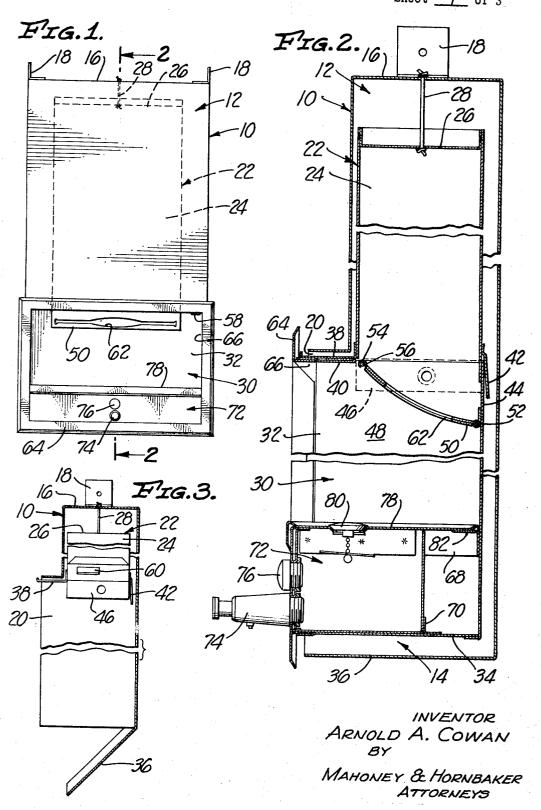
RECESSED WASHROOM DISPENSER AND METHOD OF INSTALLING THE SAME
Filed Oct. 17, 1967

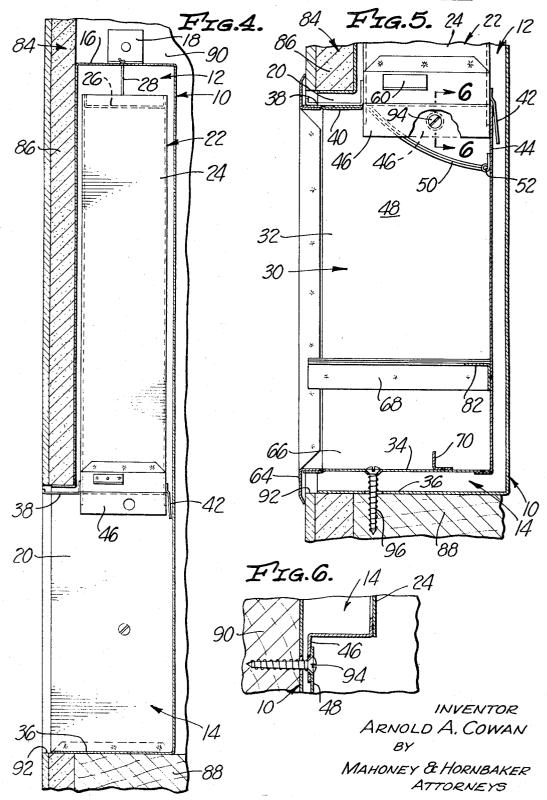
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RECESSED WASHROOM DISPENSER AND METHOD OF INSTALLING THE SAME

