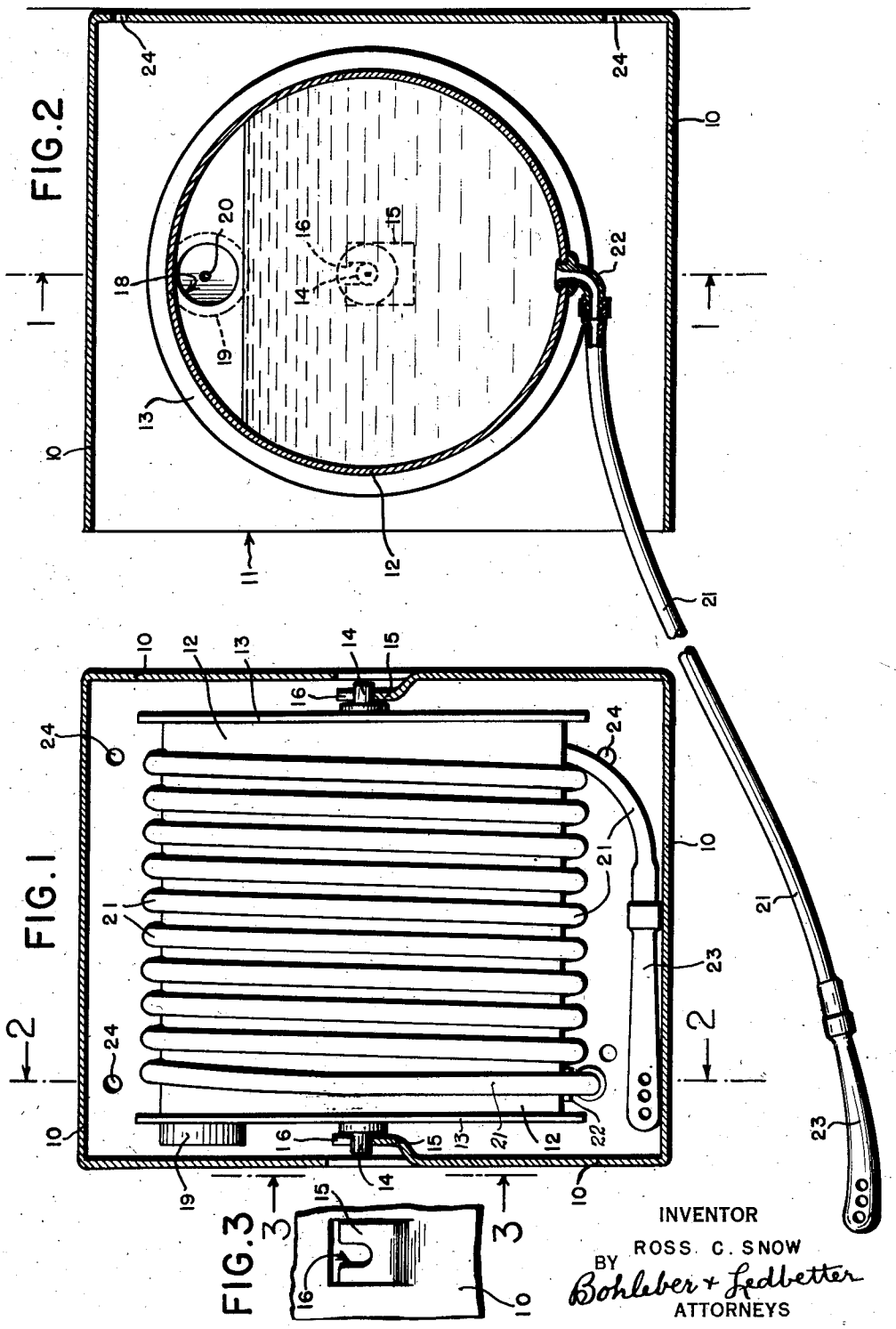
Aug. 22, 1939. R. C. SNOW 2,170,281

CABINET SYRINGE

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CABINET SYRINGE

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FIG. 6

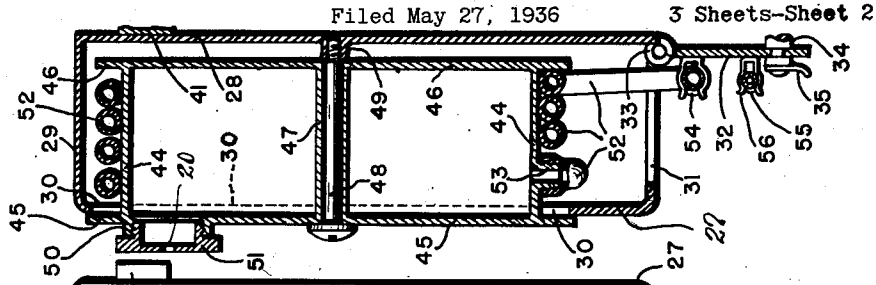


