United States Patent [19]

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[11] 3,733,098

[45] May 15, 1973

[54] **SANITATION APPARATUS**

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[52] **U.S. Cl.** .....**294/19 R,** 294/1 R, 294/115

[51] **Int. Cl.** **A47f 13/06**

[58] **Field of Search** .....294/1 R, 19 R, 50.8, 294/50.9, 55, 115; 15/257.1, 257.6; 119/1 R; 206/47 R

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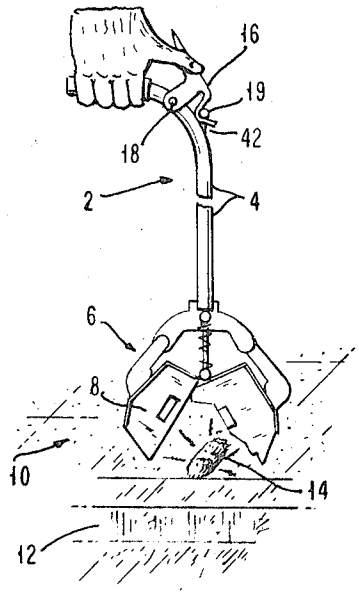
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[57] **ABSTRACT**

Apparatus for the collection and disposal of solid animal excrement is disclosed. The apparatus consists of a cane-like handle at the bottom of which a pair of jaws which are biased to the open position are located. A hand-operated actuator at the top of the handle is connected to the jaws by a rod or cable for closing the jaws. A disposable cardboard container is releasably held open in the open jaws by magnetic means on the jaws in cooperation with metal strips on the walls of the container. When the jaws close, the container is closed and locked in the closed position by a tab latching mechanism. When the jaws are subsequently opened, the closed container is released from the jaws.

Solid animal excrement can be collected and disposed of without the user having to touch the disposable container containing the excrement.

11 Claims, 12 Drawing Figures



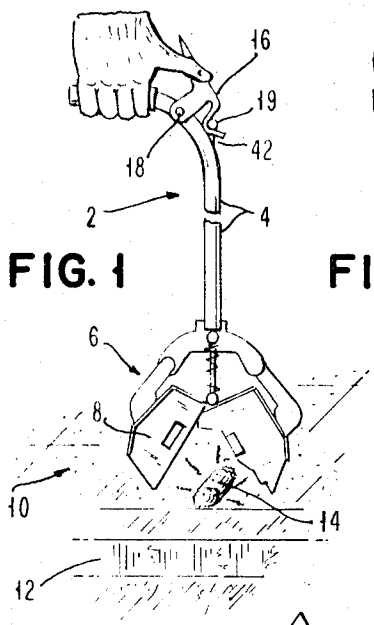


FIG. 1

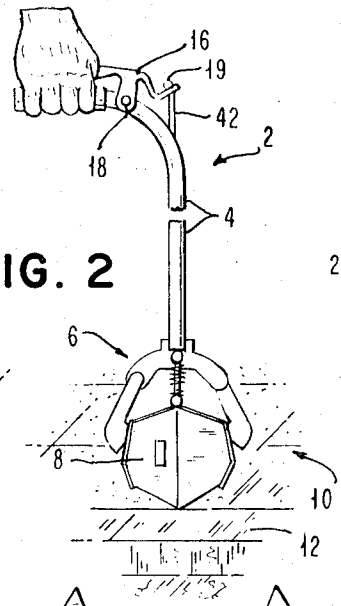
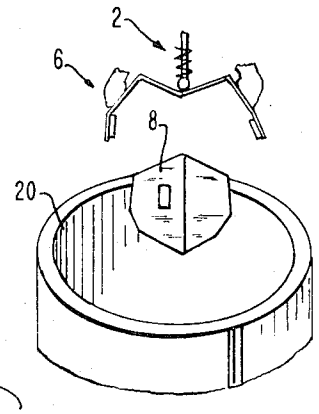


