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(54) **PORTABLE LACTATION MODULE**

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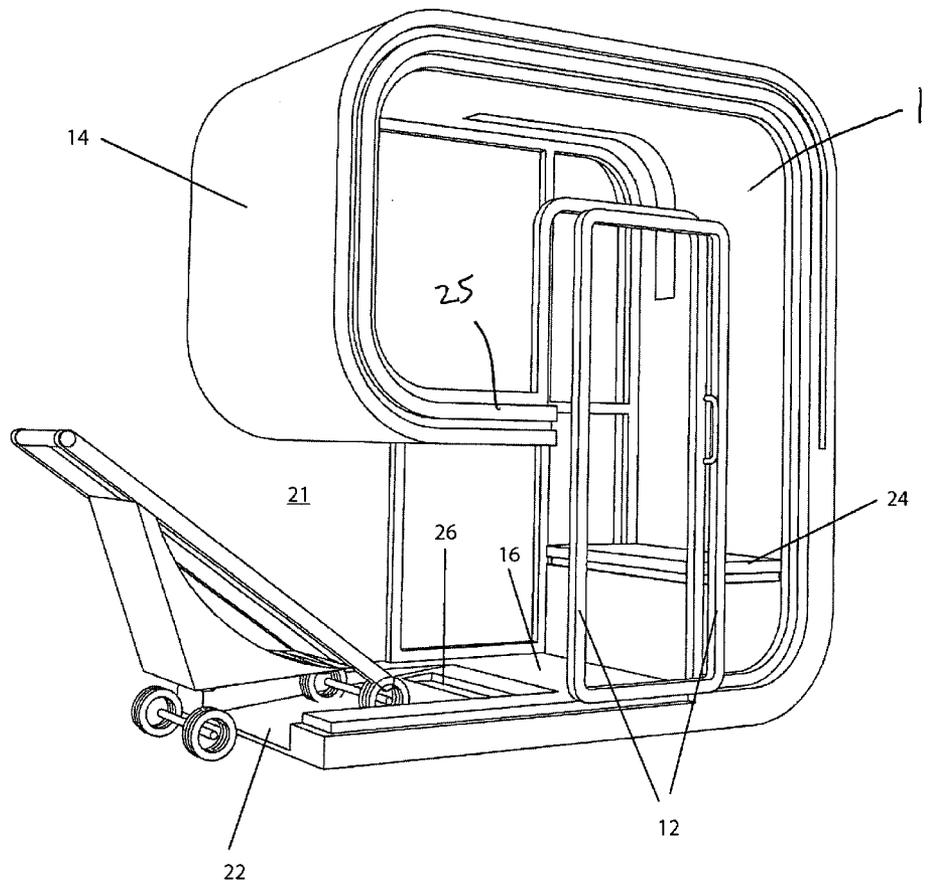
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(57) **ABSTRACT**

A portable lactation module in which a mother can breast-feed or change her baby in private and in safety within a

public space. The module includes a comfortable seat and a changing table in which the mother can breastfeed and then change her baby inside the module. The module includes side walls and at least one door with one-way glass or frosted glass that will allow the mother to see outside but prevent people from the outside to see clearly the mother inside in order to provide for privacy. Across from the seat and under the changing table is an opening for a baby stroller to be parked. The opening allows for the mother to access items from the stroller from inside the module without having to bring the stroller inside the module. A stroller locking device is provided for inside the module to prevent the stroller from the removed from the opening while the mother is inside. The module includes a baby pack dispensing device that dispenses a variety of items that the mother may need during the nursing or changing process, a disposable under-pad to place the baby on the table, and a bag to place soiled items for disposal afterwards. A video monitor located inside the module produces module instructions as well as advertising of baby items that a mother may be interested in. the monitor also provides entertainment for the mother during the long nursing process. the module includes lockable doors for privacy and safety, a ventilation and filter system to prevent odors both inside and outside of the module, and a trash bin for disposal of soiled items.