FIG. 5

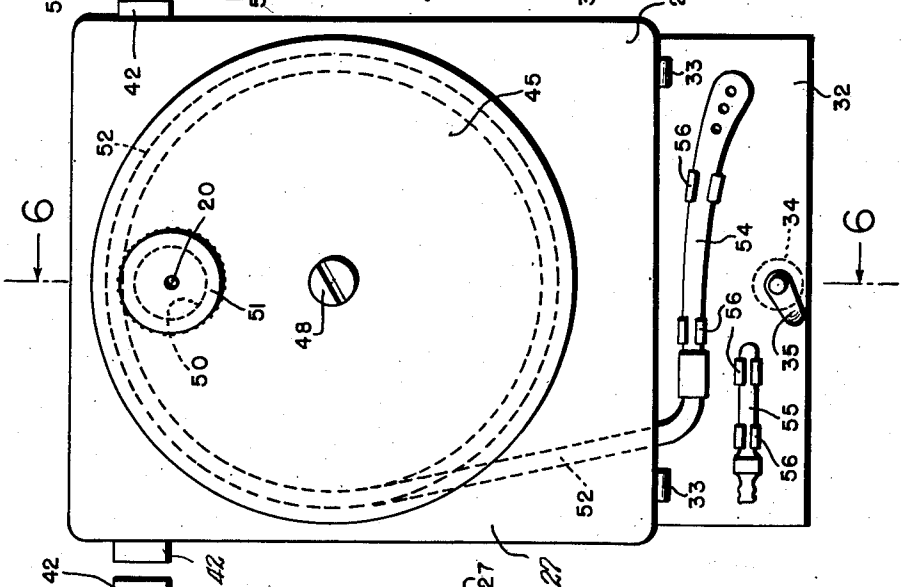
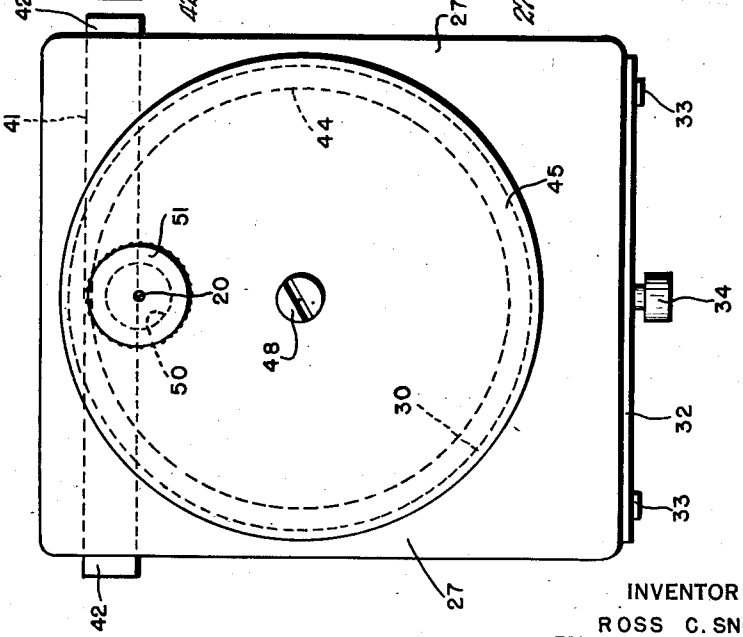


FIG. 4



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CABINET SYRINGE

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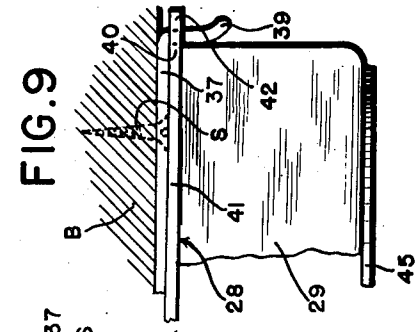


