "5031578" "2016/0113230" "5755182" "4970987" "5598810" "7222584" "2019/0343066" "5577462" "2024/0260535" "4505226" "6824114" "2023/0217889" "5499610" "2020/0260684" "5749317" "2005/0126504" "11963512" "2021/0267158" "2023/0103710" "2022/0142114" "2023/0247967" "2020/0187450" "2024/0114874" "2016/0029587" "2019/0021273" "2024/0306595" "2021/0051916" "2013/0333625" "2024/0000037" "2016/0251134" "2023/0380378" "2009/0199778" "2023/0263125" "2006/0005777" "2015/0334981" "2006/0032452" "5814327" "11647731" "2019/0191660" "2020/0037571"					
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L39	4	"2021/0112770" "10517263" "2020/0022331").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/30 11:54 AM
L40	9	("3890931" "3921582" "5785000" "2286118" "4183323" "4572107" "6772903" "6997137").PN.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/30 11:54 AM
L41	11	("D245348" "5107797" "D858006" "D923887" "D954364" "D971527" "D993552" "D1007081" "D1037579" "20130333625" "20220104452").pn. OR ("D1048598").urpn. AND (PGPB USPT USOC).dbnm.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/01/30 12:32 PM
L42	135	((FR-2687285-A1 OR WO-9414315-A1 OR FR-2693349-A1 OR DE-3150097-A1 OR FR-2695537-A1).did. AND EPAB.dbnm.) OR ((US-20230217888-A1 OR US-20130092092- A1 OR US- 20140299068-A1 OR US-20150007777-A1 OR US-20160374307- A1 OR US- 20110011347-A1 OR US-20140360436-A1 OR US-20090288610- A1 OR US- 20080105207-A1 OR US-20130098301-A1 OR US-20050224005- A1 OR US- 20150059653-A1 OR US-20130333624-A1 OR US-20100300367- A1 OR US- 20020000205-A1 OR US-20110297096-A1 OR US-20090000556- A1 OR US- 20200267928-A1 OR US-20210037781-A1 OR US-20180192610-	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2025/01/30 03:24 PM

		A1 OR US- 20080314328-A1 OR US-20040177816-A1 OR US-20220117190- A1 OR US- 20020139312-A1 OR US-20160113230-A1 OR US-20190343066- A1 OR US- 20240260535-A1 OR US-20230217889-A1 OR US-20200260684- A1 OR US- 20050126504-A1 OR US-20210267158-A1 OR US-20230103710- A1 OR US- 20220142114-A1 OR US-20230247967-A1 OR US-20200187450- A1 OR US- 20240114874-A1 OR US-20160029587-A1 OR US-20190021273- A1 OR US- 20240306595-A1 OR US-20210051916-A1 OR US-20130333625- A1 OR US- 20240000037-A1 OR US-20160251134-A1 OR US-20230380378- A1 OR US- 20090199778-A1 OR US-20230263125-A1 OR US-20060005777- A1 OR US- 20150334981-A1 OR US-20060032452-A1 OR US-20190191660- A1 OR US- 20200037571-A1 OR US-20210112770-A1 OR US-20200022331- A1 OR US- 20060169214-A1).did. AND PGPB.dbnm.) OR ((US-7395784-B2 OR US-5042430-A OR US- 8733286-B2 OR US- 6615765-B1 OR US- 7380519-B2 OR US- 6394033-B1 OR US- 8757094-B2 OR US- 11944066-B2 OR US- 10098315-B2 OR US- D1035182-S OR US- 6463881-B2 OR US-					
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		5662066-A OR US- 7137355-B1 OR US- 11523586-B2 OR US- 6055935-A OR US- 6126015-A OR US- 12099231-B2 OR US- 9713315-B2 OR US- D880790-S OR US- 9565830-B1 OR US- 5598811-A OR US- 4217857-A OR US- 4325325-A OR US- 12171188-B2 OR US- 5797346-A OR US- 5031578-A OR US- 5755182-A OR US- 4970987-A OR US- 5598810-A OR US- 7222584-B1 OR US- 5577462-A OR US- 4505226-A OR US- 6824114-B1 OR US- 5499610-A OR US- 5749317-A OR US- 11963512-B1 OR US- 5814327-A OR US- 11647731-B2 OR US- 10517263-B1 OR US- 8683953-B2 OR US- 9433186-B2 OR US- 5785000-A OR US- 6523495-B1 OR US- 11412704-B2 OR US- D1053476-S OR US- 12075750-B2 OR US- D1048598-S OR US- D1048599-S OR US- D1037579-S OR US- 7584717-B2 OR US- 11540486-B2 OR US- 9258977-B1 OR US- D1007081-S OR US- 6341386-B1).did. AND USPT.dbnm.) OR ((CN- 115623991-A OR CN- 220528920-U OR CN- 220023816-U OR WO- 2022087531-A2 OR WO-2023027174-A1 OR KR-20240088289-A OR WO-9730583-A1 OR JP-3244427-U OR CN-113163730-A OR WO-2017008168-A1 OR CN-113854160-A OR WO-2014022903- A1 OR CN-118020650- A OR CA-2520495-A1					
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L43	68	OR WO-2021041088-A1 OR CH-688428-A5 OR AU-642388-B3 OR CN-117016398-A OR CN-117322349-A OR WO-2017150086-A1 OR WO-2024025004-A1 OR EP-2676543-A1).did. AND FTDB.dbnm.) L42 AND handle	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO; DERWENT; IBM_TDB)	OR	ON	ON	2025/01/30 03:25 PM
L44	3760	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/02/03 03:19 PM
L45	4725	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/02/03 03:20 PM