FIG. 2

FIG. 3



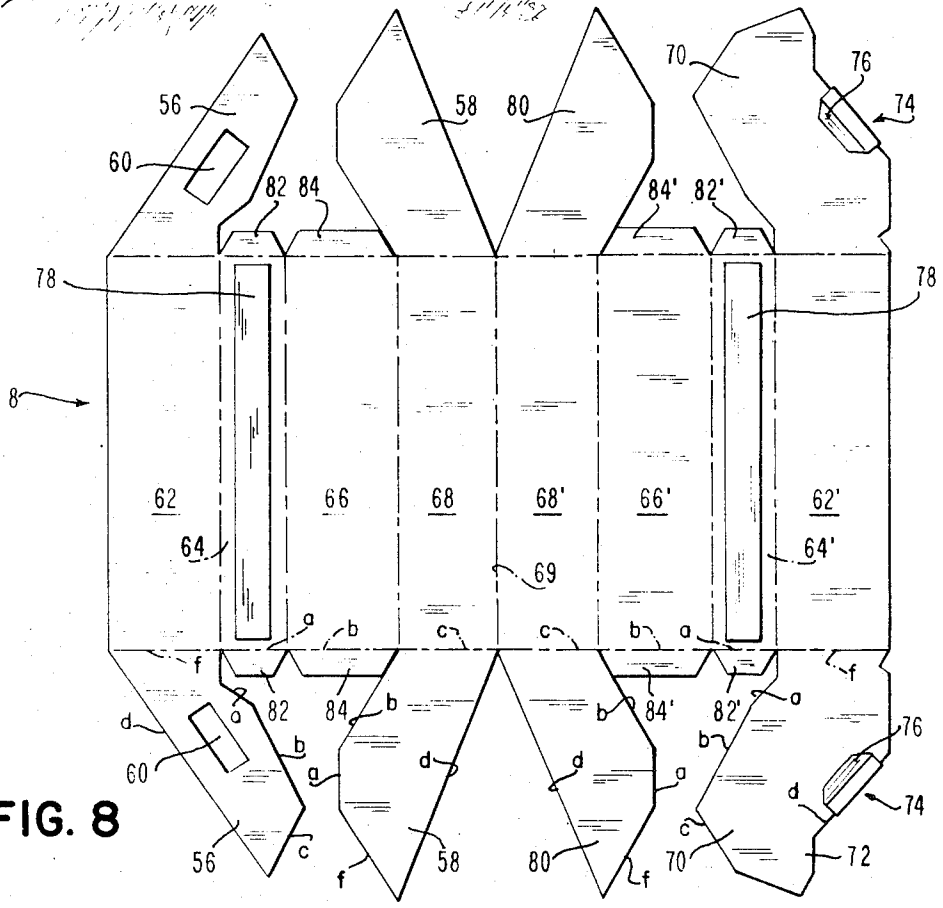


FIG. 8

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FIG. 4

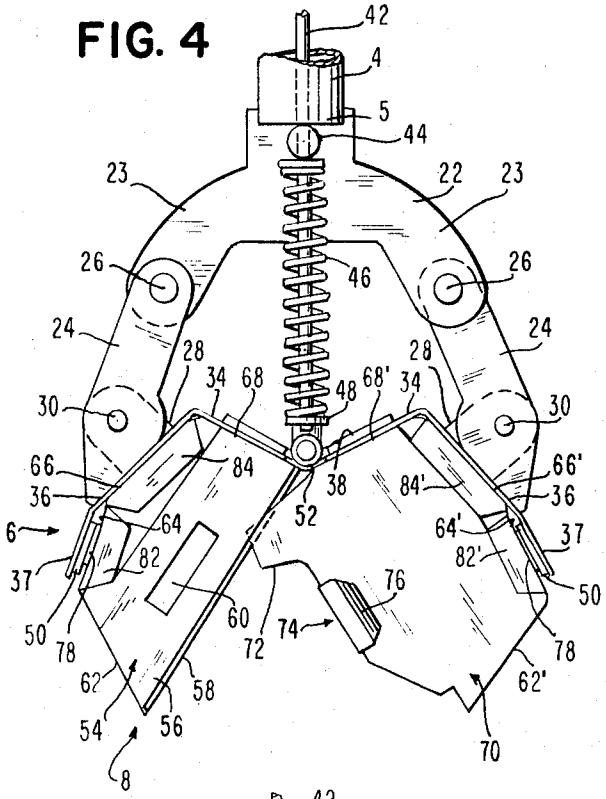
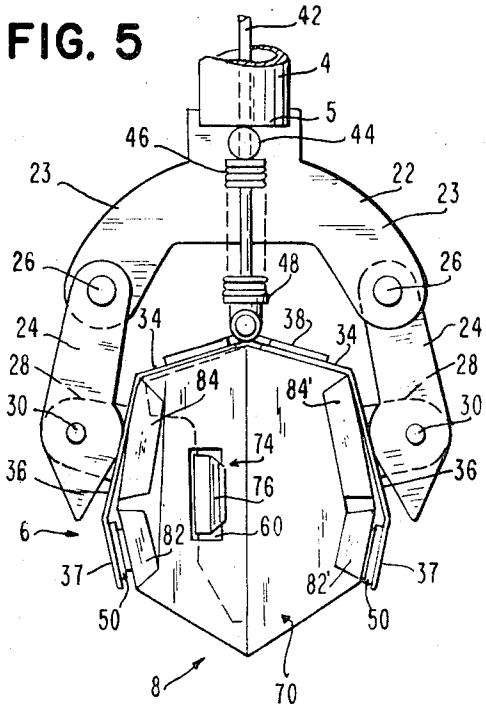


