May 2, 1950 E. HERRMANN 2,506,502

COMMODE FOR USE IN AIRPLANES, TRAILERS, AND THE LIKE

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Fig. 1.

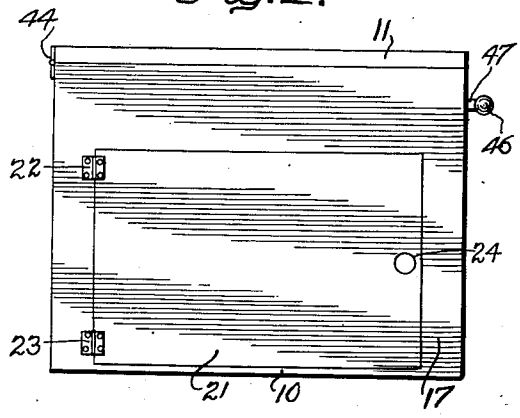


Fig. 2.

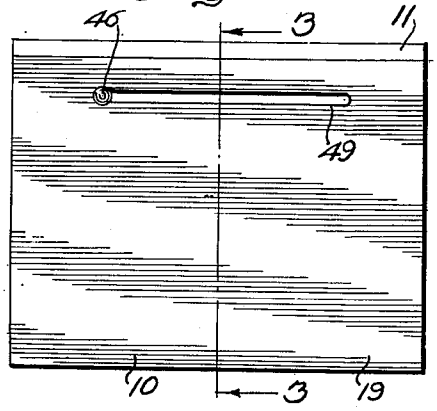
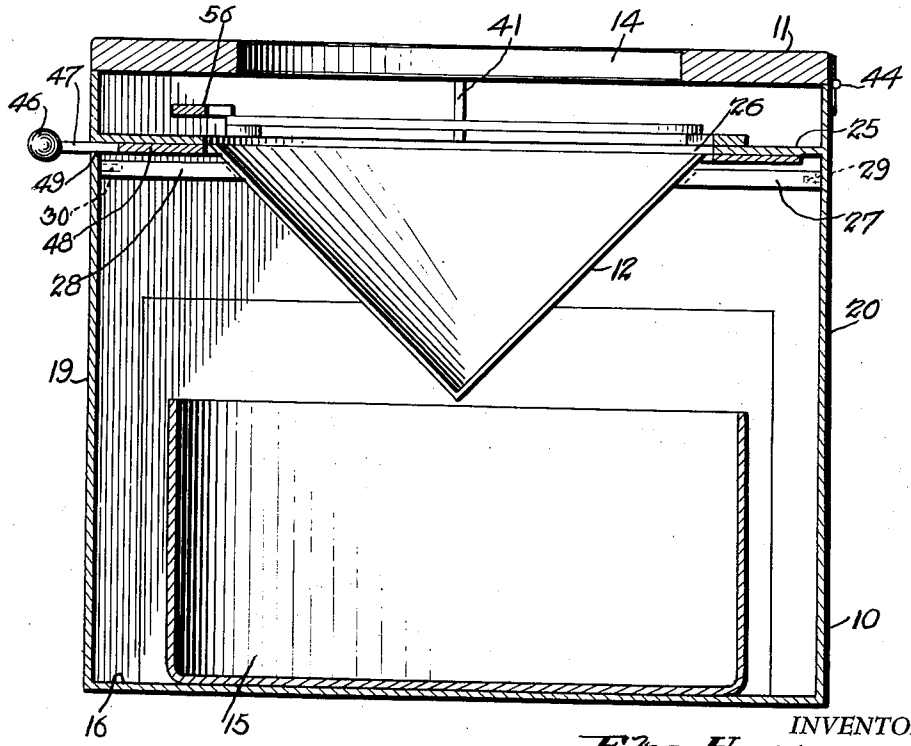


Fig. 3.