L46	497	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 03:26 PM
L47	1598	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 03:26 PM
L48	196	L47 AND (bump OR protrusion OR insert) SAME (groove OR clamp OR aperture)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 04:26 PM
L49	420	((Y10T403/70,7043.cpc.) OR L44) AND (bump OR protrusion OR insert) SAME (groove OR clamp OR aperture)	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 04:38 PM
L50	50	(Artificial Intelligence) Similar to: 18/392,888 with 0 CPC Selections and 0 Text Selections Text: (US-10280605-B2 OR NL-1024058-C2 OR US-20190010689-A1 OR CN-220528920-U OR DE-102008035406-A1 OR CN-118383290-A OR CN-210113906-U OR EP-3439714-B1 OR US-11123478-B2 OR US-20190046718-A1 OR WO-2024053673-A1 OR AU-2017248237-A1 OR CN-213719285-U OR JP-3231886-U OR US-20210330485-A1 OR US-20230293336-A1 OR US-20240156632-A1 OR WO-2021217078-A1 OR AU-2021261028-A1 OR CA-3176209-A1 OR FR-3046837-A1 OR CA-3216535-A1 OR WO-2017177093-A1 OR AU-2017248237-B2 OR EP-4374833-A2 OR WO-0077312-A1 OR US-10273674-B2 OR US-20240108319-A1 OR EP-4138742-B1 OR JP-2011089376-A OR CN-214339278-U OR WO-2024073645-A1 OR CA-3016626-A1 OR CA-3016626-C OR WO-2019239433-A1	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/02/03 04:38 PM

		OR JP-2024520979-A OR KR-102281603-B1 OR WO-2021112793-A1 OR KR-20210046939-A OR US-11963512-B1 OR ES-1180536-U OR WO-2023101838-A1 OR AU-2022400681-A1 OR US-4309782-A OR US-20140276494-A1 OR CN-220023816-U OR CN-210168689-U OR US-20230173481-A1 OR US-20190083294-A1 OR WO-2014153077-A9).did.					
L51	2750	((Y10T403/70,7043.cpc.) OR L44) AND ((bump OR plug) OR (protrusion OR bulge OR projection OR hump OR knob OR rib OR jut OR "protruding ridge" OR "protruding element" OR "protruding member" OR "projecting lip") OR insert) SAME ((groove OR hole OR opening OR recess OR slit OR perforation OR slot OR rib OR gap OR slits) OR (clamp OR fastening OR grasp) OR aperture)	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/02/03 04:41 PM
L52	50	(Artificial Intelligence) Query text sorted by similarity to 18/392,888 with 0 CPC Selections and 0 Text Selections Text: (((Y10T403/70,7043.cpc.) OR L44) AND ((bump OR plug) OR (protrusion OR bulge OR projection OR hump OR knob OR rib OR jut OR "protruding ridge" OR "protruding element" OR "protruding member" OR "projecting lip") OR insert) SAME ((groove OR hole OR opening OR recess OR slit OR perforation OR slot OR rib OR gap OR slits) OR	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO))	OR	ON	ON	2025/02/03 04:41 PM