FIG. 5



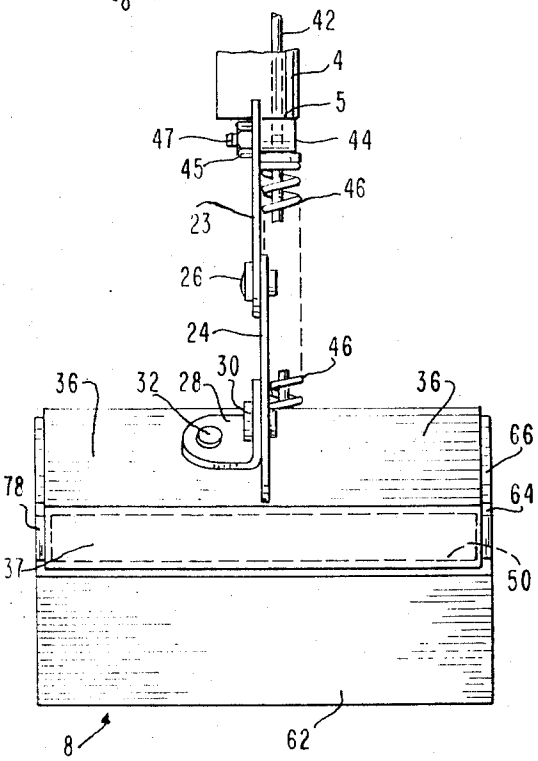


FIG. 6

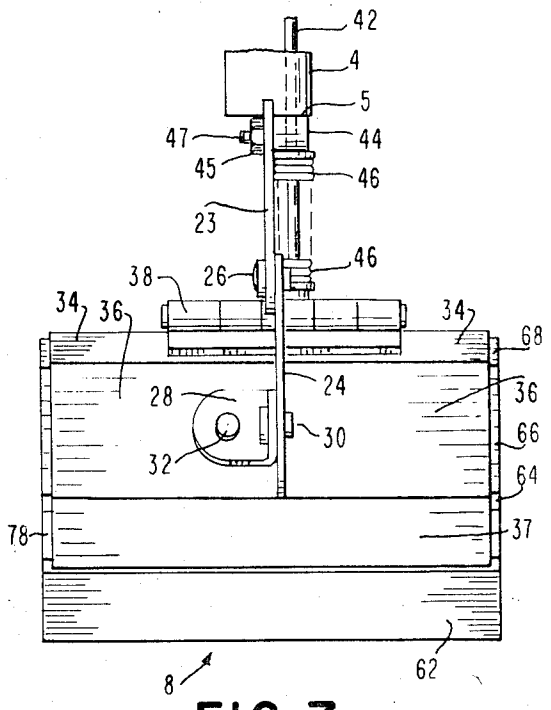


FIG. 7

FIG. 9

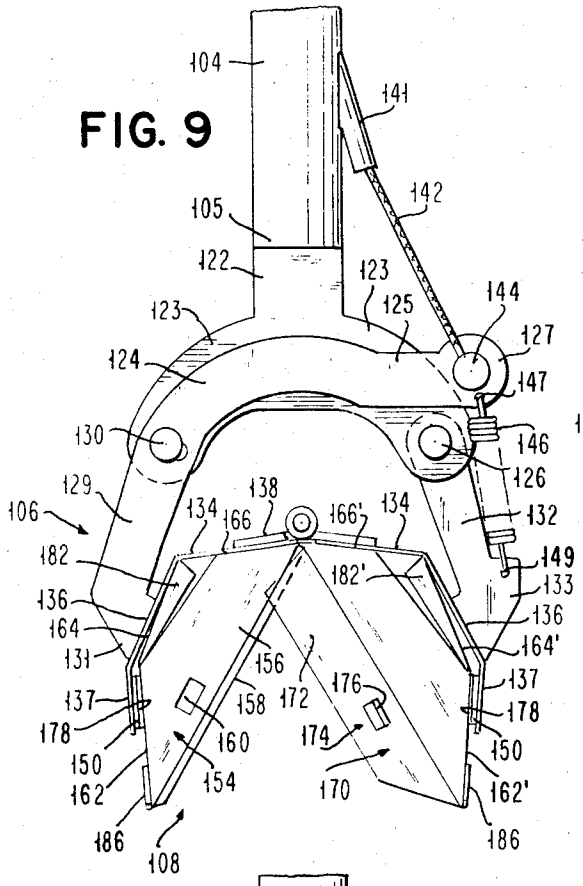


FIG. 10

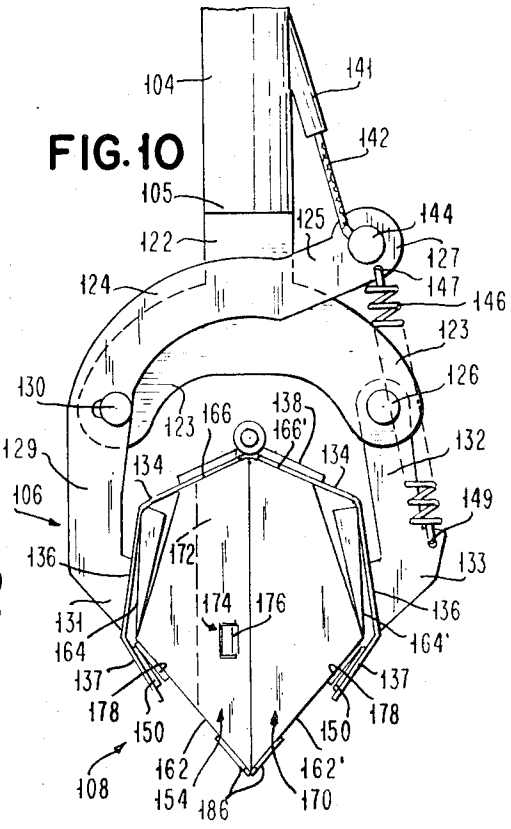


FIG. 11

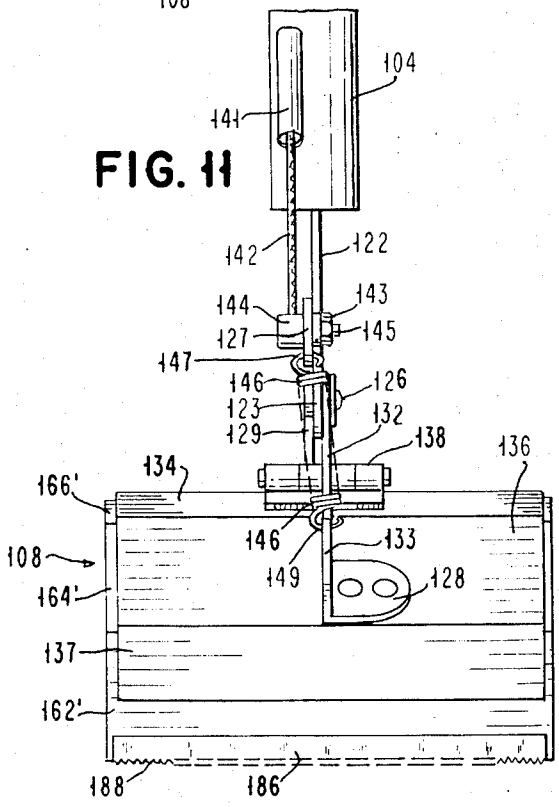
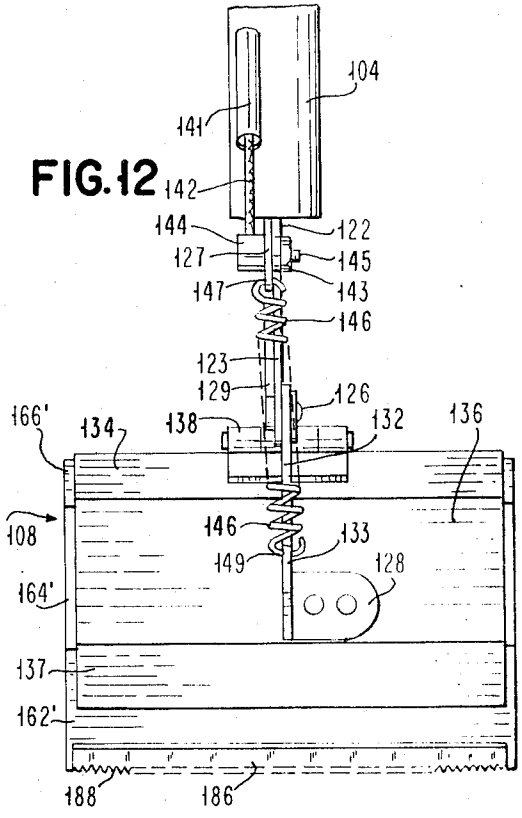


FIG. 12



SANITATION APPARATUS

BACKGROUND OF THE INVENTION

1. Field of the Invention

This invention relates in general to the control of environmental pollution resulting from the prevalent practice of animal pet owners permitting their animals to drop solid excrement in public areas especially in parks and on public sidewalks and other pedestrian ways. This pollution problem is an extremely serious problem in large urban areas which often have high pet populations, particularly dogs, and very little area of woods or other unpopulated land. The solid excrement of such animals constitutes a serious sanitation problem with its consequent health hazards especially to children playing in the parks and on the sidewalks of a city.

While some municipalities have tried to at least partially control this noxious problem by requiring owners to "curb their dogs," this, even when adhered to, still results in a serious health problem and extremely unsightly streets as well as not completely eliminating the hazard to the unwary pedestrian of stepping in the excrement. Furthermore, such regulations are difficult to enforce because of the large numbers of animals involved and the very nature of the pet animal who very often does not make the curb.

In the past, various devices have been proposed for the collation and disposal of the solid animal excrement in order to eliminate the aforementioned problems. Some devices such as animal toilets are extremely expensive and generally impractical in use. Certainly such animal toilets, while they might solve the problem for individual owners who could afford them, are not a practical solution to the overall problem faced by communities in controlling this sanitation problem.

Other, portable, devices have been suggested. Some such devices comprise merely frames for a garbage bag in which the excrement is scooped up and then the animal owner must remove the bag from the frame by hand, close it and dispose of it. As a practical matter, the portions of the bag that must be handled often come in contact with the excrement. Thus, because of the odious nature of the task involved in removing the bag and disposing of it, such a device is not acceptable to the majority of persons faced with such problems.