FIG. 9

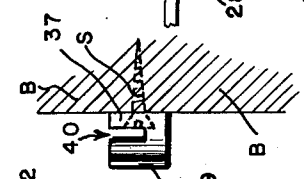


FIG. 8

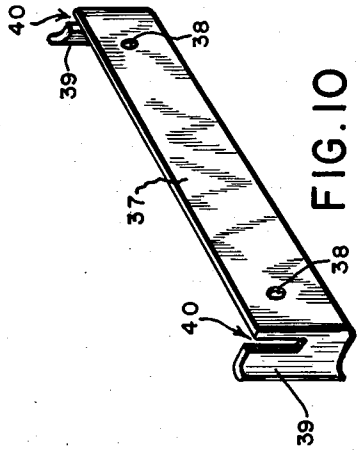
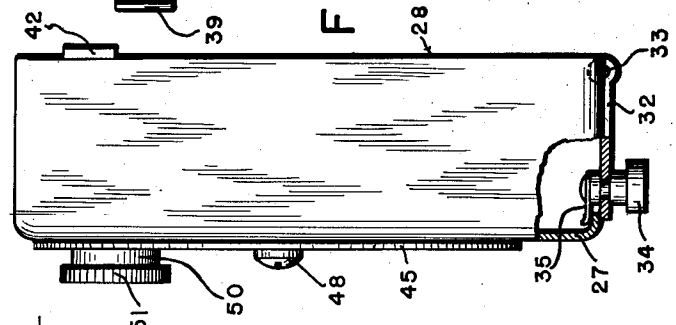


FIG. 10



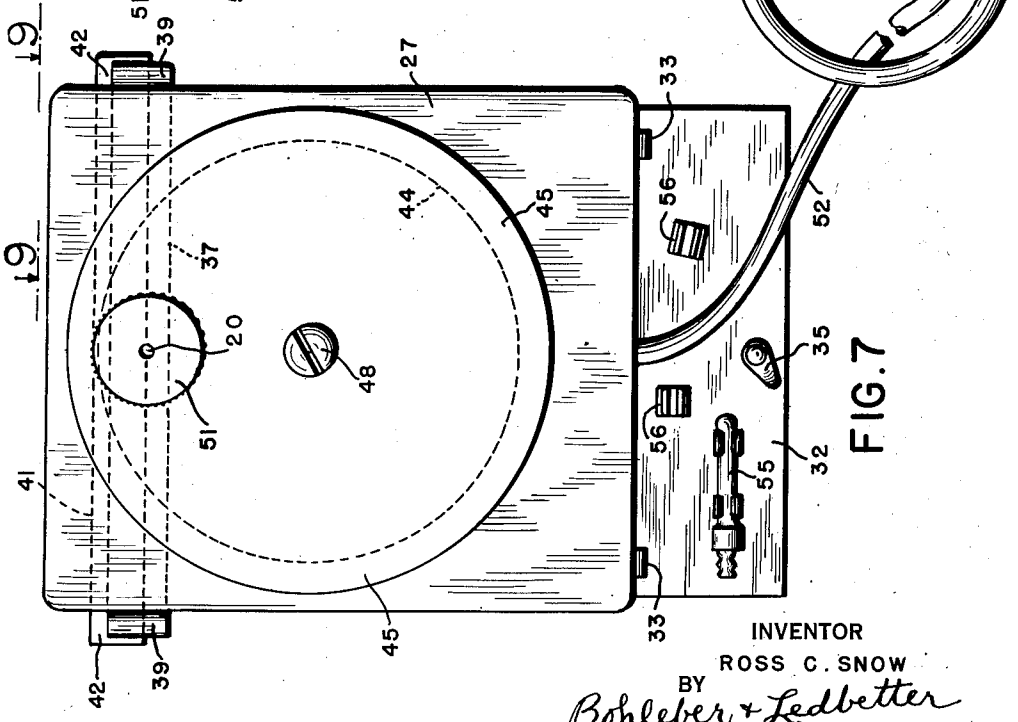


FIG. 7

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UNITED STATES PATENT OFFICE

2,170,281

CABINET SYRINGE

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Application May 27, 1936, Serial No. 82,009

6 Claims. (Cl. 128—227)

This invention relates to syringes for personal hygienic use, and more particularly to a new and useful syringe of convenient, compact, and ornamental construction, which preferably may be manufactured in the form of a cabinet syringe.

The principles of my invention, and the purposes which it serves, readily adapts and makes it susceptible to manufacture in a number of different forms or choices of construction best suited to the principles of aesthetics and for use in both old and new wall constructions within the home or other institutions, and to thereby provide a more durable and sanitary syringe of permanent form and wider range of usefulness than is now available on the market.

One of the objects of this invention is to produce a syringe new in its construction and mode of operation and use, which is convenient to handle and to fill with water or antiseptic solution, and which is well suited as a permanent fixture in a bathroom for home use, as well as in hospitals, and other institutions.