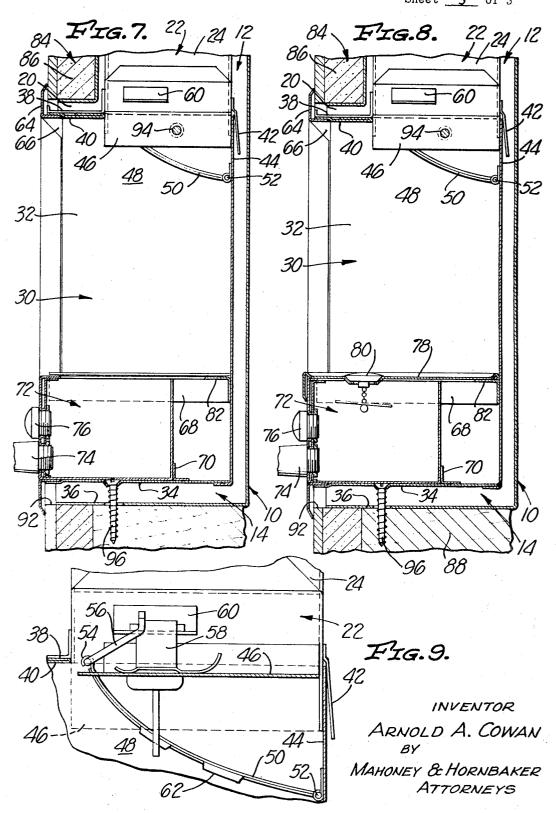
Filed Oct. 17, 1967

Sheet **2** of 3



RECESSED WASHROOM DISPENSER AND METHOD OF INSTALLING THE SAME Filed Oct. 17, 1967

Sheet 3 of 3



1

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RECESSED WASHROOM DISPENSER AND
METHOD OF INSTALLING THE SAME
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Int. Cl. A47b 67/02; F16b 12/00

ABSTRACT OF THE DISCLOSURE

A dispenser rough-in box has an upper towel dispenser casing preassembled movable in an upper part thereof during original fabrication of said box, said upper casing being movably supported in said box by a suspension cord. The box upper part is fully recessed in a wall and a lower part thereof opens forwardly through a wall opening, said box lower part being dimensioned such that said upper dispenser casing cannot be inserted after the box fabrication. A lower soap dispenser casing is inserted in the box lower part after wall mounting of the box, said lower casing including a pivotal dispensing closure for the upper casing and being operably connected to said upper casing by movement of the upper casing on the suspension cord.

Background of the invention

This invention relates to a recessed washroom dispenser wherein an upper part of the dispenser is fully recessed and hidden within a wall, and a lower part thereof, although likewise recessed within the wall, opens through and is accessible through a wall opening. More particularly, this invention relates to a recessed washroom dispenser of the foregoing type incorporating at least two dispenser cabinets, an upper towel dispensing cabinet and a lower preferably soap dispensing cabinet, both of which are accessible for dispensing and servicing at the wall opening. Still further, the dispenser upper cabinet is dimensioned such that the same must be preassembled within the cabinet rough-in box prior to said box being installed in the wall and, according to the present invention, said upper cabinet is uniquely suspended within the rough-in box so as to be easily and conveniently assembled with a dispenser lower cabinet inserted into said box after wall installation and during the final assembly operations.

With a recessed washroom dispenser of the character herein involved, in view of the fact that a relatively large portion of the dispenser is totally recessed and hidden within the inner confines of the wall, it is necessary that the dispenser, or at least a rough-in box therefor, be installed and incorporated directly in the wall during the original wall construction. This is particularly true where the fully recessed portion of the dispenser is recessed behind final wall coverings, such as tile. At the same time, however, it is most desirable to retain the working portions of the dispenser including the finally exposed portions thereof free of the construction site during the wall construction in order to prevent damage thereto.

Thus, the usual procedure is to form the dispenser with a rough-in box which may be installed in the wall during the original wall construction. The rough-in box is adapted for the later reception of the actual dispenser cabinet or cabinets which include the actual dispenser working portions and those portions thereof which, in the final form,

2

are exposed in the finished washroom. In the case where the final dispenser includes at least one dispenser cabinet which cannot be installed in the dispensing rough-in box after complete assembly of such rough-in box, the foregoing usual procedure is clearly impossible and it is necessary to install the dispenser cabinet within the rough-in box during original box fabrication so that the cabinet is contained within the box during installation of the box in the wall. For instance, where the final dispenser includes an upper portion fully recessed within the wall and a lower portion opening through and accessible through the wall, and where the dispenser upper portion must contain a dispenser cabinet, the major portion of which cannot be later received through the front opening of the dispenser lower portion, such cabinet or the major portion thereof must be suspended within the rough-in box during the original box fabrication and retained therein during installation of the rough-in box in the wall and the wall finishing.

It is, of course, possible to permanently and immovably secure the dispenser cabinet portion in the rough-in box upper portion during the original fabrication of the roughin box so that said cabinet portion is contained therein after installation of the box in the wall. After such box wall installation, and after the finishing of the wall, it is then necessary to insert the remainder of the dispenser cabinet, and any other dispenser cabinets, into the roughin box for alignment with and connection to that cabinet portion originally installed and permanently affixed in the box upper portion. In the event of slight misalignments of the originally installed and affixed cabinet portion within the rough-in box upper part, these final assembly operations of the dispenser can be extremely difficult, if not completely impossible.