Other devices which have utilized disposable bags and have provided means for automatically closing the bag are relatively complex in their construction and still require the owner to remove the closed bag from the apparatus by hand. This operation is distasteful to many people and discourages the use of such devices however effective they might be in the actual collection of the excrement.

It is clear that the problem of removing animal excrement from public areas such as streets, sidewalks and parks is a major sanitation problem and in large cities has reached the point where it constitutes a serious health hazard as well as giving an unsightly appearance and noxious smell to such public places. Most experts believe that the only practical means of overcoming this problem is provision of an inexpensive and aesthetically acceptable means for owners to collect and dispose of their animal's excrement. The success of regulations requiring the collection and disposal of pet excrement, in order to be practically enforcible, depends upon the availability of a device which is inexpensive, effective in collecting and disposing of the excrement in a facile manner, and which permits the disposal of the collected excrement in a closed disposable container which the animal owner need never come in contact with after the excrement has been collected.

2. Prior Art

In U. S. Pat. No. 3,281,178 Fischer discloses a sanitation device which may be used in collecting and disposing of animal fecal matter which comprises a cane-like handle of solid metal which carries a frame-like member at the base thereof. The collecting means comprises a bag, the tops of which fold over portions of the frame carried on the handle. The method in which the bag is applied to the handle prevents the fecal matter from coming in contact with the frame-like member. The fecal matter is in effect scooped up into the bag by motion of the frame member. The owner then must remove the bag by hand from the frame member and close it prior to disposing of the fecal matter. While this device has the advantage of being of simple construction, many people would find its use objectionable for aesthetic reasons because of having to remove the feces containing bag by hand, close it, and then dispose of it.

In U. S. Pat. No. 3,052,214 Johnson discloses a container means which comprises a wire frame member for a disposable bag used for collecting the animal excrement. This device provides for the closing of the bag after the animal excrement has been collected by motion of the frame member which automatically closes the bag after collection. The bag must be removed from the frame by hand.

SUMMARY OF THE INVENTION

The present invention is concerned with a greatly improved apparatus to facilitate the collecting and disposing of solid animal excrement matter in an efficient inexpensive manner which does not involve any direct contact on the part of the user with the container means in which the excrement is collected and disposed. The advantage obtained with the apparatus of this invention of the user being able to avoid any contact with the collection container encourages many animal owners to willingly utilize the device to collect and dispose of pet excrement and thus results in a more sanitary environment.

The apparatus of this invention comprises a cane-like handle, which can advantageously be utilized as a walking stick, and jaws at the bottom of the handle which are biased to an open position. A hand-operated actuator at the top of the handle is connected with the upper end of a connecting means such as a rod or a cable. The lower end of the rod or cable is connected to the jaws in such manner that when the hand actuator is operated it causes the connector to close the jaws. The jaws comprise an adaptor having a pair of centrally hinged upper panels and side panels which form a receptacle for a disposable container. The disposable container is divided into two halves along an upper longitudinal seam thereof. Each half of the container has upper panels, side panels, and bottom panels. The upper panels and side panels conform in general contour to the corresponding panels of the adaptor. The halves of the container are hingedly connected along the upper longitudinal seam formed by the pair of upper panels. Latching means are provided to lock the halves of the container together to form a closed container. Means are provided on each half of the container for holding the container on the adaptor of the jaws. In using the appa-

ratus of this invention an unused container which is open is placed in the adaptor. The retaining means serve to hold the panels of the container against the adaptor panels and thus maintain the container in an open position while the jaws are open. When the hand actuator is operated, the connector cause the jaws to close, and with them, the container. When the container is in the closed position, the latching mechanism locks the container closed, retaining the solid excrement which has been picked up. Upon release of the actuator, the jaws open. However, since the container is locked in the closed position, the walls of the container do not return to the open position with the adaptor walls and the container is released from the jaws.

BRIEF DESCRIPTION OF THE DRAWING

The accompanying drawings disclose preferred embodiments of the invention set forth above. In the drawings:

FIG. **1** is a perspective view showing the apparatus of this invention carried by the user and disposed in the jaw-open position over excrement on a sidewalk.

FIG. **2** is a similar perspective view showing the device with the jaws and container in a closed position.

FIG. **3** is a perspective view of the lower portion of the apparatus showing the closed disposable container being placed in a refuse container.

FIG. **4** is a front elevational view of the lower portion of the apparatus shown in FIGS. **1 – 3** with the jaws and container in the open position.

FIG. **5** is a front elevational view of the lower portion of the apparatus shown in FIG. **4** showing the jaws and container in the closed position.

FIG. **6** is a side elevational view of the apparatus shown in FIG. **4** looking from the right-hand side thereof.

FIG. **7** is a side elevational view of the apparatus shown in FIG. **5** looking from the right-hand side thereof.

FIG. **8** is a top plan view of a cardboard blank for the disposable container of the invention.

FIG. **9** is a front elevational view of the lower portion of an alternative embodiment of the device shown in FIGS. **4 – 7**, with the jaws and container in the open position.