It is a further object to produce a new form of syringe which is compact and neat in construction, and which can be made ornamental and modernistic in its appearance, installed either on the surface of a wall or within a recess or pocket formed therein, and remains concealed from view as a permanent installation.

Another object is to utilize the cabinet feature of my invention, not only as a means of convenient and permanent installation, as well as improving the appearance of devices of this kind, but to also employ the cabinet for sanitary purposes, which is to say, that my ornamental and closed cabinet syringe prevents foreign matter, dust, and the like from contaminating the syringe parts, when a completely closed cabinet is employed, and also prevents undue handling of the device with the hands.

Furthermore, it is an object to produce a syringe comprising a water or antiseptic-solution container which itself acts as a reel upon which to wind and protect the dispensing hose when the syringe is not in use, and to thereby conceal the hose from view and protect it and the nozzles from foreign matter. Thus it is one of the features of my invention to provide a simple water dispenser having a clean interior and a flexible hose with a nozzle, the combination of which makes a neat and useful device specially designed and intended not only for personal use in the home, but for professional use by doctors, nurses and the like in hospitals, and other institutions.

It is also an object to produce a syringe device which may be mounted on a bracket either attached to a wall or within a cabinet. On the other hand, the bracket or cabinet may be placed within a recess formed in a wall, and thus provides a built-in construction. In this way, by new syringe means is susceptible to a variety of embodiments, and affords a number of choices as to its best form of manufacture.

According to the foregoing, my syringe may have one end of its hose permanently attached to a sanitary water receptacle so that the interior of the receptacle and the interior of the hose is never exposed to the pollution of air as in the case of syringes now in use where the hose remains detached while not in use, thereby affording free contact of the air with the inside of the hose and the inside of the water receptacle. My water receptacle has a separate water fill plug which is open only during filling, so that the syringe can be filled with liquid without detaching the hose, thereby requiring less handling of the syringe parts, all of which is conducive to more sanitary conditions because the hose and liquid container remain closed when not in use.

With the foregoing general understanding and objects in view, the accompanying drawings illustrate two examples of this invention, serving to teach the principles and advantages thereof, and also suggesting several different forms of syringe construction. The drawings show the syringe device made to approximately one-half scale, and preferably constructed of sheet metal. However, any size syringe may be produced, and any appropriate material used in its manufacture.

The first three views in the drawings (Sheet 1) illustrate a first form or example of the syringe, in one of its simplest forms, and show my invention embodied in a box-like mounting means or cabinet which may either be permanently screw-fastened to a wall surface or permanently built into a wall recess of the room or building, the water container itself being removable from its box for the purpose of filling it with liquid.

Figure 1 shows the dispensing hose wound or reeled upon the water drum, and is a sectional view looking from the front side of the syringe box, regarded for example as taken on the line 1—1 of Figure 2, the water drum and hose being shown in elevation.

Figure 2 may be considered as a cross-sectional view on the line 2—2 of Figure 1, but with the hose drawn out to service position.

Figure 3 is an end view looking from the line 3—3 of Figure 1, and showing one of the two

bearings for operatively supporting the water-drum reel, and which is conveniently detachable from said bearings carried by the support bracket of housing means of the syringle device. In this manner or some equivalent way, the water drum is easily taken out of its housing or bracket for the purpose of filling in with water.

The next set of views (Sheets 1 and 2), show what I may call a second form or example of my invention, i.e., another species of cabinet construction. It is designed to hug the wall and occupy little space. These views illustrate an embodiment of my syringe in a neat cabinet of rather flat or shallow construction and thus is more appropriately adapted to be detachably placed on the surface of a wall. There is provided a bracket support adapted to brace and securely hold this type of cabinet in service position against displacement from any direction. This particular form of my syringe invention is so constructed that the entire cabinet and syringe assembly is easily detached from the wall for the purpose of filling it with water.

Figure 4 shows a front view of this second cabinet syringe with its hose and nozzle parts wound up in a concealed manner within the cabinet when not in use and with its door closed.

Figure 5 also shows a front view of the syringe, but with its door open and out of the way of the dispensing hose, before drawing out said hose, preliminary to making the syringe ready for use.

Figure 6 shows a cross-sectional view of the cabinet syringe on the line 6—6 of Figure 5. The revolving water drum is shown in section within the stationary cabinet, and the drum also serves the purpose of a hose reel, as in the first form of my invention.

Figure 7 also shows a front view similar to Figure 5, but with the dispensing hose drawn all the way out, and made ready for use.

