Nov. 26, 1963 G. L. KNUTSON 3,111,932

RELIEF STATION FOR CATS

Filed Jan. 25, 1963 2 Sheets-Sheet 1

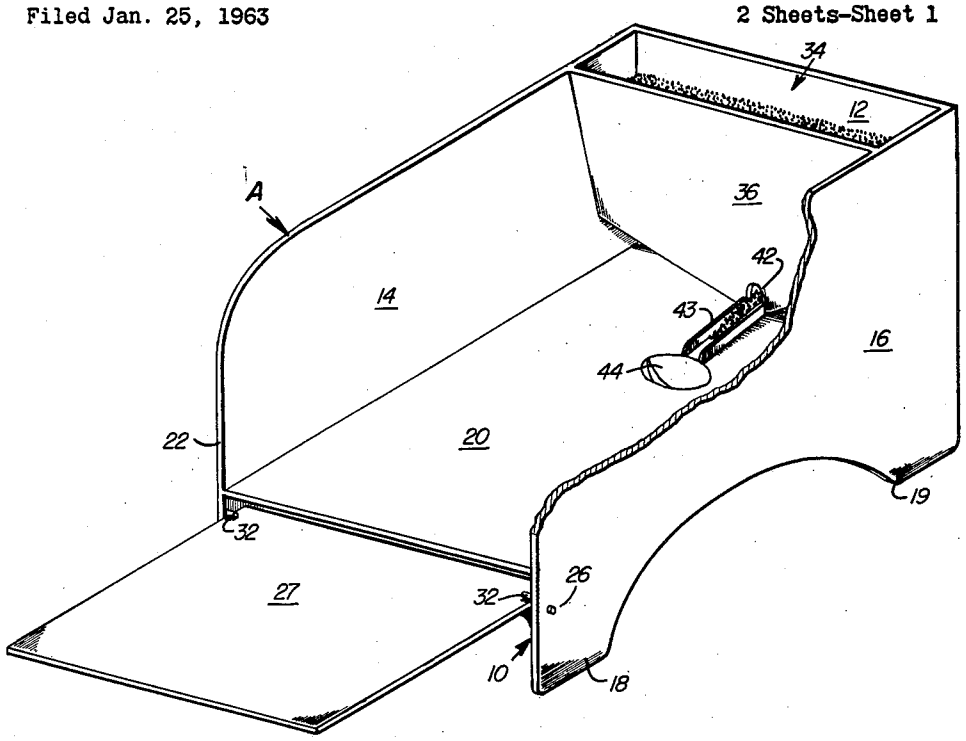


FIG. 1

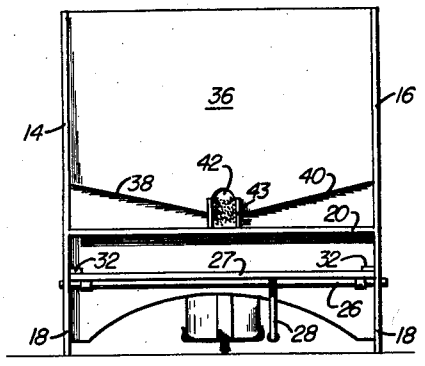


FIG. 2

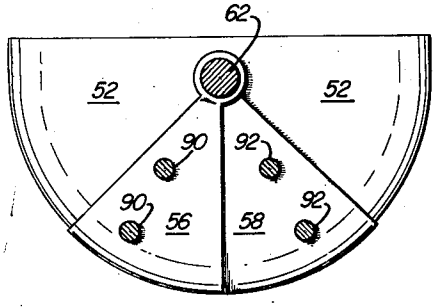


FIG. 3

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RELIEF STATION FOR CATS

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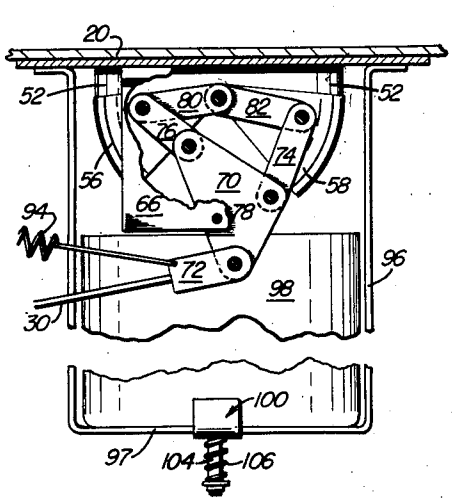