FIG. **10** is a front elevational view of the apparatus shown in FIG. **9** with the jaws and container in the closed position.

FIG. **11** is a side elevational view of the apparatus shown in FIG. **9** looking from the right-hand side thereof.

FIG. **12** is a side elevational view of the apparatus shown in FIG. **10** looking from the right-hand side thereof.

DESCRIPTION OF THE PREFERRED EMBODIMENTS

Referring to FIGS. **1 – 3** of the accompanying drawing, the sanitation apparatus of this invention is shown in FIG. **1** where the user is about to collect the solid animal excrement from a sidewalk, in FIG. **2** the excrement has been collected and the disposable container locked in the closed position, and in FIG. **3** the jaws of the device have been returned to the open position and the container is shown being disposed of in a refuse container.

The sanitation apparatus of this invention is shown generally at **2** and comprises the combination of a cane-like handle **4** having jaws **6** and a disposable container **8**. In FIG. **1**, dog excrement **14** is shown on the sidewalk **10** and curb **12** about to be collected using the apparatus **2** of this invention. The container **8** carried by the jaws **6** of the apparatus is in the open position. In FIG. **2** the jaws **6** and consequently the container **8** have been closed by depressing the actuator **16** at the upper end of the handle **4**. The actuator **16** is pivoted on a bolt **17** and connected to a rod **42** by bolt means **18**. The rod **42** runs through the interior of the hollow handle **4** and when raised causes the jaws **6** and consequently the container **8** to close. In FIG. **3**, the container **8** which is now locked closed is released from the jaws **6** when the jaws are opened and is shown dropping into the refuse container **20**.

The details of a preferred embodiment of the invention are described in FIGS. **4 – 7**.

Attached to the bottom **5** of the hollow tube-like handle **4** is a bifurcated central member **22** which is attached to the bottom **5** by any suitable means such as welding. The central member **22** comprises two arms **23** of equal dimension which extend downwardly and outwardly from the central point at which the base member **22** is connected to the bottom **5** of the handle **4**. Arm extensions **24** are attached to the arms **23** at pivots **26**. Arm extensions **24** in turn carry angle braces **28** which are attached to the arm extensions **24** by means of pivots **30**. The jaws **6** comprise two half sections which are hingedly connected together at **52**. Each half section comprises an upper panel **34**, an intermediate panel **36**, and a lower panel **37**. The angle braces **28** are connected to panels **36** by rivets **32** or any other suitable means. The jaws **6** are hinged at central point **52** by means of hinge **38** which is secured to the panels **34**.

The jaws **6** are biased to the open position shown in FIGS. **4** and **6** by the force of spring **46** which is secured between a spring base **48** attached to the hinge **38**, and a spring retainer **44** which is secured to the upper portion of member **22** by nut **45** on the threaded shank **47** of the retainer **44**. The connecting rod **42** runs longitudinally through the coils of the spring and through the retainer **44** as shown and is secured to the spring base **48**. Magnetic strips **50** are permanently secured to the insides of panels **37** and serve to retain the container **8** in the jaws **6** when in the open position by attraction to corresponding metal strips **78** on the outside of the panels **64** and **64'** of the container **8** described in more detail below.

The container **8** is constructed of a medium weight cardboard from a single flat piece as shown in FIG. **8**. Cardboard is a particularly suitable material because of its low cost and ease in assembly. The container **8**, of course, can be constructed of any other suitable material such as a light metal, molded plastic, or the like. The container material may also be impregnated with known deodorant substances or fragrances in order to mask odors from the material collected and to make the use of the apparatus more attractive to the animal owner. Disinfectants may also be incorporated in the container material. Container **8** is constructed in such a manner that the two halves open and closed by bending along the longitudinal seam **69**.

The container **8**, as indicated, is releasably held by the jaws **6** in the open position by the pull of magnets

50 on the metal strips 78 which are glued to the outer sides of the panels 64 and 64' of the container 8. The lowermost panels 62 and 62' form the lowermost walls of the container which meet along the center of the bottom of the container when the container is in the closed position. The panels 64 and 64' as indicated carry the metal plates secured to the external surfaces. Panels 66 and 66' form the upper side walls, and the panels 68 and 68' form the upper walls of the container. Where the panels 68 and 68' are joined together at line 69 they form a hinge between the two halves of the container 8.

The end panel 70 has a projecting tab portion 72. The end panel 54 is comprised of inner panel 56 and outer panel 58. Tab portion 72 serves to guide the inner edge portion of the panel 70 into the space between the inner and outer panels 56 and 58 respectively of the end panel 54. A rectangular opening 60 is provided in the outer panel 56 of the end panel 54. Crimped and/or glued to the inner edge of the panel 70 is a retaining clip 74 which has an upturned end portion 76. The opening 60 in the outer panel 56 of the end panel 54 has dimensions corresponding generally to those of the clip 74. When the jaws 6 close, the inner edge of the panel 70 is moved between the panels 54 and 56 so that the clip 74 is registered in the opening 60 and the projection 76 projects through the opening 60 and locks against the panel 54 to maintain the cartridge in a closed position.