Figure 8 is a dual view, and illustrates the manner of detachably mounting the portable-cabinet syringe upon an improved form of wall bracket fixed to a wall of the building at an appropriate height for mounting the syringe in service position to afford an adequate gravity flow of water out through the hose. The syringe is being held at the left ready for attachment upon a slotted wall bracket just to the right, the bracket itself being permanently anchored to the wall in any suitable way, say by screws or the like.

Figure 9 is a top fragmentary view of one corner of the syringe to better illustrate how the wall bracket of Figure 10 is permanently screw-fastened to the wall, while the syringe itself is detachably mounted thereon. This view is taken looking down from the line 9—9 of Figure 7.

Figure 10 is a perspective view of a wall bracket designed and intended to be permanently fixed to the wall and at an appropriate height thereon to rigidly support in service position my cabinet syringe.

The first form of the invention as shown in Figures 1, 2 and 3

A simple form of the invention is here illustrated, by way of example, and a syringe-mounting means is shown in the form of an open front cabinet or box-like housing **10**. This member **10** comprises a five-sided sheet metal enclosure which is constructed in any suitable way, as by pressing, stamping, or fabricating it from sheet material, or it is otherwise formed of wood or any suitable material. The front of the box **10** is open, as indicated at **11**, which opening may or may not be closed by a simple form of door as desired, although I have not shown a door on the box **10**. It will be noted that this housing **10** acts as a simple bracket or supporting means for a combined water drum and hose reel which comprises an important feature of the invention.

A cylindrical drum **12** occupies the major portion of the box or cabinet **10**, and this drum is made of appropriate size to afford an operating clearance inside its support **10**, by which to render convenient the removal of the drum for filling it with water and replacing it in operating position. The hose-reel and water drum **12** is made in the form of a cylinder with closed ends or drum heads **13**, the latter being slightly larger in diameter than the drum **12** itself, with the result that each end **13** forms an end flange which projects peripherally beyond the cylindrical surface of said drum **12** to hold a dispensing hose in place, as later explained.

A shaft or pintle **14** is carried at each end of the drum **12** on the axis thereof. The two shafts **14** might well be one continuous shaft extending axially through the drum. As shown, however, each stub shaft **14** is made integral with a flange which is welded or otherwise secured to the axis of the end flanges or drum heads **13**. The drum **12** is adapted to turn on its axis **14**, in winding and unwinding the hose later explained. It is to be noted that the shaft or shafts **14** preferably do not extend through or inside the water drum **12**, and hence the drum is free of obstruction, will not collect sediment, and will afford a free flow of water. In this way, I make the liquid container **12** with a clean and unrestricted interior which is free of all flow obstructions.

Any suitable form of journals or bearing means **15** are carried within the box **10** for rotatably supporting the two pintle shafts **14**, and hence the drum **12**. An example of one simple form of bearing is shown where the two ear or bracket parts **15** are struck or punched inwardly from two ends of the box **10**. These bearings **15** are slotted vertically at **16** and open at the top, so the drum **12**, with its shafts **14**, may be lifted upwardly and out of the bearing slots **16** to disengage said shafts from the slotted journal supports **15**. Consequently, the drum **12** can be removed conveniently from the box **10** by withdrawing it out through the open front portion **11** thereof. It is noted that the axis **14** of the drum **12** is parallel to the plane of the open end **11** of the box **10**, hence is parallel to the rear wall thereof, which is to say that the axis **14** is parallel to the wall of the building on which the syringe box **10** is secured.

It will now be understood how the water or antiseptic containing drum **12** is readily removed from its mounting means, i. e., from its housing support **10**, and readily placed under a water faucet and filled with water through a fill opening **18** closed by a screw cap or plug **19** provided in one of the heads **13** of this cylindrical water container. Preferably, this water fill **18**, **19** is provided with an air vent **20**, in the form of a very small opening, say just large enough to admit air into the drum **12** so as to equalize the air pressure therein so the water or other liquid will flow freely by gravity from the drum out through a dispensing hose or tube. When in use, the water drum **12** has a normal position with the air vent **20** at its uppermost limit as shown in Figures 1 and 2, so that the water will not leak out through the vent.

A flexible rubber dispensing hose 21, of suitable length for syringe use, has one end connected by a nipple 22, or other suitable means, to the cylindrical surface of the drum 12, preferably near one end thereof, and opposite the air vent 20 so that the hose nipple 22 stops in the lowermost position, thereby placing the air vent at the top of the syringe to admit air into the water drum 12. This nipple 22 may be made in the form of an elbow, and it is pointed forwardly toward the open front 11 of the syringe housing 10. The hose 21 will ordinarily remain connected with the nipple 22, and hence in communication with the water container 12. This prevents entry of possibly contaminated air into the hose or drum when the syringe is not in use, and makes it more sanitary. However, the hose is easily detached from the nipple 22 so a new piece of hose 21 may be connected with the syringe device at any time the old hose requires replacement. The free end of the hose 21 may be fitted in the usual way with a nozzle 23 suitable for hygienic use, which is detachable from the hose so that any desired type of hygienic nozzle may be used, as will be understood.