L53	998	(clamp OR fastening OR grasp) OR aperture)) AND (US-6702507-B2 OR US-20020064423-A1 OR TW-I465180-B OR TW-201336387-A OR NO-752963-L OR US-3921365-A OR WO-2006132667-A2 OR US-8177657-B2 OR US-20100069171-A1 OR US-20110098128-A1 OR CN-103292135-B OR US-5246196-A OR CN-201172041-Y OR US-8992111-B2 OR US-20180328018-A1 OR US-10030379-B2 OR US-7878924-B2 OR US-10604928-B2 OR US-20170335560-A1 OR US-20080125239-A1 OR US-7621820-B2 OR US-20130150175-A1 OR US-8715108-B2 OR US-8403772-B2 OR US-20030228189-A1 OR US-20120196704-A1 OR JP-H10510762-A OR CN-201963035-U OR CN-103292135-A OR US-20200284023-A1 OR US-20120189379-A1 OR DE-60016339-T2 OR US-11668335-B2 OR US-10975563-B2 OR US-9243817-B2 OR TW-201244286-A OR US-4691960-A OR US-20120328390-A1 OR EP-1418284-A1 OR US-8757920-B2 OR US-20140202615-A1 OR CA-2776166-C OR US-9091468-B2 OR WO-2014116380-A1 OR US-6415829-B1 OR TW-M432226-U OR US-20020074061-A1 OR US-20110097143-A1 OR US-20130087656-A1 OR CA-2776166-A1).did. ((Y10T403/70,7043.cpc.) OR L44) AND ((bump	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/02/03 04:45 PM
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		OR plug) OR (protrusion OR bulge OR projection OR hump OR knob OR rib OR jut OR "protruding ridge" OR "protruding element" OR "protruding member" OR "projecting lip") OR insert) SAME ((groove OR hole OR opening OR recess OR slit OR perforation OR slot OR rib OR gap OR slits) OR (clamp OR fastening OR grasp) OR aperture)					
L54	1599	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/06/11 10:15 AM
L55	502	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/06/11 10:15 AM
L56	4730	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/06/11 10:15 AM
L57	3786	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/06/11 10:15 AM
L58	516	(119/165).ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB,	OR	ON	ON	2025/06/11 10:15 AM

			HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)				
L59	6800	(A01K1/0107).cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/06/11 10:16 AM
L60	1255	(A01K1/011 OR A01K1/0152).cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/06/11 10:16 AM
L61	6974	(A01K1/0107).cpc. OR (119/165).ccls.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/06/11 10:16 AM
L62	474	119/161.ccls.	(US-PGPUB; USPAT; USOCR; FIT (AU, AP, AT, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, OA, RU, SU, WO, MC, MD, MY, NL, NO, NZ, PH, PL, PT, RO, RS, SE, SG, SI, SK, TH, TN, TR, TW, UA, VN); FPRS; EPO; JPO)	OR	ON	ON	2025/06/11 10:17 AM

L63	815	A01K1/0114.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/06/11 10:17 AM
L64	5127	Y10T403/5773,70.cpc.	(US-PGPUB; USPAT; USOCR; FIT (AP, AT, AU, BE, BG, BR, BY, CA, CH, CN, CS, CU, CZ, DD, DE, DK, EA, EE, EP, ES, FI, FR, GB, HR, HU, ID, IE, IL, IS, IT, JP, KR, LT, LU, LV, MA, MC, MD, MY, NL, NO, NZ, OA, PH, PL, PT, RO, RS, RU, SE, SG, SI, SK, SU, TH, TN, TR, TW, UA, VN, WO); FPRS; EPO; JPO)	OR	ON	ON	2025/06/11 10:35 AM
L65	1799	Y10T403/5773,70.cpc.	(US-PGPUB; USPAT; USOCR)	OR	ON	ON	2025/06/11 10:35 AM