In assembling the container 8 from the cardboard blank shown in FIG. 8, the panels are folded along the lines shown and assembled so that the edges *b* of the end panels 58 are aligned with the edges *b* of the panels 66 under tabs 84. The edge a of panel 58 is aligned with the edge *a* of panel 64 under the tab 82. The edge *f* of panel 58 is aligned with the edge *f* of panel 62. The panel 56 is aligned outside of panel 58 with the edge *d* of panel 58 projecting slightly beyond the edge *d* of panel 56 as shown in FIG. 4. The edge *c* of panel 56 is aligned with the edge *c* of panel 68. The edge *b* of panel 56 is aligned with the edge *b* of panel 66 under tab 84 and the edge *a* of panel 56 is aligned with edge *a* of panel 64. The panel 56 is secured around the margins *a*, *b*, *c* , and *f* to panel 58 by any suitable means such as glueing, stapling, or the like. The edge *d* of panel 56 which parallels edge *d* of panel 58 is not secured to the latter so that the clip 74 may slide between the panels 56 and 58 to lock in the opening 60 of panel 56 when the container is moved to the closed position. This also allows tab 72 to move between panels 56 and 58. The tabs 82 and 84 are folded over the edges *a* and *b* of panel 56 and are glued thereto. The other half of the container 8 is assembled in a similar manner. Thus, the edges *b*, *a*, and *f* of the panel 80 are matched with the corresponding edges *b*, *a*, and *f* of panels 66', 64', and 62' respectively. The panel 80 is positioned under the panel 70 with the edges *a*, *b*, and *c* of panel 70 matching the respective edges of panels 64', 66', and 68' respectively. Tabs 82' and 84' are folded over the thus assembled panels 70 and 80. The tabs 82' and 84' and the panels 70 and 80 may be stapled together or glued. When the container is assembled as described, the projecting tab 72 of the upper portion of panel 70 projects across the edges *d* of panels 56 and 58 and into the space between panels 56 and 58.

In the foregoing embodiment, the container 8 is retained in the jaws 6 in the open position by means of magnets 50 and metal strips 78. Any suitable retaining means such that the container 8 is held in the jaws when the jaws 6 and container 8 are in the open position and the container 8 is unfilled, but which after the container 8 is locked closed and contains the excrement will release the container 8 from the jaws 6 when the jaws 6 are opened, may be employed. Thus, the magnets 50 and metal strips 78 could be eliminated and two-sided adhesive strip applied to the container 8. Such strip would be permanently adhered to the container 8, the adhesiveness of the strip to the metal of the panel 37 being of such nature that when the container 8 is filled and locked closed it will release the container 8 with ease when the jaws 6 open. Other suitable means are matching strips of Velcro synthetic fibers which adhere when pressed together.

Similarly the latching means described comprising the clip 74 whose upper projection 76 locks in the opening 60 of the panel 56 may be replaced by any simple known latching mechanism.

FIGS. 9 through 12 illustrate an alternative embodiment of the apparatus of this invention. In this embodiment, the disposable container 108 is of hexagonal cross section and the arrangement of the jaws 106 of the apparatus differs from the previous embodiment. Attached to the bottom 105 of the hollow tube-like handle is a bifurcated member 122 which as in the previous embodiment is connected to the bottom of the handle by any conventional means such as welding. Two arms 123 of the member 122 extend downwardly and outwardly from the center portion of the member 122. The ends of the arms 123 have pivots 126 and 130 respectively. The curved arm 124 is pivotally secured to the arm 123 by the pivot 130 as shown. Extending slightly upward and to the right of the pivot 130 in the upper portion 125 of the arm 124. The right-hand end 127 of the arm 124 terminates outside of the pivot point 126 on the right-hand arm 123. The lower downwardly extending left-hand portion 129 of the arm 124 is secured to plate 136 of the jaws 108 by riveting or welding tab 128 to the panel 136. Arm 132 which is secured at its upper end to pivot 126 is secured at its lower end 133 to the external surface of the other panel 136 forming part of the jaws 106. In this embodiment the connector between the jaws and the actuator comprises a cable 142 which runs through the hollow of handle 104 and emerges at the lower end of the handle through the cable guide 141. The lower end of the cable 142 is attached to the retainer 144 which is secured to the end 127 of the arm 124 by the shank 145 and nut 143. To the outer edge of arm 133 at point 149 is secured one end of spring 146. The other end of the spring 146 is secured to the end 127 of the arm 124 at the point 147 just below retainer 144 and biases the jaws to the open position shown in FIG. 9.

The jaws 6 comprise a hinged adaptor comprising a pair of lower panels 137, side panels 136, and upper panels 134 which are hinged together along the top by hinge 138.

The inner surfaces of panels 137 carry magnets 150 which attract corresponding metal strips 178 that are secured to panels 162 and 162' of the container 108.