FIG. 4

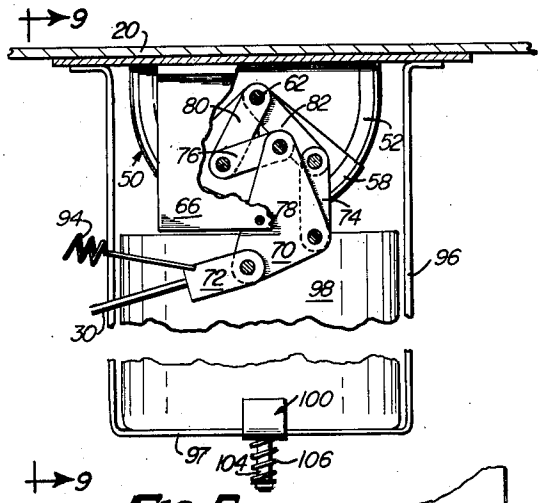


FIG. 5

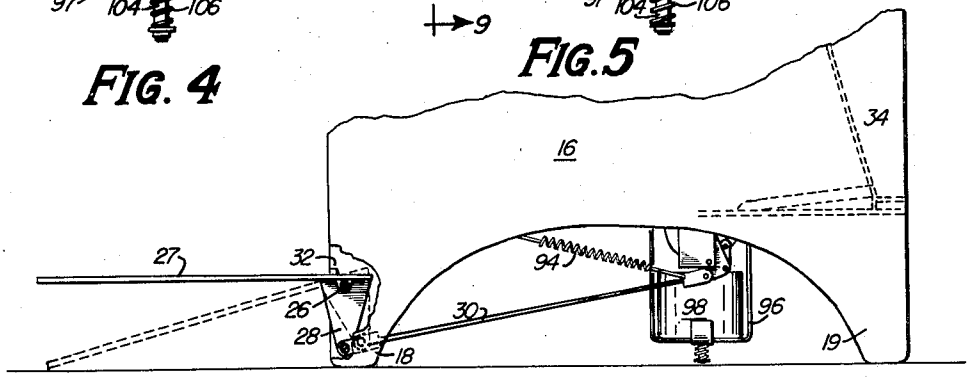


FIG. 6

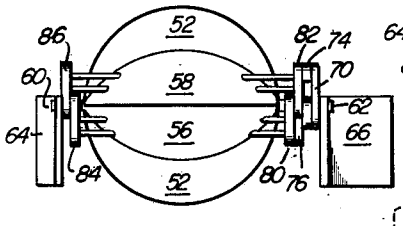


FIG. 7

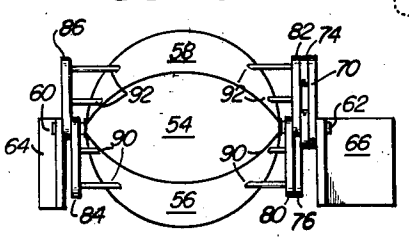


FIG. 8

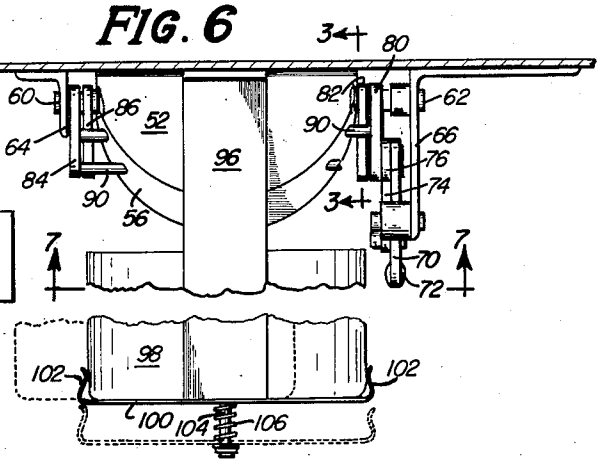


FIG. 9

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RELIEF STATION FOR CATS

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Filed Jan. 25, 1963, Ser. No. 253,904
6 Claims. (Cl. 119—1)

This invention relates to a device for taking care of the indoor plumbing requirements of a household cat. It constitutes an improvement over the ordinary sandbox in that it is much more sanitary, requires less maintenance and upkeep and presents a more attractive appearance.

Cats of all varieties and household cats in particular are known to possess an instinct or natural tendency to seek sand or dirt when they wish to eliminate themselves. Experience has shown that virtually all cats initiate their elimination function by digging in the sand or dirt with their paws. The sandbox that is commonly used recognizes this instinctive trait but it does not go far enough in putting it to good use.