After using the syringe and emptying the water therefrom, it is a simple matter to place your hand or finger on the upper surface of the drum 12 and turn it forward, thereby rotating the drum like a reel and winding up the rubber hose 21 on the drum, as shown in Figure 1, between the flanges 13 which guide and hold the hose in place. The nozzle 23 is now pushed back into the lower part of the housing 10, as shown in Figure 1, and the hose is then out of the way when not in use. The syringe is convenient and simple to handle, and the water container 12 may be removed from its housing 10 for filling by placing the two hands on the drum ends or head flanges 13 and lifting it up and withdrawing it out through the open front 11. The drum filled with water and its wound-up hose is then replaced on the bearings 15, and the hose 21 is now drawn out by unreeling the drum 12, as shown in Figure 2, with the nipple 22 at its lowermost position, so that all the water or antiseptic solution will drain from the drum 12 out through the hose 21. Air enters the port or vent 20 in the fill plug 19 so as to afford normal atmospheric pressure in the water container 12 to promote a normal gravity flow of water through the hose 21. The air inlet 20 and the water outlet 22 are placed diametrically opposite each other for the best use and operation of the syringe.

It is to be noted that the simple form of box 10 can either be fastened permanently to the vertical face of a wall by screws through one or more screw holes 24 in the rear wall of the box, or it may be fitted into a recess formed in the wall. Thus the drum axis 14 is parallel to the wall on which this rotatable syringe is mounted. Either form of installation is practical, but in new buildings it is sometimes better to make a tiled pocket or insert in a bathroom wall, and install the syringe box 10 within said pocket, thereby providing a flush fit with the surface of the wall and making a neat installation. If desired, a door can be mounted at the front to shut the opening 11, and this door may be flush with the wall of the room and painted the same color as the wall, so the syringe is entirely concealed.

The second form of the invention as shown in Figures 4 thru 10

In this further embodiment of my invention, there is employed a somewhat different cabinet housing 27, also of box-like form, in which is rotatably mounted a water drum also acting as a reel for the hose, and I have devised a door for completely closing this cabinet. The particular syringe, about to be described, is adapted to be bodily removed (cabinet and all) from the wall for the purpose of filling the device with water, whereas in my first syringe the water drum only is removed.

This form of my invention is more particularly designed with a shallow or rather thin form, and the device is adapted to be mounted on the flat surface of a wall so as not to project too far from the wall surface. Nevertheless, this cabinet 27 is well suited, as a permanently built-in fixture, and can be installed in a pocket in the wall of the building. I have mounted this water drum axis 48 perpendicularly to the wall of the building, whereas in my other syringe the drum axis 14 is parallel thereto.

This form of syringe cabinet has a front wall 27 parallel to a back wall 28. The cabinet 27 includes a flat top 29 joining the rear and front walls and also joining the two parallel sides. In other words, the cabinet 27 is preferably produced somewhat like a box from sheet metal and constitutes a light weight housing of compact and durable construction. The face or front of the cabinet wall 27 is made with a circular cut-out opening 30 within which rotates a hose reel and water container, as later explained.

There is also provided a cut-out or door opening 31 in the lower horizontal wall of the cabinet 27. A door 32 is hinged at 33 on the lower bottom edge of the cabinet rear wall 28. This door 32 has a locking knob 34 and a turn catch 35 by which said door is bolted closed, as in Figures 4 and 8. The door is released and opened downwardly by turning the knob 34, as in Figures 5, 6 and 7. The door 32 is kept closed when the syringe is not in use, thus completely enclosing the syringe and providing a neat and ornamental form of cabinet with all the parts of the apparatus concealed from view and protected from contamination. When the syringe is to be used, the door is first dropped down, as shown in Figures 5, 6 and 7, and out of the way of the hose as will be explained.