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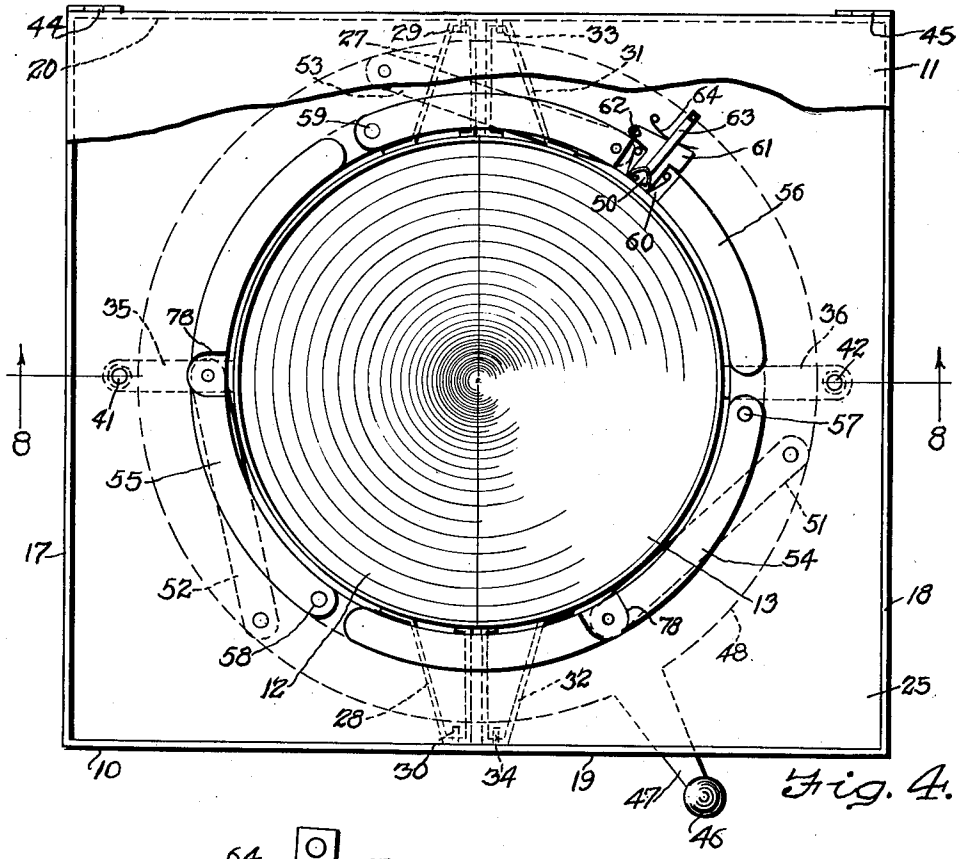


Fig. 4.

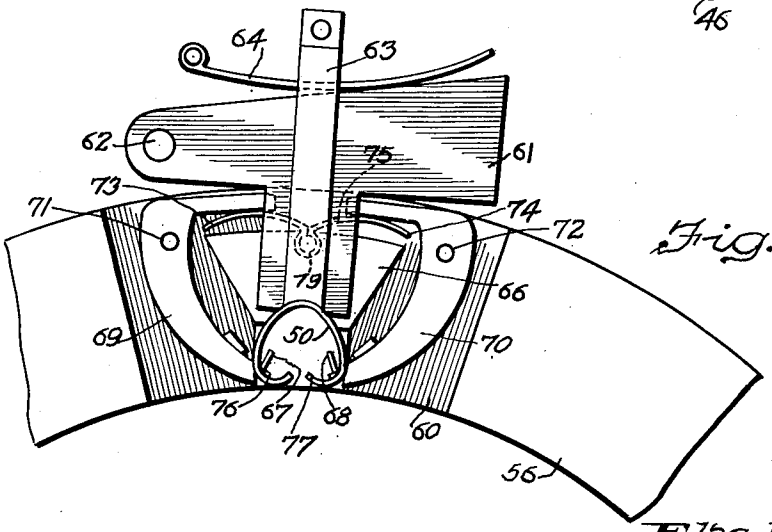


Fig. 7.