It is, therefore, an object of this invention to overcome the disadvantages and limitations inherent in the ordinary sandbox and other prior art means for solving the outstanding problem.

Another important object of this invention is to provide a relief station for cats that takes full advantage of the known tendencies of a cat and which relies upon such tendencies to provide a novel and sanitary means of collecting and storing the refuse created by a cat.

A further object of this invention is to provide a self-operated relief station for cats characterized by ease of manufacture, reliability in operation, attractiveness in appearance, low cost, and which is easy to maintain.

A still further object of this invention is to provide in a relief station for cats, novel means for disposing of the refuse which is operated in response to the movement of the cat and novel means for facilitating the easy removal of the refuse.

These and other objects and advantages of the invention will become more fully apparent from a consideration of the following detailed description taken in conjunction with the accompanying drawings wherein an illustrative embodiment of the invention is shown.

In the drawings:

FIGURE 1 is a perspective view of the invention;

FIGURE 2 is a front end elevation view of the invention;

FIGURE 3 is an enlarged view, partially in section, taken on the line 3—3 of FIGURE 9;

FIGURE 4 is an enlarged fragmentary side elevation of refuse receptacle in an open position;

FIGURE 5 is a view similar to FIGURE 4 with the refuse receptacle in a closed position;

FIGURE 6 is a side elevation view of the invention with parts broken away;

FIGURE 7 is a view on a slightly reduced scale taken on the line 7—7 of FIGURE 9 showing the refuse receptacle in a closed position;

FIGURE 8 is a view similar to FIGURE 7 showing the refuse receptacle in an open position; and

FIGURE 9 is a fragmentary view taken on the line 9—9 of FIGURE 5.

Referring to the drawings, the invention includes a walled enclosure 10 having a closed rear end 12 and sides 14, 16. A raised floor 20 above front legs 18 and rear legs 19 extends from rear end 12 to forward open end 22. Extending between front legs 18 adjacent open end 22 and below floor 20 is a lateral support rod 26 which is pivotally mounted at each end in walls 14, 16. A forwardly extending treadle plate 27 is carried by rod 26 below floor 20 to rotate therewith. Also secured to rod 26 between legs 18 is a depending pivot bracket 28 the lower end of which is fastened to an elongated push rod 30 which extends rearward therefrom. Limit pins 32 extending inwardly from sides 14, 16 prevent treadle plate 27 from oscillating above a horizontal position.

The inner surface of rear end 12 forms the rear wall of a sand storage and dispensing compartment 34, the forward wall thereof being formed by a front panel 36 and the bottom thereof being formed by lower panels 38, 40 above the plane of floor 20. A discharge hole 42 for compartment 34 is formed in the lower central portion of front panel 36, from which an open trough 43 extends forwardly into communication with a refuse opening 44 in floor 20. The trough 43 is slightly inclined downwardly from hole 42 to opening 44. It will be apparent from the foregoing that there is provided a sand storage means in the closed rear end of the enclosure 10 which, by virtue of hole 42, permits a cat to paw sand from compartment 34 into trough 43 and opening 44.

Secured to the underside of floor 20 below opening 44 is an openable shallow receptacle 50 adapted to receive and discharge therebelow the refuse accumulated by the cat. Receptacle 50 includes a semi-hemispherical base 52 having a central sector shaped opening 54. Pivotally mounted to base 52 are a pair of mating movable sector shaped gates 56, 58 which rotate about pivot pins 60, 62 on opposite sides of base 52 to open or close the opening 54. A linkage system for actuating gates 56, 58 is mounted upon fixed brackets 64, 66 depending from floor 20 on each side of base 52. This system includes a triangular-shaped clevis bracket 70 carried by bracket 66 in lateral alignment with depending pivot bracket 28 of the treadle plate system referred to previously. The forward lower corner of clevis bracket 70 is pivotally fastened by means of a clevis pin 72 to the rear end of push rod 30. The rear and upper corners of clevis bracket 70 carry pivot links 74, 76 respectively. Clevis bracket 70 is rotatably mounted to fixed bracket 66 approximately ⅓ of the distance between its lower forward corner and its upper corner, as at 78. Connecting pivot links 74, 76 are a pair of pivot arms 80, 82, each rotatably mounted at their upper ends upon pivot pin 62. Another pair of pivot arms 84, 86 are similarly carried by pivot pin 60 on the opposite side of base 52. Connectors 90 secure pivot arms 80 and 84 to opposite sides of gate 56, while connectors 92 secure pivot arms 82 and 86 to opposite sides of gate 58. These arms act in unison on gates 56, 58 to open or close the same in response to the movement imparted thereto by pivot links 74, 76 which are operated by clevis bracket 70. It can be seen that pivot arms 80 and 84 act upon gate 56, while pivot arms 82 and 86 act upon gate 58. Clevis bracket 70 is actuated by push rod 30 in response to the movement of treadle plate 27 in a downward direction, as indicated by the dotted lines of FIGURE 6. A return spring 94 biases the system into a normally closed position with treadle plate 27 horizontal and opening 54 closed by gates 56 and 58.