Objects and summary of the invention

It is, therefore, an object of my invention to provide a recessed washroom dispenser of the general character hereinbefore discussed, and a method of installing such a recessed washroom dispenser, wherein that portion of the dispeneser cabinet required to be originally installed in the rough-in box during the fabrication of said box and prior to installation of the box in the wall, is suspended in the box upper part for retainment therein during the box wall installation in a manner so as to eliminate subsequent difficulties in final installation of the remainder of the dispenser cabinet or cabinets in the final dispenser assembly and after the washroom wall in which the dispenser is positioned has been completed. According to the present invention, an upper dispenser cabinet, or that portion thereof, required to be installed in the upper part of the rough-in box during the original fabrication of the rough-in box, is movably suspended and retained therein during installation of the rough-in box in the wall and the finishing of said wall. After said wall finishing, the remaining portions of the upper dispenser cabinet, and preferably a lower dispenser cabinet, are installed in the roughin box and proper assembly alignment is obtained with the originally installed dispenser cabinet due to the freedom of movement thereof by virtue of the movable suspension.

It is a further object of my invention to provide a recessed washroom dispenser and method of the foregoing type wherein that portion of the upper dispenser cabinet not originally installed in the rough-in box during the original fabrication of said box is assembled as a

part of a lower dispenser casing adapted to ultimately form a part of a lower dispenser cabinet so that insertion of said lower dispenser casing into the rough-in boxe in the final dispenser assembly and connection thereof to the originally installed portion of the upper dispenser cabinet, automatically completes said upper dispenser cabinet. That portion of the upper dispenser cabinet originally installed and suspended in an upper part of the rough-in box is preferably constituted by an upper dispenser casing having a lower open end, and the lower 10 dispenser casing installed in the box during the final dispenser assembly has a properly positioned lower closure for said upper dispenser casing formed directly thereon. Thus, when the lower dispenser casing is inserted into the rough-in box and connected to the upper dispenser 15 casing, said lower closure for said upper dispenser casing is automatically assembled over the lower end thereof to complete the upper dispenser cabinet.

It is still a further object of my invention to provide a recessed washroom dispenser and method of the fore- 20 going type wherein said lower dispenser casing is formed with finishing border parts thereon so that insertion of said lower dispenser casing into the rough-in box during the final dispenser assembly, automatically provides a finish border around the wall opening through which the 25 dispenser opens, thereby eliminating the necessity of further finishing around the border of the wall opening and the exposed portion of the dispenser. Said border parts on the lower dispenser casing preferably include a border flange adapted for overlying the lower part of the 30 rough-in box, as well as overlying and covering the edges of the wall opening through which the dispenser projects and is exposed. Any further finishing between the cabinet and the wall is thereby eliminated.

It is also an object of my invention to provide a method 35 of installing a recessed washroom dispenser of the foregoing type wherein virtually all problems of misalignment are eliminated and the final installation operations may be carried out with a minimum of skill being required. After the rough-in box containing the movably 40 suspended upper dispenser casing therein has been installed in the wall and the wall has been finished, the lower dispenser casing is inserted into the box lower part and merely by reaching inwardly and upwardly through said lower dispenser casing, it is possible to grasp the 45 upper dispenser casing for aligning the same during final assembly. Obviously, this final alignment is only possible due to the movable mounting or suspension of the upper dispenser casing within the rough-in box, which permits ease of movement of said upper dispenser casing during 50 the alignment operations.

Other objects and advantages of the invention will be apparent from the following specification and the accompanying drawings which are for the purpose of illustration only.

Brief description of the drawings

FIG. 1 is a front elevational view of an embodiment of the recessed washroom dispenser of the present invention removed from a wall for clarity in showing the final 60 assembled dispenser;

FIG. 2 is an enlarged, fragmentary, vertical, sectional view looking in the direction of the arrows 2-2 in FIG. 1;

FIG. 3 is a reduced, fragmentary, vertical, sectional $_{65}$ view similar to FIG. 2, but showing only the rough-in box of the dispenser of FIGS. 1 and 2 during the final fabrication operation thereof and after suspension of the upper dispenser casing therein, said upper dispenser casing being shown in side elevation;

FIG. 4 is an enlarged, vertical, sectional view similar to FIG. 3 and showing the assembled rough-in box and upper dispenser casing mounted within a finished wall;