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COMMODE FOR USE IN AIRPLANES, TRAILERS, AND THE LIKE

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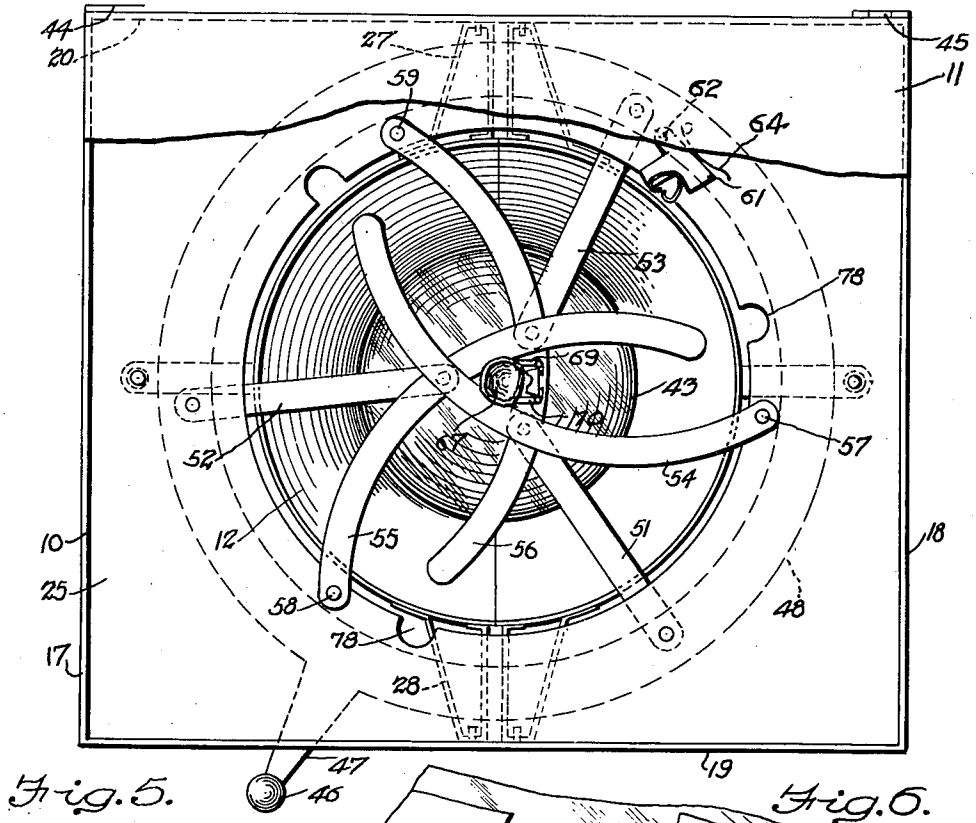


Fig. 5.