The container 108 comprises walls formed of lower panels 162 and 162', side panels 164 and 164', and upper panels 166 and 166'. The end panel 154 is comprised of outer panel 156 and inner panel 158. An opening 160 is provided in panel 156 for the retaining

clip **174** which is glued to panel **170.** The panel **170** has a tab **172** which runs between panels **156** and **158** to guide the edge of panel **170** between the panels **156** and **158.** When the container **108** is closed, it is locked in the closed position by the projection **176** on the retaining clip **174** that extends into the opening **160** in panel **156.** Tabs **182** and **182'** are folded over panels **154** and **170** and glued thereto.

As shown in FIGS. **11** and **12,** the lower edges of the panels **162** and **162'** are provided with a metal strip **186** which extends beyond the edges of the panels and the exposed edge of which is provided with serrations **188** to aid in picking up the excrement.

The sanitation device of this invention provides an economical, simple, and aesthetically attractive way to collect and dispose of solid animal excrement. The inexpensive disposable open container is placed in the open jaws of the apparatus. When required, the apparatus is placed over the excrement to be removed so that the open container covers the excrement, and the actuator depressed which causes the connector to be drawn up thus closing the jaws. The container simultaneously closes and is locked closed, and then disposed of by releasing the actuator to open the jaws over a suitable refuse container.

While the invention has been explained by detailed description of certain specific embodiments, it is understood that various modifications and substitutions can be made in any of them within the scope of the appended claims which are intended also to include equivalents of such embodiments.

What is claimed is:

1. Apparatus for collecting and disposing of solid animal excrement matter, comprising in combination a handle, jaw means at the bottom of said handle, said jaw means biased to an open position, actuator means at the top of said handle, connecting means attached at the upper end thereof to said actuator means and at the lower end to said jaw means, said actuator means being operable to pull upwardly on said connecting means to cause said jaw means to move toward a closed position, a disposable container for said excrement, said container comprising two halves thereof, each of said halves comprising upper panels, side panels, bottom panels, and end panels, said halves hingedly connected to each other along the longitudinal seam said upper panels form with each other, latching means to lock said halves together to form a closed container, and means for detachably holding said halves of said container on said jaws.

2. Apparatus as claimed in claim **1** wherein said jaw means comprises a central member, said central member connected to the bottom of said handle at the upper center portion of said central member, said central member having depending arms on opposite sides of the center portion, arm extensions pivotally connected to one end thereof to the lower ends of said depending arms, an adaptor member comprising two halves, each half of said adaptor member having upper panels and side panels, which panels conform to the upper and side panels of said container, the other ends of said arm extensions being pivotally connected to the outside surfaces of said side panels, hinge means, said hinge means hingedly connecting the halves of said adaptor to each other at the top thereof along the longitudinal axis, said connecting means being connected at the bottom thereof to said hinge means, and said jaws being biased to the open position by spring means connected to the center of said hinge at one end and at the other end to the center portion of said central member.

3. Apparatus as claimed in claim **2** wherein the lower edges of said bottom panels of said container are serrated.

4. Apparatus as claimed in claim **2** wherein said means for detachably holding said halves of said container on said jaws comprises the combination of magnets on said jaws which magnets are registrable with corresponding metal strips on said side panels of said container.

5. Apparatus as claimed in claim **2** wherein said means for detachably holding said halves of said container on said jaws comprises adhesive strips on said side panels of said container, said strips being releasably adherent to said jaws.

6. Apparatus as claimed in claim **5** wherein the lower edges of said bottom panels of said container are serrated.

7. Apparatus as claimed in claim **1** wherein said jaw means comprise a central member, said central member connected to the bottom of said handle at the upper center portion of said central member, said central member having two depending arms on opposite sides of the center portion thereof, a curved arm pivotally attached to the lower end of one of said depending arms, a first portion of said curved arm extending downward from the pivot on said one of said depending arms, a second portion of said curved arm extending upward and across said central member to an end of said second portion outside the end of the other depending arm of said central member, an arm extension pivotally connected at one end thereof to the lower end of said other depending arm of said central member; and an adaptor comprising two halves, each half of said adaptor member having upper panels, and side panels, which panels conform to the upper panels, side panels, and lower panels of said container, the lower end of said first portion of said curved arm being connected to the outside surface of a side panel of one of said halves of said adaptor, said arm extension being connected at the other end thereof to the outside surface of a side panel of said other half of said adaptor, said connecting means comprising a cable connected at its lower end to a cable retainer at the said end of said second portion of said curved arm, and spring means connecting said other end of said arm extension and said end of said second portion of said curved arm, thereby biasing said jaws to an open position.

8. Apparatus as claimed in claim **7** wherein the lower edges of said bottom panels of said container are serrated.

9. Apparatus as claimed in claim **1** wherein the lower edges of said bottom panels of said container are serrated.

10. Apparatus as claimed in claim **1** wherein said means for detachably holding said halves of said container on said jaws comprises the combination of magnets on said jaws which magnets are registrable with corresponding metal strips on said side panels of said container.

11. Apparatus as claimed in claim **1** wherein said means for detachably holding said halves of said container on said jaws comprises adhesive strips on said side panels of said container, said strips being releasably adherent to said jaws.

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