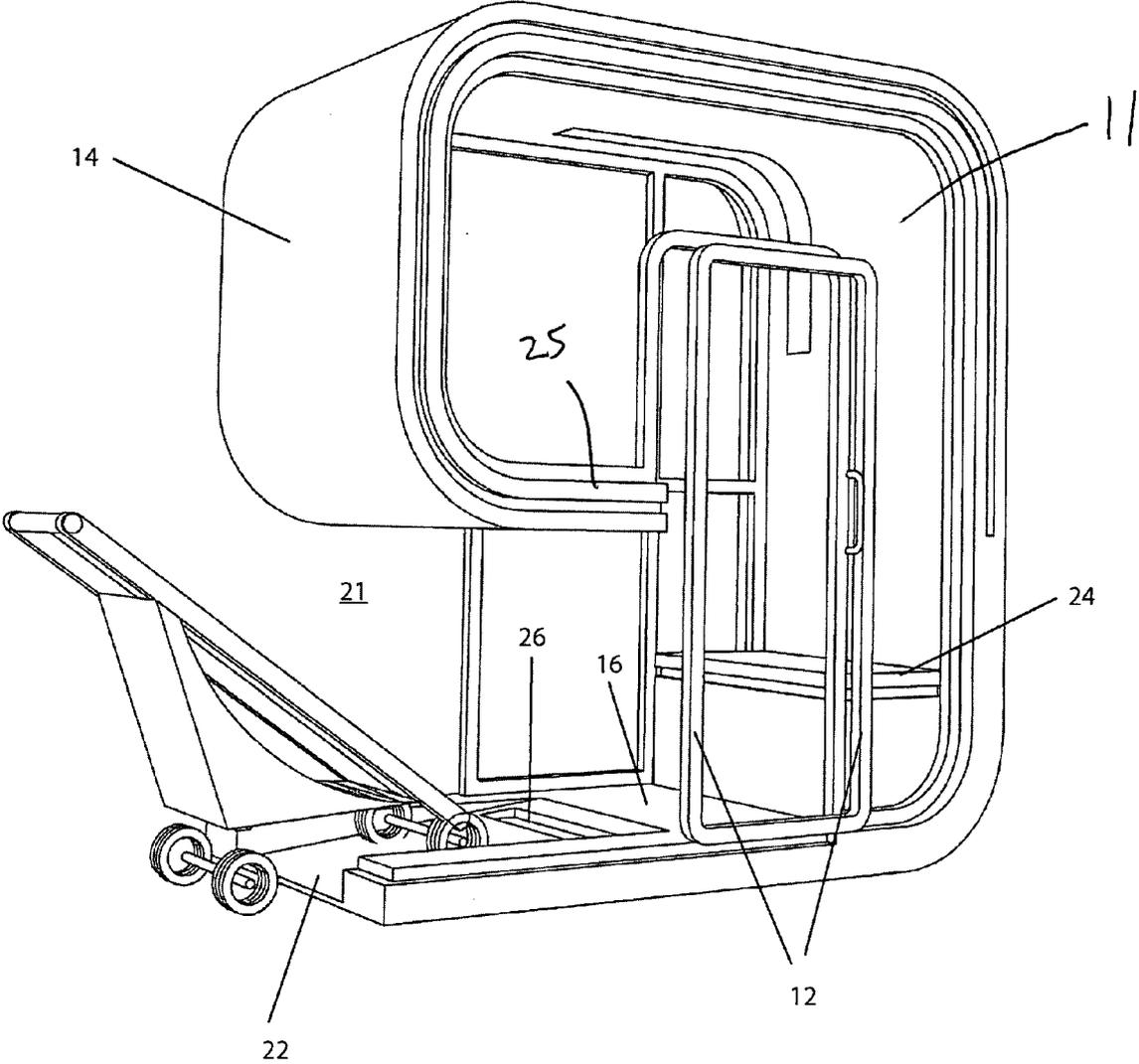


Fig.1

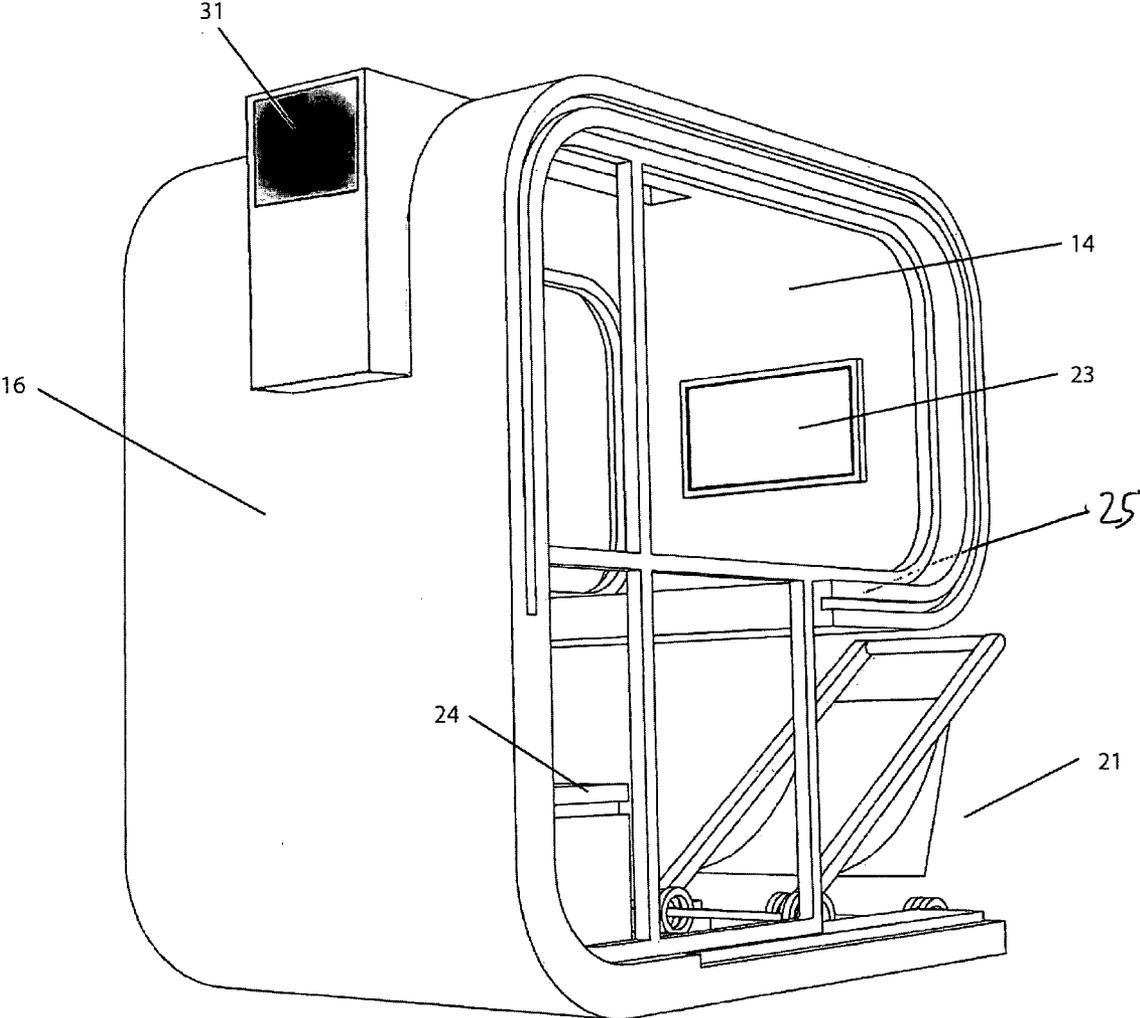


Fig. 2

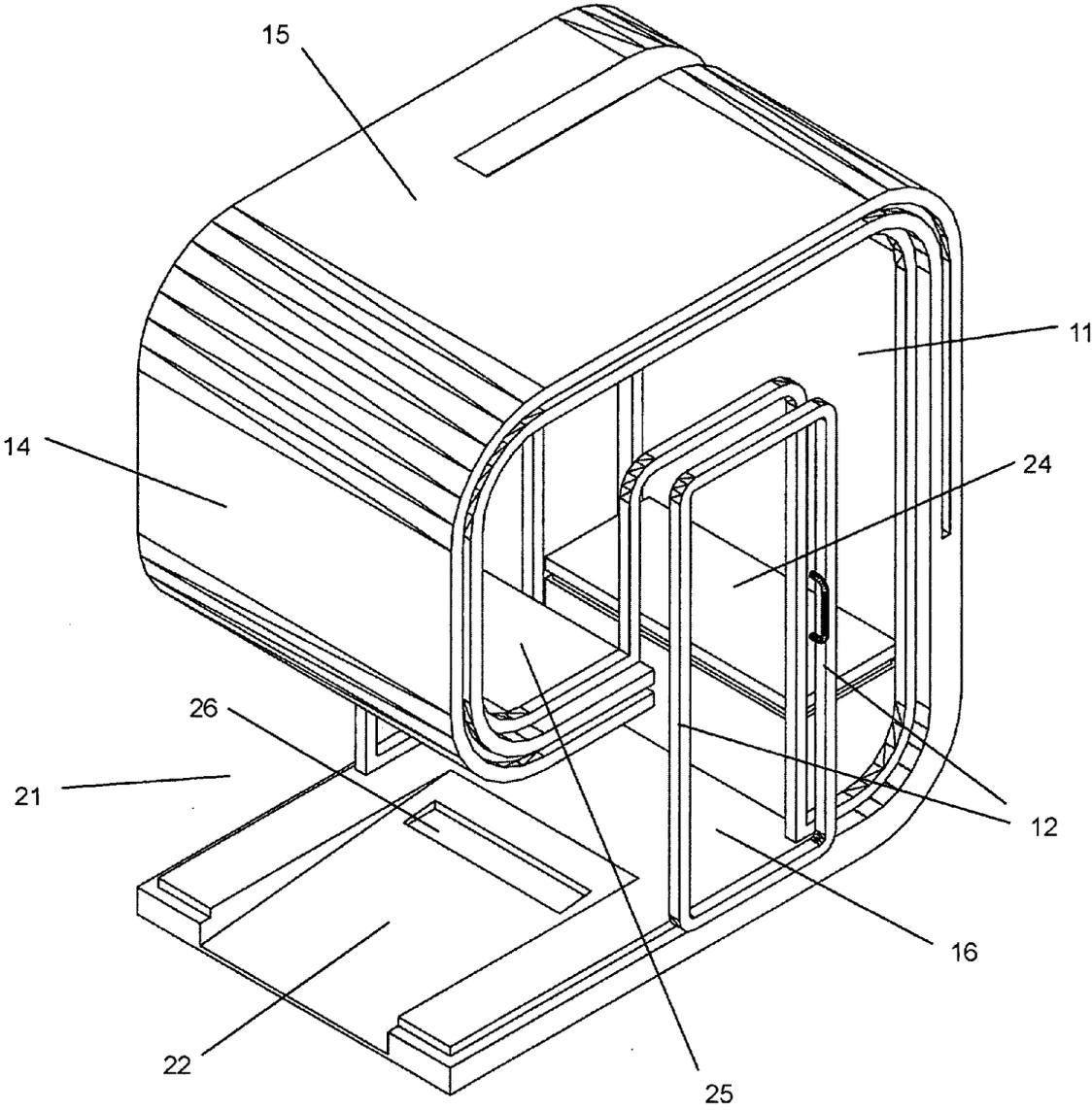


Fig. 3

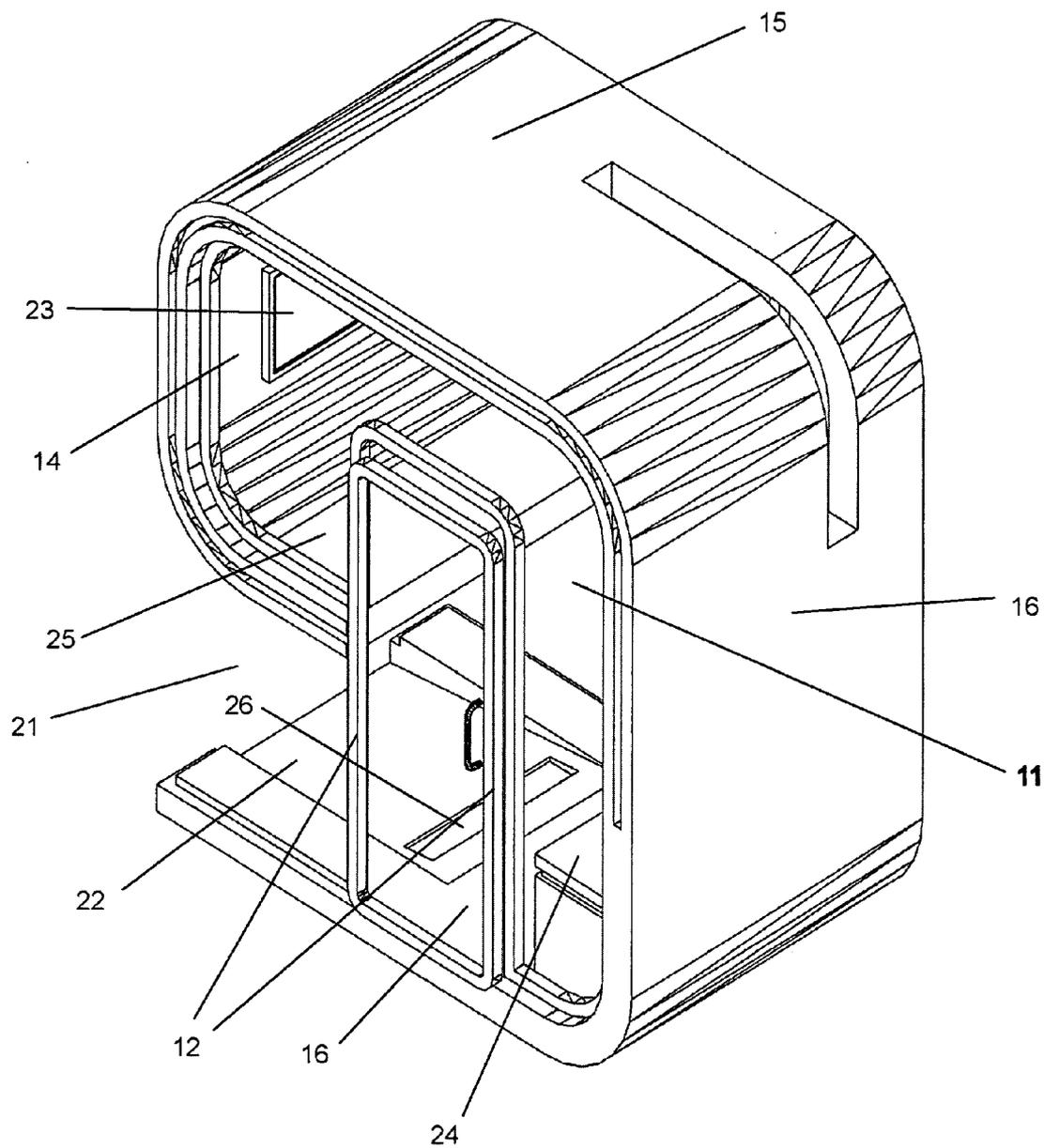


Fig. 4

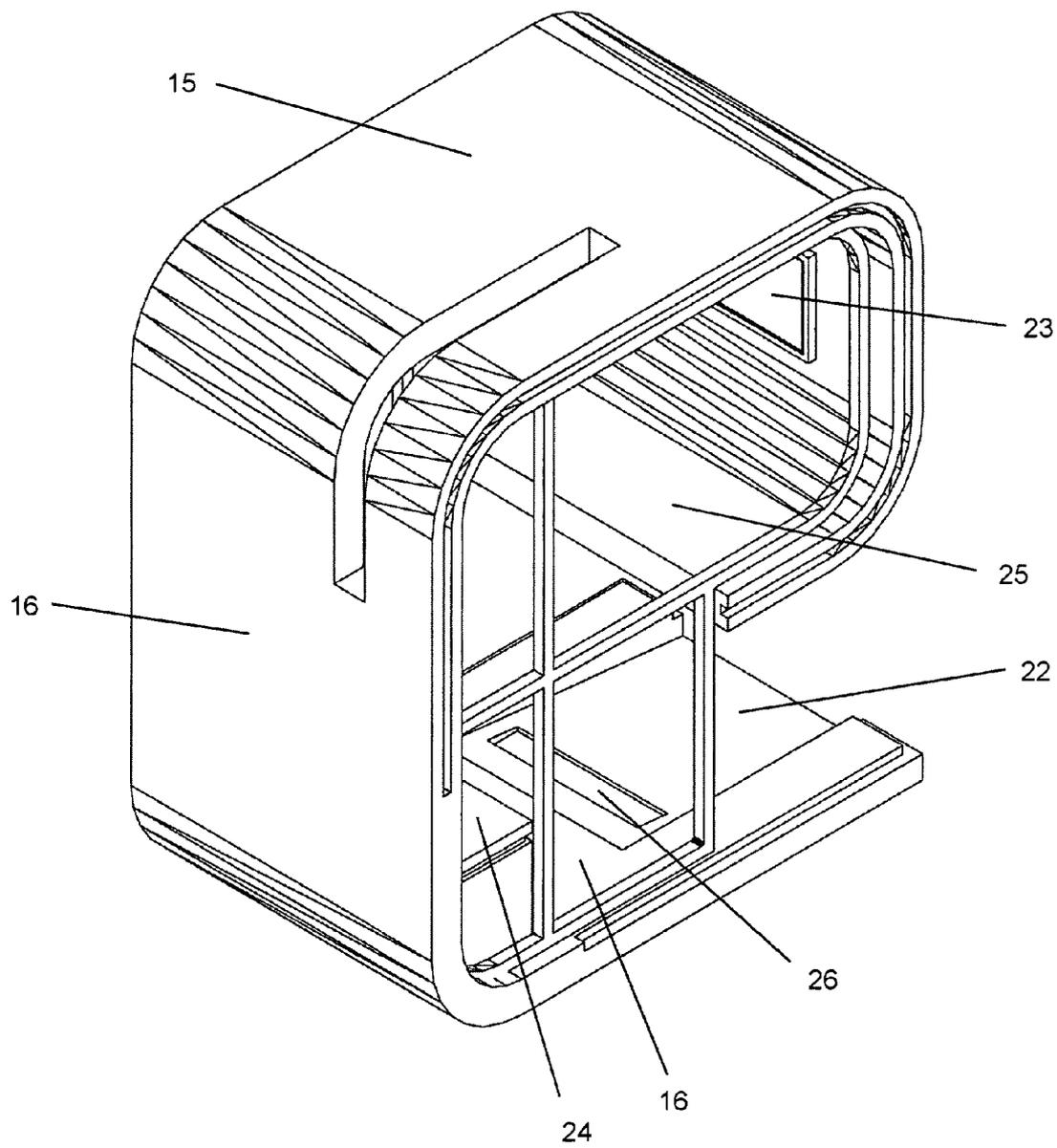


Fig. 5

PORTABLE LACTATION MODULE

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims the benefit to an earlier filed U.S. Provisional application 60/818,745 filed on Jul. 6, 2006 and entitled PORTABLE LACTATION MODULE.

BACKGROUND OF THE INVENTION

[0002] 1. Field of the Invention

[0003] The present invention relates generally to an apparatus and a process for breastfeeding, and more specifically to a secure and contained module in which a mother can breastfeed her baby in comfort.

[0004] 2. Description of the Related Art Including Information Disclosed Under 37 CFR 1.97 and 1.98

[0005] Mothers who breastfeed their babies in public have become increasingly alarmed from hostile people who object to their actions. A mother with a new baby may want to leave the house and walk through a shopping mall. While walking through a public place, such as a shopping mall, a mother may have to suddenly breastfeed. A shopping mall typically will have a public restroom with a baby changing table that a mother can use for breastfeeding and changing her baby's diaper. However, the public restroom is typically a distance away, and