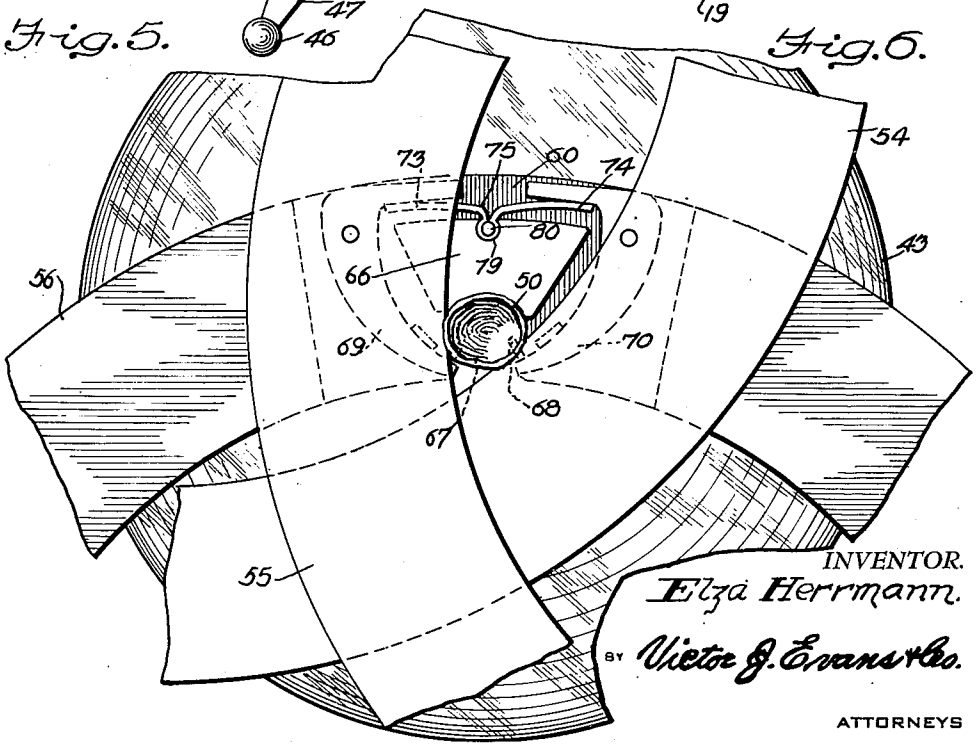


Fig. 6.

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Fig. 8.

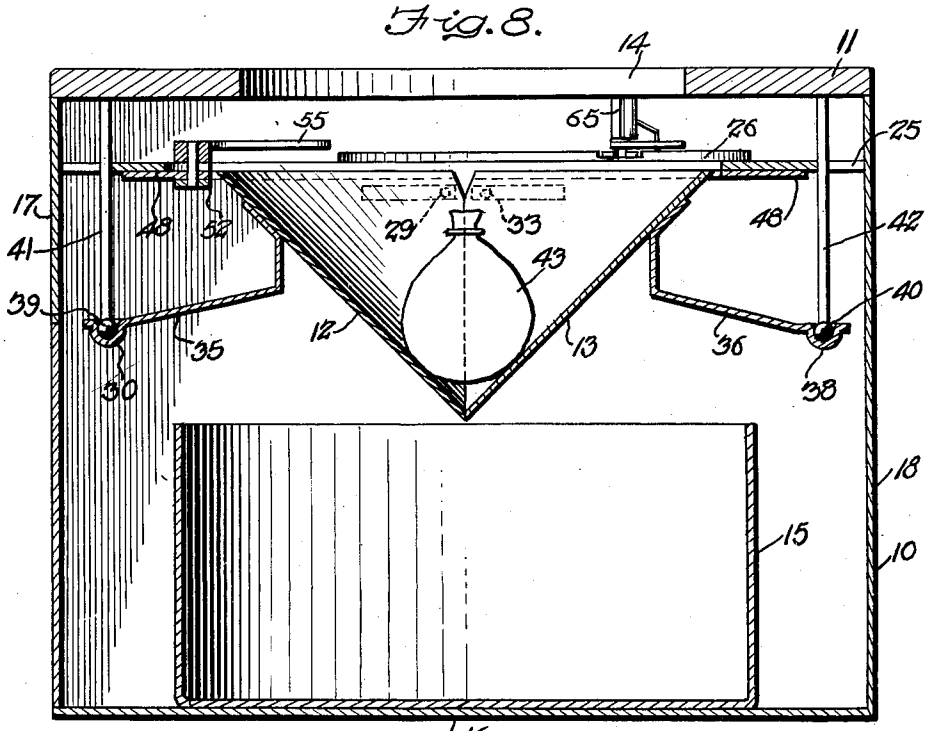
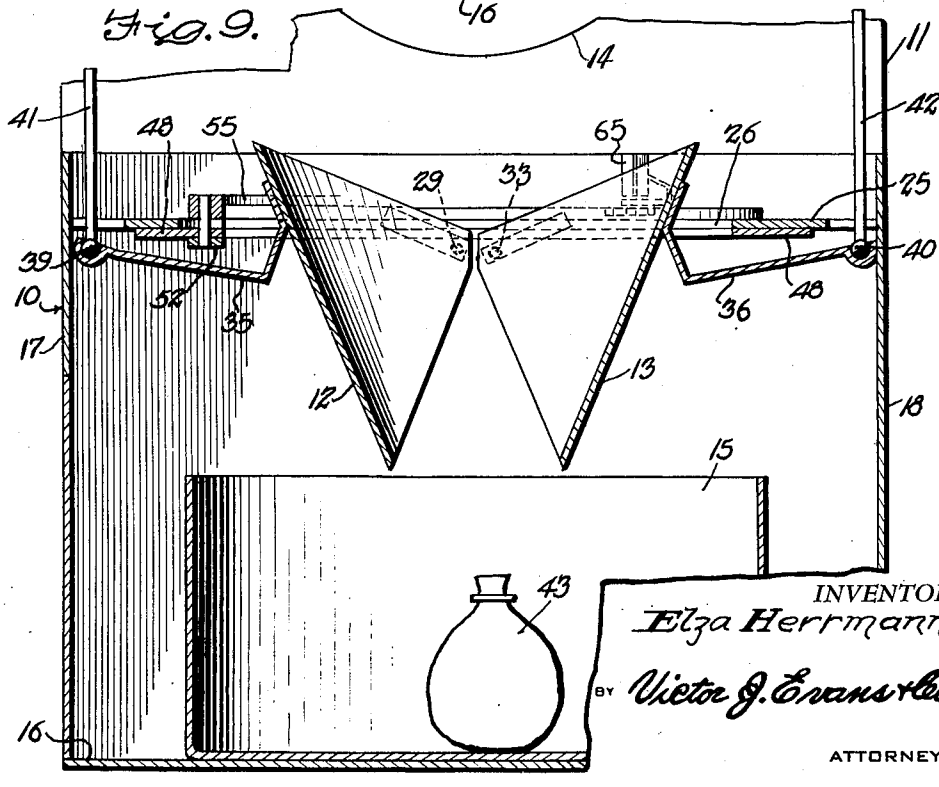