PE2E SEARCH - Search History (Interference)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	British Equivalents	Time Stamp
N1	335	119/161.ccls.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:17 AM
N2	807	A01K1/0114.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:17 AM
N3	1454	(A01K1/0107).cpc. OR (119/165).ccls.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:17 AM
N4	477	(119/165).ccls.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:17 AM
N5	495	F16B5/0012,0016.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:18 AM
N6	1246	Y10T403/70,7043.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:18 AM
N7	1396	Y10T403/5773,70.cpc.	(US-PGPUB; USPAT)	OR	ON	ON	2025/06/11 10:35 AM



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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
18/392,888	12/21/2023	3647	664	4202/YAYI-US-IP-0414	20	1

186096
ipPivot IP Agency
4000 Legato Road
Suite 1100
Fairfax, VA 22033

CONFIRMATION NO. 7728
CORRECTED FILING RECEIPT



0000000090638091

Date Mailed: 06/25/2025

Receipt is acknowledged of this non-provisional utility patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF FIRST INVENTOR, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection.

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Inventor(s)

TIEQIANG TANG, Shaoyang City, CHINA;

Applicant(s)

PETPIVOT INC, PORTLAND, OR;

Power of Attorney: The patent practitioners associated with Customer Number 186096

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)
CHINA 202323419782.6 12/14/2023 Access Code Provided

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 01/05/2024

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 18/392,888**

Projected Publication Date: Not Applicable.

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

PET TOILET WITH A DETACHABLE FECAL COLLECTION BOX TO A BOTTOM OF A BASE

Preliminary Class

119

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific

page 2 of 4

countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

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This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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ISSUE FEE TRANSMITTAL FORM

APPLICATION #	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET #
18392888	12/21/2023	TIEQIANG TANG	4202/YAYI-US-IP-0414

Title of Invention

PET TOILET WITH A DETACHABLE FECAL COLLECTION BOX TO A BOTTOM OF A BASE

Application Information

APPLICATION TYPE	Nonprovisional Application under 35 USC 111(a)	DATE DUE	09/22/2025
CONFIRMATION #	7728	ISSUE FEE DUE	\$ 516
EXAMINER	ZOE TRAN	PUBLICATION DUE	\$ 0
GROUP ART UNIT	3647	TOTAL FEES DUE	\$516
CLASS - SUBCLASS	119/161000	PREV. PAID FEE	\$ 0
ENTITY STATUS	Small		

1. CHANGE OF CORRESPONDENCE ADDRESS AND/OR INDICATION OF FEE ADDRESS (37 CFR 1.33 & 1.363)

Correspondence Address

CURRENT ADDRESS

Maintenance Fee Address

CURRENT ADDRESS

☐

Change of correspondence address requested, system generated AIA/122-PC form attached

☐

Fee address indication requested, system generated SB/47-PC form attached

2. ENTITY STATUS

Change in Entity Status

NEW STATUS

3. THE FOLLOWING FEES ARE SUBMITTED

☒

Issue Fee

☒

Publication Fee

4. FEE AUTHORIZATION

☐

I authorize USPTO to apply my previously paid issue fee to the current fees due

☐

The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number:

☐

If in addition to the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number:

5. FIRM AND/OR ATTORNEY NAMES TO BE PRINTED

NOTE: If no name is listed, no name will be printed

For printing on the patent front page, list to be displayed as entered

6. ASSIGNEE NAME(S) AND RESIDENCE DATA TO BE PRINTED

NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via Patent Center on the date indicated below.

Signature	Name	Registration #	Date
/Alex Hu/	Alex Hu	77909	07/15/2025



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ELECTRONIC PAYMENT RECEIPT

APPLICATION #	RECEIPT DATE / TIME	ATTORNEY DOCKET #
18/392,888	07/15/2025 11:40:47 AM Z ET	4202/YAYI-US-IP-0414

Title of Invention

PET TOILET WITH A DETACHABLE FECAL COLLECTION BOX TO A BOTTOM OF A BASE

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	7728	FILED BY	Alex Hu
PATENT CENTER #	71374083	AUTHORIZED BY	-
CUSTOMER #	186096	FILING DATE	12/21/2023
CORRESPONDENCE ADDRESS	-	FIRST NAMED INVENTOR	TIEQIANG TANG