is not a totally private environment for the mother to breastfeed. Also, the baby changing station in the public restroom is not a healthy environment for a mother to breastfeed. The time required for a mother to nurse her baby is typically from 1/2 hour to 2 hours due to the breastfeeding time which varies with the emotional connection that the mother and baby share, which can be influenced by the environment and surroundings.

[0006] Mothers, whose only option is to breastfeed in public, find themselves in an uncomfortable situation, being stared at, criticized and at times requested to leave the premises, therefore unable to breastfeed in a relaxed environment.

[0007] It is therefore an object of the present invention to provide for an enclosed space for a mother to breastfeed her baby in privacy and in safety from the public around the enclosed space.

[0008] It is another object of the present invention to provide for a breastfeeding module that can hold the mother and her baby while safely securing the baby stroller and providing access to the baby stroller from inside the module so that the mother can access items from the stroller while in the module.

[0009] It is another object of the present invention to provide for a breastfeeding module that can allow for the mother to change the baby's diapers.

[0010] It is another object of the present invention to provide for a breastfeeding module that can be portable and easily moved within a building.

[0011] It is another object of the present invention to provide for a breastfeeding module that can dispense products required for a mother to nurse and to clean her baby while inside the module.

[0012] It is another object of the present invention to provide for a breastfeeding module that can dispense with the soiled diapers and baby wipes after the nursing has been completed.

[0013] It is another object of the present invention to provide for a breastfeeding module that can be unlocked from the outside by a mother with a baby stroller, and that can be locked from the inside for the mother's safety while nursing her baby.

[0014] It is another object of the present invention to provide for a breastfeeding module that can be self sanitizing.

[0015] It is another object of the present invention to provide for a breastfeeding module that can be self ventilating to prevent odors from soiled baby diapers from passing into the public area around the baby nursing module.

BRIEF SUMMARY OF THE INVENTION

[0016] A portable lactation module in which a mother can enter and breastfeed her baby in comfort, in private and in safety from the public around the module. The module includes a soft bench seat on which the mother can sit to nurse her baby. Windows around the module are one-way glass, frosted glass, or another type of glass that will allow the mother to see outside but limit the public from observing the mother nursing inside. Across from the bench is a baby changing table on which the mother can place her baby to clean and change the diaper while inside the module. Located below the table is an opening in the module into which the mother can park a baby stroller to safely secure the stroller from theft while providing access to items in the stroller from inside the module. The door can be locked from inside to prevent others from entering while the mother is inside. A sensor on the module is used to detect the presence of a stroller in the opening and unlock the door to allow the mother to enter.

[0017] The module contains a video monitor above the changing table and across from the bench to provide instructions to the mother and to present advertising or other useful information to the mother while the nursing process is occurring. The module includes a dispenser of products within easy access to the mother from the baby changing table that will dispense products such as a sanitary cloth or sheet to place on the table before laying the baby on the table, clean wipes to clean the bay, cream or ointment to apply to the newly cleaned baby, a diaper if required, and other items for use in feeding or cleaning a baby.