Fig. 9.



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2,506,502

UNITED STATES PATENT OFFICE

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COMMODE FOR USE IN AIRPLANES, TRAILERS, AND THE LIKE

Elza Herrmann, Cheshire, Ohio

Application January 5, 1948, Serial No. 485

4 Claims. (Cl. 4—142)

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This invention relates to commodes for use in airplanes, trailers, and the like, and in particular a dry commode having packaging means wherein products deposited therein may be sealed in sacks or plastic or other material impervious to moisture, and dumped into storage containers.

The purpose of this invention is to provide a commode adapted for use in traveling particularly in moving vehicles where plumbing facilities are not available, and where direct discharge is undesirable.

Various devices have been provided for accommodating travelers such as lavatories, toilets, and the like on railroads, buses, airplanes, and trailers, and whereas discharge directly upon railroads is not objectionable it would be objectionable on roadways or from airplanes. With this thought in mind this invention contemplates a dry toilet or commode in which all products deposited therein are sealed in individual packages that confine all odors to the package, and that may be deposited at regular stations for this purpose.

The object of this invention is to provide mechanically actuating instrumentalities that may be incorporated in a commode which will package and seal products deposited therein.

Another object of the invention is to provide a commode in which deposits therein may be instantly sealed to prevent escape of odors.

Another object of the invention is to provide means for crimping the open end of a sack formed of material impervious to moisture together after products have been deposited therein, and for sealing the sack.

A further object of the invention is to provide a dry commode for use in airplanes, trailers, and the like, which is of a simple and economical construction.