Payment Information

PAYMENT METHOD	PAYMENT TRANSACTION ID	PAYMENT AUTHORIZED BY
CARD / 1352	E20257EB40569232	Alex Hu

FEE CODE	DESCRIPTION	ITEM PRICE(\$)	QUANTITY	ITEM TOTAL(\$)
2501	UTILITY ISSUE FEE	516.00	1	516.00
TOTAL AMOUNT:				\$516.00

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



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ELECTRONIC ACKNOWLEDGEMENT RECEIPT

APPLICATION # 18/392,888	RECEIPT DATE / TIME 07/15/2025 11:40:47 AM Z ET	ATTORNEY DOCKET # 4202/YAYI-US-IP-0414
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Title of Invention

PET TOILET WITH A DETACHABLE FECAL COLLECTION BOX TO A BOTTOM OF A BASE

Application Information

APPLICATION TYPE	Utility - Nonprovisional Application under 35 USC 111(a)	PATENT #	-
CONFIRMATION #	7728	FILED BY	Alex Hu
PATENT CENTER #	71374083	FILING DATE	12/21/2023
CUSTOMER #	186096	FIRST NAMED INVENTOR	TIEQIANG TANG
CORRESPONDENCE ADDRESS	-	AUTHORIZED BY	-

Documents

TOTAL DOCUMENTS: 1

DOCUMENT	PAGES	DESCRIPTION	SIZE (KB)
web85b.pdf	3	Issue Fee Payment (PTO-85B)	58 KB

Digest

DOCUMENT	MESSAGE DIGEST(SHA-512)
web85b.pdf	614DF19FB9A3F314B655A43C12726B42B8741EC0598D35F30 B2DA90340D21F6BA5EF3A7F419AE63C897A3352EA90904ADF 5C6CA20E0B5A53DA528738890BBEB0

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

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New International Application Filed with the USPTO as a Receiving Office

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APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/392,888	10/07/2025	12433239	4202/YAYI-US-IP-0414	7728

186096 7590 09/24/2025
ipPivot IP Agency
4000 Legato Road
Suite 1100
Fairfax, VA 22033

ISSUE NOTIFICATION

The projected patent number and issue date are specified above. The patent will issue electronically. The electronically issued patent is the official patent grant pursuant to 35 U.S.C. § 153. The patent may be accessed on or after the issue date through Patent Center at <https://patentcenter.uspto.gov/>. The patent will be available in both the public and the private sides of Patent Center. Further assistance in electronically accessing the patent, or about Patent Center, is available by calling the Patent Electronic Business Center at 1-888-217-9197.

The USPTO is implementing electronic patent issuance with a transition period, during which period the USPTO will mail a ceremonial paper copy of the electronic patent grant to the correspondence address of record. Additional copies of the patent (i.e., certified and presentation copies) may be ordered for a fee from the USPTO's Certified Copy Center at <https://certifiedcopycenter.uspto.gov/index.html>. The Certified Copy Center may be reached at (800)972-6382.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 0 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Center (<https://patentcenter.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Patents Stakeholder Experience (OPSE), Stakeholder Support Division (SSD) at (571)-272-4200.

INVENTOR(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional inventors):

TIEQIANG TANG, Shaoyang City, CHINA;

APPLICANT(s) (Please see PATENT CENTER site <https://patentcenter.uspto.gov> for additional applicants):

PETPIVOT INC, PORTLAND, OR;

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
18/392,888	12/21/2023	TIEQIANG TANG	4202/YAYI-US-IP-0414	7728
186096	7590	10/07/2025	EXAMINER	
ipPivot IP Agency 4000 Legato Road Suite 1100 Fairfax, VA 22033			TRAN, ZOE T	
			ART UNIT	PAPER NUMBER
			3647	
			NOTIFICATION DATE	DELIVERY MODE
			10/07/2025	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patent@ippivot.com



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	ISSUE DATE	PATENT NO.
18/392,888	07-Oct-2025	12433239

ipPivot IP Agency
4000 Legato Road
Fairfax, VA 22033

EGRANT NOTIFICATION

Your electronic patent grant (eGrant) is now available, which can be accessed via Patent Center at <https://patentcenter.uspto.gov>

The electronic patent grant is the official patent grant under 35 U.S.C. 153. For more information, please visit <https://www.uspto.gov/electronicgrants>