[0018] The module also includes a trash bin accessible from either to inside of the module or from directly outside of the module to dispense with the soiled sheets and diapers after the mother has finished caring for her baby. The module includes a self sanitizing system to spray a disinfectant or shine a disinfecting light within the module to sanitize the module after the mother has left the module and before the next mother enters. The module also includes a self contained ventilation system to filter odors from the use of the module and to prevent the odors from escaping into the area around the module where the public can be affected.

[0019] The module also includes a place for a fork lift truck to engage the module so it can lift the module and move it around. Or, the module can include a mechanism on

which wheels can be secure to that the module can be pushed around to various locations within the mall or building of use.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWINGS

[0020] FIG. 1 shows a side and front view of the lactation module.

[0021] FIG. 2 shows a side and rear view of the lactation module.

[0022] FIG. 3 shows a top front and side view of the lactation module.

[0023] FIG. 4 shows a top back and side view of the lactation module.

[0024] FIG. 5 shows a top back and side view of the lactation module.

DETAILED DESCRIPTION OF THE INVENTION

[0025] The present invention is a portable breastfeeding (or, lactation) module that can be placed in a public location and in which a mother can sit in safely and in security from the public around her and care for her baby. FIGS. 1 through 5 shows various views of the module from a front end and a back end. The module 10 includes side walls 11 made of glass or clear plastic that will allow for the mother seated inside to see out but prevent or limit people from outside to see inside such that the mother will feel uncomfortable or that the public outside can see inside and observe what the mother is doing. The glass can be a one-way glass or a frosted glass that can change from clear to partially or totally obstructed view.

[0026] A door frame 12 with the same glass as the side 11 is located on one or both sides of the module to allow for the mother to enter and exit to module. The door frame 12 can be a sliding door or a swinging door connected by hinges. The door also includes the one-way or frosted glass to provide privacy to the occupant inside. The frame of the module and the door(s) are made of stainless steel because of the strength and the resistance to absorbing odors.

[0027] The module includes a back wall 16, a top wall or roof 15, a front wall 14, and a floor 16 that forms an upside down "G" shape in the side cross sectional view of the module. With adjoining section are curved for improving the appearance of the module. The front wall 14 extends from the top or roof to about half way down to the floor to leave an opening 21 for parking a baby stroller. The floor of the module in the opening 21 is a ramp 22 to allow for the mother to push the stroller into place within the opening 21. Near the end of the ramp 22 is a slot 26 extending most of the width of the ramp 22 in which the front wheels of the stroller will drop into so that the stroller will not roll down the ramp 22 and out of the module opening 21. The slot 26 can be any size or shape to perform this function. The opening 21 is also formed by the front wall 14 curving around and back into the module to form a baby changing table 25 inside the module. The baby changing table 25 also functions as a roof or top for the opening 21. The opening 21 and baby changing table 25 is of such size that the mother can access items from the stroller when the stroller is parked inside the opening while she is inside the module. The table 25 includes a lip on the inner end to prevent a baby from rolling off of the table. The corners of the changing table 25

and the walls are rounded to limit collection of dirt particles and liquids and to make cleaning the table easier.

[0028] A sensor, such as a laser light or a proximity sensor, is used to detect the presence of a stroller in the opening to unlock the door and allow the mother to enter the module. To prevent theft of the stroller while the mother is inside the module, a cable with a lockable hook connected inside the module is placed onto a portion of the stroller to prevent someone from pulling the stroller out from the opening 21. The cable could be secured to the side of the frame of the module near the floor so that the mother can easily extend the cable with the lockable hook and connect it to the frame of the stroller. The length of the cable is such that most of the slack is taken up when the hook is placed onto the stroller frame.

[0029] Within the module and along the back wall 16 is a soft and comfortable seat 24 extending the width of the module for the mother to sit while nursing her baby. The seat 24 can be open below or part of a box structure with side walls and a front wall as depicted in FIGS. 1 and 2. In one embodiment, the seat 24 can be hinged to the rear wall 16 for ease in cleaning the floor of the module. Across from the seat 24 is the baby changing table 25 and the opening 21 in which the stroller is parked. The size of the module 10 is such that the mother can reach from a seated position and access the contents of the stroller or stand and place the baby onto the table 24 and bend down to access the contents of the stroller. The front wall 14 includes a video flat screen monitor 23 to show video with audio instructions for the mother as she enters the module and as she nurses her baby. The module is so constructed that from the seat 24, the changing table 25 is easily accessible from the seat 24 or when the occupant stands up from the seat 24. On the backside 16 of the module is a ventilation fan with a filter unit or assembly that will remove odors from inside the module and prevent the odors from spilling out and into the public area around the module. FIG. 2 shows this ventilation fan unit 31.

[0030] The door 12 also includes a lock that is activated from inside the module so that the mother can lock the door and prevent others from entering. The lock can be a magnetic lock or an electric lock similar to a lock on an airplane bathroom. In one embodiment, the door is locked until a baby stroller is parked in the opening. This is to prevent persons other than mothers with a bay from entering the module for unauthorized use. For a mother with a baby that does not have a stroller, a card reader or a key pad could be used for a mother that has an authorized access to unlock the door and enter the module. The card or key code could be given from an information booth or table within the building that the module 10 is placed. An emergency override can also be used to unlock the door if the stroller is removed before the mother exits the module.