The reference numeral 96 indicates a depending U-shaped hanger which provides support for an upwardly open refuse container 98. Container 98 is held in place by a clip member 100 having a pair of upstanding ears 102 at each end adapted to overlie the lower sides of container 98. Clip member 100 is mounted crosswise to the horizontal leg 97 of hanger 96 by means of a vertical pin 104 which extends from leg 97 through the center of clip member 100 at their common intersection. A compression spring 106 yieldingly urges clip member 100 upwardly into contact with container 98. The removal of container 98 is accomplished by pulling clip member 100 downwardly out of contact with container 98 as shown in FIGURE 9.

Operation

In operation, the compartment 34 is filled with sand and placed in a convenient position within the house. Cats have an inborn instinct to seek sand when they eliminate themselves so they will enter structure 10 and start to paw sand from compartment 34 into receptacle 50 in accordance with their known habits and inclinations. When the cat leaves structure 10 it must pass over treadle plate 27 thereby causing receptacle 50 to be emptied into refuse container 98, as will be apparent from the foregoing detailed description.

By placing the pivot point 78 of clevis bracket 70 in the position indicated, a mechanical advantage is obtained which allows for the complete opening of receptacle 50 with a minimum of movement of treadle plate 27. The return spring 94 operates to bring the pivot arms down to the position shown in FIGURE 5 and close receptacle 50. Self cleaning of gates 56 and 58 is obtained by reason of the fact that they pass over the outer surface of base 52 during their opening movements.

It is believed that the invention, its mode of construction and assembly, and many of its advantages should be readily understood from the foregoing without further description, and it should also be mainifest that while a preferred embodiment of the invention has been shown and described for illustrative purposes, the structural details are nevertheless capable of wide variations within the purview of the invention as defined in the appended claims.

I claim:

1. In a relief station for cats, a walled enclosing structure including a raised floor and an open end, sand storage means above said floor located remote from the open end of said structure, said floor having a refuse opening between said sand storage means and the open end of said structure, an open trough connecting said sand storage means with the refuse opening in said floor, shallow downwardly openable receptacle means positioned below the refuse opening in said floor, means for yieldably urging said receptacle means into a normally closed position, means actuated by a cat in leaving said structure for opening said receptacle, and refuse collecting means positioned below said receptacle.

2. The device described in claim 1 wherein said cat actuated means for opening said receptacle includes a treadle plate hingedly carried by said enclosing structure adjacent the open end thereof, push rod means extending rearwardly of said treadle means, and linkage means connecting said push rod means to said receptacle means operable to open the same when a cat steps upon said treadle plate.

3. The device of claim 1 wherein said refuse collecting means is removably carried by said enclosing structure.

4. The device of claim 3 wherein yieldable means are provided to hold said refuse collecting means in place.

5. In a relief station for cats, a walled enclosing structure including a raised floor and an open end, a sand hopper carried by said structure above said floor in spaced relation to the open end of said structure, said floor having a refuse opening adjacent said sand hopper, an upwardly open trough connecting said sand hopper with the refuse opening in said floor, a hemispherical receptacle carried by said floor in communication with the refuse opening therein, said receptacle having a central opening therein, mating segments pivotally mounted within said receptacle to selectively close and expose the opening therein, linkage means for imparting opening and closing movements to said segments, spring means for normally urging said segments into a closed position, a treadle plate pivotally carried by said enclosing structure at its open end, rod means connecting said treadle plate with said linkage means, depending bracket means carried by said floor below the opening therein, a refuse collector carried by said bracket means, and means cooperable with said bracket means for releasably holding said collector within said bracket means.

6. The device of claim 5 wherein said bracket means includes a U-shaped support, and wherein said releasably holding means includes a clip member yieldably attached to said U-shaped support at the base thereof.

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