With these and other objects and advantages in view the invention consists of the new and novel combination, construction, and arrangement of parts as hereinafter more fully described, set forth in the claims appended hereto, and disclosed in the accompanying drawings, forming part hereof, wherein:

Figure 1 is a view showing a side elevation of the commode with the parts closed.

Figure 2 is a front elevation of the commode.

Figure 3 is a cross section through the commode taken on line 3—3 of Figure 2.

Figure 4 is a plan view of the commode with the seat forming the cover broken away.

Figure 5 is a similar plan view illustrating the parts in the position of crimping the open end of a sack.

Figure 6 is a similar view on an enlarged scale

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and with parts broken away illustrating the crimping action of the arms.

Figure 7 is a detail on a still further enlarged scale showing a sealing staple and the actuating means therefor.

Figure 8 is a cross section through the commode taken on line 8—8 of Figure 4 showing a sealed sack in the receiving hopper.

Figure 9 is a similar view illustrating the sack deposited in a storage container by which it may be removed from the commode.

Referring now to the drawings wherein like reference characters indicate corresponding parts, the commode of this invention includes a box-like housing 10, having a seat 11 forming a cover, with a receiving hopper formed of two sections 12 and 13 positioned below an opening 14 in the seat, and having a container or tray 15 positioned to receive packages or sacks from the hopper.

The housing 10 is formed with a base 16 and end walls 17 and 18, a front 19, and a back 20, and the wall 17 is provided with a door 21 held by hinges 22 and 23 and a latch 24. The tray or container 15 may be removed through the door 21 so that it may be dumped at stations provided therefor, as may be desired.

In the upper part of the housing 10 and spaced from the upper end thereof is a horizontal partition 25 having a centrally disposed opening 26 therein and the receiving hopper is suspended in this opening. The section 12 of the hopper is provided with laterally positioned brackets 27 and 28 which are pivotally mounted on the front and rear walls of the housing by pins 29 and 30, and the section 13 of the hopper is provided with similar brackets 31 and 32 that are pivotally mounted by pins 33 and 34. The sections of the hopper are provided with outwardly extending arms 35 and 36 which have cup-shaped sockets 37 and 38 in the ends thereof to receive balls 39 and 40 on rods 41 and 42 that extend downward from the seat 11. The seat holds the receiving hopper closed through the rods 41 and 42 and arms 35 and 36, as shown in Figure 8, and when the seat is raised the arms 35 and 36 are released wherein the weight of the package in the hopper actuates the sections to the dumping position shown in Figure 9 so that a sack or package 43 will drop into the tray 15. The seat is hinged to the housing by hinges 44 and 45, as shown, and the weight thereof holds the seat closed and also holds the sections of the receiving hopper in the closed position, as shown in Figure 8.

In use, a sheet of plastic, or material impervious to moisture, is pressed downward into the

receiving hopper and as products are deposited therein a knob 46 on an arm 47 projecting from a ring 48 through a slot 49 in the front of the housing, is moved across to the opposite end of the slot and in this movement the upper edges of the plastic sheet are crimped together and sealed by a staple 50, as illustrated in Figures 5, 6, and 7.

The ring 48 is pivotally connected by links 51, 52, and 53, to arcuate arms 54, 55, and 56, and the arms are pivotally mounted by pins 57, 58, and 59 to the horizontal partition 25. With the parts arranged in this manner it will be noted that as the knob 46 is moved across the front of the housing, from the position shown in Figure 4 to that shown in Figure 5, the upper edges of the material or sheet will be crimped into the relatively small area at the center and the staple 50 will be cinched around the edges to seal the sack as shown in Figure 6.