A suitable support, in the nature of a quick-detachable anchorage means, is provided to hold the ornamental cabinet 27 in stationary position against movement in any direction on the surface of the building wall B. This anchorage means may take the form of a wall bracket 37 (Figure 10) combined with a cabinet lug bar 41 having end lugs 42, i. e., the bar ends 42 project beyond the cabinet sides about one-quarter of an inch, more or less. Both member 37 and 41 together form bracket means of easily detachable form and the two parts coact with each other, as will be explained. The cabinet lug bar 41 is permanently secured, say welded, to the back wall 28 of the cabinet, while the wall bracket 37 is permanently fastened by screws S to the wall of the building B.

The wall bracket itself comprises the straight bar 37 having holes 38 by which it is secured to the wall B by the screws S. Each end of this wall bar 37 is turned outwardly from the wall B to form an ear 39 at each end, and the two spaced ears are slotted downwardly part way, as shown

at 40. The cabinet 27 is placed between the slotted ears 39, with the projecting cabinet bar lugs 42 slipped down in the slots 40. This secures the cabinet 27 against movement laterally and perpendicularly on the wall, and makes a substantial and rigid mounting, because the ears 39 are spaced apart, and the coacting lugs 41 lock within said ears.

A water containing drum, in the form of a hose reel, comprises a short cylinder 44 closed by heads 45 and 46, or what is seen to be a front flange 45 and rear flange 46. These drum heads or closure ends 45 and 46 provide a hose reel somewhat similar in purpose to the first form of the invention heretofore described. The drum 44 is made with a bearing sleeve 47, joined with the cylinder heads 45 and 46 of the drum, on the axis of said drum. A bearing, say in the form of a journal screw 48, is mounted in the bearing sleeve 47, and screw threads into a stationary boss 49 integral with or carried by the rear wall 28 of the stationary cabinet 27.

The bearing 48 can be removed from the hub 49 for the purpose of removing the water drum 44 from the cabinet through the circular opening 30 for the purpose of filling the drum with liquid for hygienic use. As a matter of fact, however, this syringe device 27 is designed to be bodily unhooked from its wall bracket 37 for filling the drum. A water fill opening and screw plug 50 is provided near the outer periphery of the drum 44 for filling purposes, and the air hole 20 is used here, as previously described, to prevent a vacuum from forming in the container 44 when the water begins draining therefrom through a dispensing tube, later mentioned. Thus the water flows by gravity from the container 44, which is a necessary function of a syringe.

A hose 52 has its inner end attached to a nipple 53 anchored to the cylindrical surface of the water drum 44 to thereby communicate the hose with the interior of said water drum, opposite the air vent 20, as in the first form of construction. The hose 52 is ordinarily wound upon the drum 44 between the reel or head flanges 45 and 46. The free end of the hose 52 operates through the door opening 31, and it is fitted with any suitable form of nozzle 54 which of course is detachable so that other types of nozzles 55 and the like may be also connected with the hose. The hose 52 is of a proper length standard in syringe use.

Any number of hygienic nozzles 54 or 55 and the like may be attached to the inner face of the door 32 so that when the latter is swung upwardly, as in Figures 4 and 8, the entire syringe equipment is sanitarily protected and also concealed from view for aesthetic purposes. Spring-snap fingers or clips 56 are carried on the inner face of the door 32, and thus detachably hold several nozzles on the door. A nozzle is selected and readily removed by withdrawing it from the resilient spring clips 56 which securely hold the nozzles in place until ready for use. Ordinarily one nozzle 54 remains attached to the outer end of the hose 52, and this nozzle may of course be snap fastened into its set of spring clips 56 after using the syringe. This holds the outer free end of the hose in position to prevent the hose from unwinding and to also conceal and protect the hose when the door 32 is swung upwardly and held closed by the bolting catch 35 which is manually actuated by the finger knob 34.

This second form of the invention just described may in some cases be preferred to other types of construction, in view of the fact that it has a cabinet 27 which is somewhat shallow or of limited depth from front to back. It is thus made on a shorter axis 48 and larger diameter 44 than the first described water drum 12. In other words, this cabinet 27 is flat and shallow, and it is designed to also fit into a shallow pocket originally provided in the wall of the building. On the other hand, this cabinet 27 provides a very neat appearance when attached to the face of the wall since it fits close and hugs the wall surface.

This second form of my invention is also very convenient to use inasmuch as it is a simple matter to bodily remove the cabinet syringe from the wall of the building B by lifting it straight up until the cabinet bar lugs 42 lift free and clear of the wall bracket ears 39. By a reversal of this operation, the syringe is replaced in service position on the wall bracket 37. This is portrayed in Figure 8 where the syringe cabinet 27, 28 is being held in position just ready to slide into place between the wall-bracket ears 39, whereupon said cabinet will be pressed downwardly to cause the cabinet lugs 42 to lock into the wall-bracket slots 40, to thereby detachably fix the syringe on the wall B.