[0031] Also within the module and in easy reach from the changing table 25 is a product dispensing device that will provide the mother with a variety of products to be used in the nursing and changing process while inside the module. A double locking zip-lock bag carrying these items can be dispensed upon the mother's demand that will contain the necessary items and also be used to place soiled items for proper disposal after the mother has finished. Some items that are included for dispensing are a disposable under-pad to place on the changing table to protect the baby from the relatively cold stainless steel surface as well as for providing

a sanitary padding for the baby. Also contained in the bag could be several baby wipes for cleaning the baby and the surfaces, baby cream or ointment for rubbing on the baby after cleaning, a clean disposable diaper and other items that might be useful. The dispenser could be used to dispense only one zip-lock bag per visit, or could be used to dispense individual items on the mother's demand.

[0032] A sanitary container can be located within the module or outside near the door for the mother to dispose of the soiled items when she is finished. The zip-lock bag is used to contain the soiled items for proper disposal into the sanitary container. The double zip-lock on the disposable bag will help to prevent odors from escaping into the general area around the module.

[0033] The module **10** also includes a ventilation and filter system to prevent odors from the soiled diapers and other fowl smelling items from escaping from the module and out into the surrounding area near the module that the public could smell. The ventilation and filter system also filters the air within the module so that the occupant is not overcome with fowl odor.

[0034] The module can also be provided with a self-sanitizing system to clean and sanitize the inside after use so that the next mother entering will have as clean an environment for her baby as possible. A spray system that sprays a disinfectant can be used when the module is not occupied. Also, a ultra-violet light system can be used to disinfect the insides.

[0035] Inside the module **10** and at a location for easy access for the mother can be a key pad for entering instructions to dispense items that she may need for caring for her baby or to control what is displayed on the video screen. The video screen provides an introduction to the mother when she enters the module **10** and instructions on how to use the available features such as the cable and stroller lock, the changing table, the dispenser with the items that may be needed to care for her baby, adjusting the lighting while she is nursing, disposing of the soiled items into the zip-lock bag, locking the door while inside, and cleaning up after she is finished with the process. The key-pad can also be used to enter commands for additional information about the products that are dispensed. Since the mother can be in the module **10** for up to a few hours, she may require entertainment while sitting inside and the video screen can be used for this.

[0036] In some cases, the mother may enter the module with her baby and an infant. A second and smaller video screen can be located within the module to provide entertainment to the infant while the mother is caring for the baby.

[0037] The module can be sound proofed to that the mother does not hear activities from outside of the module. The module is powered by a 12 volt DC battery system with battery backup that plugs into a 110 volt AC outlet of the building in which the module is placed for use.

[0038] The module **10** can also include an opening in the frame for a fork lift truck to raise and move the module to different locations. The frame can include a device to attach removable wheels so that the module **10** can be moved within the building for use. In still another embodiment, the module can include retractable wheels so that an operator can use a crank tool to drive the wheels from a retracted position within the frame to an extended position such that the wheels make contact with the floor on which the module

rests. With the wheels extended, an operator can push the module around into a desired position within the building such as the shopping mall.

[0039] The module **10** can be sized so that one mother with her baby can enter and use the module for the intended purposes. Or, the module can be sized so that a handicapped person can enter in a wheel chair and perform the services. In this case of the handicapped version, the module would be wider and longer to allow for the wheel chair to move about. Also, the entrance door would have to include a ramp and the floor would be lower (at a height of ½ to 1 inch) so that the chair can be pushed up and inside of the module. The module top or roof **15** can include windows to allow exterior light to enter the module.

[0040] For an example or the size of the module **120**, the overall length can be around 8 feet, the height can be around 9 feet, the door width can be 2 feet, the distance from the module top to the top of the bench seat can be around 6 feet, the length from the front wall to the nearest door frame can be around 3½ feet, the height of the bench seat can be around 1 foot and 8 inches, the height of the floor can be around 4½ inches, the height of the changing table from the building floor can be around 3 feet 9 inches, and the width of the module can be around 5 feet. The object of the size of the module **10** is to allow for one mother to sit comfortably within the module on the seat and be able to reach both the changing table and the stroller from the seat or with one step forward. Also, the width need not be too much so that the module **10** does not occupy too much space within the shopping mall or other building in which the module is placed for use.

[0041] The video system that provides instructions and information about products to the visiting mother can be started by a sensor that can detect when the mother enters the module or by a key pad or manual input device. When the mother first approaches the module from the outside, a display or a written instruction list located on the outside with instruct the mother to park the baby stroller in the module opening **21** in order to release the lock. The outside instructions could also provide information that the mother can lock the stroller from the inside to prevent theft of the stroller while she is inside the module **10**. When the module system detects the presence of the stroller in the opening and unlocks the door or when the mother first enters the module, the video screen **23** will awaken from an off position and begin by welcoming the mother and instructing her to lock the door from the inside if she so wishes. Then, the video instructions would instruct the mother to place the chain and lock onto the frame of the stroller to prevent removal of the stroller from the module opening. The video instructions would then offer the mother to enter a signal into the input device in order to dispense a bay pack that contains the zip-lock bag with the items for use in cleaning and caring for the baby. The instructions would then say to remove the disposable under-pad from the zip-lock bag and place the under-pad onto the changing table. The instructions would advise the mother that other items are included in the baby pack, and that she can use the zip-lock bag to place the soiled items later for disposal from the module and how to dispose of the bag. The video instructions can also offer the mother the choice of starting with nursing her baby or changing her baby. While the mother is nursing, the video can display advertising for various products that a mother would be interested in such as the products available for various baby

needs. Also, the mother can be prompted to input to the key pad or manual input device additional instruction to replay certain video instructions or other video information while she is using the module. The video presentation will also mention about cleaning up after the mother has finished nursing and changing her baby so that the next mother can have a clean and safe environment to care for her new baby.