The staples are carried in a recess 60 in the arm 56, as shown in Figure 7, into which the staples are delivered from a magazine by a cam 61 as shown in Figure 4, wherein the cam is pivoted on a pin 62 and held under an arm 63 by a spring 64. The staple magazine, as indicated by the numeral 65, extends upward from the partition 25 and the cam and spring are mounted in the lower end thereof. As the arm 56 moves outward to the position shown in Figure 4 a staple is forced over a lug 66 and deposited on fingers 67 and 68 that extend inward from the tips of arms 69 and 70, which are pivotally mounted on pins 71 and 72 in the recess 60. The arms 69 and 70 are resiliently held by outwardly extending arms 73 and 74 of a spring 75, and as the arm 56 moves inward to the position shown in Figures 5 and 6 the arms permit the arcuate ends 76 and 77 of the staple to open and pass over the closed end of the sack. By this means the staple seals the sack and as the knob 46 is moved back to the position shown in Figure 4 the sack drops downward to the position shown in Figure 8, and as the seat is raised the sealed sack drops into the tray 15 as shown in Figure 9.

The partition 25 is provided with recesses 78 that receive the connections between the ends of the links 51, 52, 53, and the arms 54, 55, and 56, and the lug 66 is provided with a recess 79 in which an eye 80 of the spring 75 is positioned.

With the parts arranged in this manner the commode, as shown in Figures 1 and 2, may be positioned in a compartment in an airship or trailer and as it is used the knob 46 may be moved from the position shown in Figure 4 to that shown in Figure 5, and the products deposited in the commode will be sealed in a plastic wrapper in the receiving hopper. As the seat is raised the sealed sack drops into the lower tray or storage container 15, and after another plastic wrapper is placed in the receiving hopper it is again ready for use.

It will be understood that modifications may be made in the design and arrangement of the parts without departing from the spirit of the invention.

What is claimed is:

1. In a commode, a seat having an opening therein, a receiving hopper positioned below the opening of the seat for retaining a wrapper of material impervious to moisture, folding arms pivotally mounted in the commode and horizontally positioned around the upper end of the hopper, means for manually actuating the arms to a substantially closed position over the hopper for crimping the edges of a wrapper in the hopper together over the hopper, and means clinching a staple around the crimped edges of the wrapper.

2. In a commode, a seat having an opening therein, a supporting casing on which the seat is mounted, a receiving hopper positioned below the opening in the seat for retaining a wrapper, folding arms pivotally mounted in the casing and horizontally positioned around the upper edge of the hopper for crimping the edges of the wrapper in the hopper together, staple carrying means in one of said arms, means feeding staples to the said staple carrying means, and means positioning the staples in clinched relation over the crimped edges of the wrapper.

3. In a commode, the combination, which comprises, a casing, a seat having an opening therein mounted on the upper end of the casing, a split hopper in the casing below the seat positioned to receive products deposited in the opening in the seat, folding arms pivotally mounted on the hopper and positioned around the upper end thereof, a lever extending from the casing, means connecting the lever to the arms for actuating the arms to crimp the edges of a wrapper in the hopper together, means also actuated by the lever for clinching a staple over the crimped edges of the wrapper, a receiving tray positioned below the hopper, and means actuated by pressure on the seat for holding the hopper closed which permits the hopper to open as the seat is released.

4. In a portable dry commode, the combination, which comprises, a box-like casing having a door in one side and a horizontally disposed partition spaced from the upper end, a seat having an opening therein hinged to the upper end of the casing forming a cover, an inverted conical shaped hopper formed in sections suspended in the partition and positioned below the opening in the seat, means pivotally mounting the sections of the hopper on the walls of the casing, means connecting the sections of the hopper to the seat wherein the seat holds the sections in the closed position, arcuate arms pivotally mounted on the said partition, a ring mounted on the under side of the partition, links connecting the ring to the arcuate arms, an arm extending from the ring to the exterior of the casing providing means for manually actuating the arcuate arms for crimping the edges of a wrapper in the hopper together, staple carrying means on one of said arcuate arms, means feeding staples to the carrying means as the arms approach the open position, said staple carrying means adapted to clinch a staple over the crimped edges of a wrapper in the hopper to form a sealed sack from the wrapper, and a removable container positioned to receive sacks from the hopper.

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