The syringe can be filled with water by removing the plug 51 when said syringe has been detached from the wall bracket 37. It is unnecessary to detach the hose 54 when filling the syringe drum 44 with liquid, and consequently the interior of the hose 54 and water drum remain sealed against entry of foreign matter.

It is important to note that the operator or user of my syringe may grasp the water fill cap 51 and use it like a crank handle to turn the hose-reel drum 44 to wind up the hose 52 until the outer hose end and nozzle 54 are drawn up into the cabinet 27, 28 to a point where the nozzle 54 can readily be snap-fastened into one of the spring-clip holders 56. The door 32 is then closed. On the other hand, the hose 52 may be unreeled and pulled out through the open door to service position, as in Figure 7, by simply pulling on the hose nozzle 54. Moderate tension on the hose conveniently unreels it for use; and a few turns of the drum 44 in the other direction, by using the fill plug 51 as a crank handle, quickly rewinds and conceals the hose after use.

My invention is presented in principle and is illustrated by several exemplary forms to fill a need felt for a cabinet syringe which is rugged in construction, and reliable and safe in operation. Various modifications may occur to those skilled in the art, without departing from the principles of this invention. No limitation is intended, therefore, by the phraseology of the foregoing description or the illustrated examples of construction outlined in the accompanying drawings.

What is claimed is:

1. A syringe comprising a cabinet of general rectangular shape and comparatively shallow in construction, and adapted to hang upon and hug a wall, said cabinet having a circular cut-out in the front thereof, a hose reel rotatably mounted within the opening and within the cabinet, said hose reel comprising a comparatively short cylinder of a diameter greater than its axial length, a hose attached to the reel and adapted to be wound thereupon, said hose reel also forming a water container adapted to dispense water through the hose, a water fill plug provided in the front end of the hose reel through which water is introduced thereinto, and an air vent

provided in water container to promote the flow of water therefrom by gravity.

2. A syringe comprising a cabinet, detachable-bracket means to hold the cabinet on the wall of a building; said means comprising a wall bracket adapted to be permanently secured to the wall, and having its ends bent outwardly thereby forming spaced ears between which the cabinet rests, each ear having a slot extending downwardly, and a lug at each side of the cabinet which fits down in the slot, thereby bracing the cabinet against movement in any direction; an air vented combination hose reel and water drum rotatably mounted in the cabinet, and a hose attached to and adapted to be wound upon the drum.

3. A syringe comprising a cabinet, an air vented combination water drum and reel rotatably mounted therein, a flange on each end of the drum, a hose connected with and wound on the drum between the flanges, a bearing sleeve extending axially through the drum, a removable journal inserted in the sleeve and fixed in the cabinet and on which the drum turns, and a door on the cabinet out through which the hose is drawn to service position.

4. A syringe comprising a cabinet having closely spaced front and rear walls, means to mount the cabinet on the wall of a building, a circular opening in the front part of the cabinet, an air vented water drum mounted in the cabinet and extending through the opening, a hose connected with the water drum and reeled thereupon when not in use, bearing means carried by the rear wall of the cabinet to rotatably support the drum, and a water-fill provided in the end of the drum extending through the opening and having a screw plug to close same and adapted to be used in manually turning the drum to wind up the hose.

5. A syringe for personal hygienic use comprising, in combination, a cylindrical drum adapted to contain a washing or an antiseptic liquid, said drum having an air vent therein, a flexible dispensing hose having one end thereof connected with the vented drum at a point opposite the air vent and in communication with the interior of said drum to draw liquid therefrom by gravity, and a nozzle aperture at the other end of the hose adapted for personal hygienic use, the outer cylindrical surface of said drum adapted as a reel upon which to conveniently wind the hose while the latter is connected with the drum; and mounting means to rotatably support the drum-and-hose reel in service position, to enable the user to conveniently unwind the hose and draw the liquid from the drum for hygienic use and to rewind the hose thereupon after use.

6. A syringe for personal hygienic use comprising, in combination, a cylindrical drum adapted to contain a washing or an antiseptic liquid, said drum having air venting means, a flexible dispensing hose having one end thereof connected with the drum at a low liquid-level position to draw liquid therefrom by gravity, and a nozzle aperture at the other end of the hose adapted for personal hygienic use, the outer cylindrical surface of said drum adapted as a reel upon which to conveniently wind the hose; and mounting means to rotatably support the drum-and-hose reel in service position, to enable the user to conveniently unwind the hose and draw the liquid from the drum for hygienic use and to rewind the hose thereupon after use.

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