We claim the following:

1. A portable lactation module comprising:
A lockable door;
A seat for a mother to sit while breastfeeding a baby;
A baby changing table inside the module; and,
One way glass means to allow the mother inside the module to see outside while preventing people from outside from clearing seeing the mother.
2. The portable lactation module of claim 1, and further comprising:
The baby changing table is located in front of and on the opposite side of the module from the seat.
3. The portable lactation module of claim 2, and further comprising:
The baby changing table is located above an opening in the module that forms a space to park a baby stroller so that the mother can access items from the stroller while she is inside of the module.
4. The portable lactation module of claim 3, and further comprising:
A sensor to detect the presence of a baby stroller in the opening and unlock the door of the module.
5. The portable lactation module of claim 3, and further comprising:
Stroller locking means to lock the stroller in the opening and activated from within the module, the locking means preventing the removal of the stroller from the opening while the mother is inside the module.
6. The portable lactation module of claim 1, and further comprising:
the one way glass means is one way glass on the sides of the module and on the door.
7. The portable lactation module of claim 1, and further comprising:
the one way glass means is frosted glass on the sides of the module and on the door.
8. The portable lactation module of claim 3, and further comprising:
The opening includes a ramp to park the stroller.
9. The portable lactation module of claim 1, and further comprising:
A dispenser located inside the module to dispense a baby pack containing items useful for nursing or changing the baby.
10. The portable lactation module of claim 9, and further comprising:
The baby pack includes a sealable bag containing the useful items and that can be resealed for disposal of soiled items.
11. The portable lactation module of claim 10, and further comprising:
The baby pack further includes a disposable under-pad sized to fit on the changing table and to provide a sanitary resting place for the baby during changing.
12. The portable lactation module of claim 11, and further comprising:

The baby pack further includes baby cream, baby wipes to clean the baby, and a clean diaper.

13. The portable lactation module of claim 1, and further comprising:
A video monitor located inside the module and opposed to the seat for providing instruction to the mother on the use and features of the module.
14. The portable lactation module of claim 13, and further comprising:
The video monitor is located above the changing table and across from the seat within the module.
15. The portable lactation module of claim 1, and further comprising:
A door lock accessible from inside the module to lock the door from the inside.
16. The portable lactation module of claim 1, and further comprising:
A user input device located inside the module for the mother to input instructions for displaying information on a video screen or for requesting information.
17. The portable lactation module of claim 1, and further comprising:
A trash bin associated with the module to dispose of soiled items used during the baby changing process.
18. The portable lactation module of claim 17, and further comprising:
The trash bin includes an opening accessible from inside the module.
19. The portable lactation module of claim 17, and further comprising:
The trash bin is located outside of the module.
20. The portable lactation module of claim 1, and further comprising:
A ventilation and filter system to limit odors inside the module and to prevent odors from escaping in the immediate vicinity of the module.
21. The portable lactation module of claim 1, and further comprising:
The module is about 5 feet in width.
22. The portable lactation module of claim 1, and further comprising:
The module frame is made from stainless steel.
23. The portable lactation module of claim 1, and further comprising:
The front wall, the roof and the back wall of the module are opaque.
24. The portable lactation module of claim 1, and further comprising:
The baby changing table includes a retaining wall on the front edge to prevent a baby from rolling off of the table.
25. The portable lactation module of claim 24, and further comprising:
A self at the rear of the changing table to store items for the mother to use while the baby is on the table.
26. The portable lactation module of claim 1, and further comprising:
The lockable door is a sliding door.
27. The portable lactation module of claim 1, and further comprising:
The module is formed from two identical shaped side frames, each side frame having substantially an inverted G shape;

A door frame extending from the floor of the side frame and toward the roof of one of the two side frames; and, The end of the frame sides that supports the table is connected to the door frame.

28. The portable lactation module of claim **27**, and further comprising:

The module is about 5 feet in width, about 9 feet in height, and about 8 feet in length, and the opening is about 4 feet in height.

29. The portable lactation module of claim **1**, and further comprising:

The module is about 5 feet in width, about 9 feet in height, and about 8 feet in length, and the opening is about 4 feet in height.

30. The portable lactation module of claim **27**, and further comprising:

The door frame is about 2 feet in width.

31. The portable lactation module of claim **27**, and further comprising:

The seat is about 2 feet in height and the changing table is about 4 feet in height above the floor on which the module is placed.

32. The portable lactation module of claim **27**, and further comprising:

The two side frames have curved sections at the junctions between the table and the front wall, between the front wall and the roof, between the roof and the back wall, and between the back wall and the floor.

33. The portable lactation module of claim **1**, and further comprising:

A light viewable from outside the module and near the entrance door, the light indicating whether the module is in use or not in use.

34. The portable lactation module of claim **1**, and further comprising:

A light switch inside the module;

A lighting system inside the module; and,

Light intensity control means to adjust the lighting within the module from manual input from the occupant of the module.

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