FIG. 5 is an enlarged, fragmentary, side elevational

the lower dispenser casing of the dispenser of FIG. 1 installed in the rough-in box and operably connected to the upper dispenser casing thereof;

FIG. 6 is an enlarged, fragmentary, vertical, sectional view looking in the direction of the arrows 6-6 in FIG. 5 and showing the connection between the upper and lower dispenser casings;

FIG. 7 is a vertical, sectional view similar to FIG. 5, but showing the installation of a soap dispenser within the lower dispenser casing, said soap dispenser being a part of the lower dispenser cabinet;

FIG. 8 is a vertical, sectional view similar to FIG. 7, but showing the installation of the soap dispenser top cover which constitutes the final assembly and installation step of the dispenser of the present invention; and

FIG. 9 is an enlarged, fragmentary, vertical, sectional view of the lower closure of the upper dispenser casing and showing the details of the lock assembly for retaining said closure in closed, dispensing position.

Description of the best embodiment contemplated

Referring to FIGS. 1 and 2 of the drawings, an embodiment of a recessed washroom dispenser incorporating the principles of the present invention is shown in fully assembled condition, but separate or removed from a washroom wall in which it normally would be mounted. The step-by-step assembly of the dispenser combined with the step-by-step installation of the same in the washroom wall will be hereinafter described in detail, but the dispenser is first shown removed from said wall installation for purposes of clarity in describing the particular construction thereof.

As shown in FIGS. 1 and 2, the dispenser includes an outer rough-in box, generally indicated at 10, having a vertically elongated, hollow upper part, generally indicated at 12, opening downwardly into a hollow, forwardly projecting lower part, generally indicated at 14. The upper part 12 is upwardly closed by a top wall 16 to which are secured a pair of mounting brackets 18 along the side edges thereof for the wall mounting of the roughin box 10. The lower part 14 is formed completely forwardly open so as to provide a forward opening 20 and the entire rough-in box 10, as well as substantially the entire remainder of the dispenser, is formed of sheet metal in the usual manner.

An upper dispenser cabinet, generally indicated at 22, in this case a towel dispenser cabinet, includes an upper dispenser casing 24 received substantially totally vertically telescoped within the rough-in box upper part 12, said casing being hollow and being upwardly closed by a top wall 26. Not of importance in the assembled condition of the dispenser, but of vital importance during assembly and installation of the dispenser according to the principles of the present invention, as will be hereinafter described, is a flexible suspension cord 28, either flexible but nonextensible or elastic for selected extension, dependent on circumstances hereinafter discussed, which is secured between the rough-in box top wall 16 and the casing top wall 26.

Of further vital importance to the principles of the present invention is the fact that the upper dispenser casing 24 has spaced smaller outer dimensions than the inner dimensions of the rough-in box upper part 12, as clearly shown in FIGS. 1 and 2.

A lower dispenser cabinet, generally indicated at 30, in this case, a soap dispenser cabinet, is telescoped within the rough-in box lower part 14 and includes a lower dispenser casing 32 having a bottom wall 34 spaced above a bottom wall 36 of the rough-in box lower part 14. The lower end of the upper dispenser casing 24, originally open prior to assembly, interfits downwardly with the upper end of the lower dispenser casing 32, said upper dispenser casing having a forward positioning flange 38 engaged overlying a top wall portion 40 of the lower view similar to the lower portion of FIG. 4 and showing 75 dispenser casing 32, both projecting forwardly through

the rough-in box forward opening 20, and a rearwardly and downwardly extending telescoping flange 42 receiving a rear wall 44 of the lower dispenser casing upwardly therein. Also, the lower end of the upper dispenser casing 24 has oppositely side depending connecting flanges 46 which project to either side and then downwardly between the rough-in box lower part 14 and sidewalls 48 of the lower dispenser casing 32, as clearly shown in FIG. 6.

With the upper dispenser casing 24 assembled interfitting downwardly with the lower dispenser casing 32, as described and shown, an arcuate lower dispensing closure 50 normally closes the originally open lower end of the upper dispenser casing so as to essentially complete the upper dispenser cabinet 22, in this case, the lower dispensing closure being a towel dispensing closure. The 15 normally closed lower dispensing closure 50 is selectively, vertically pivotal for opening the same in order to fill the upper dispenser casing 24 with the towels to be dispensed therefrom, said closure having a hinged connection 52 at the rear wall 44 of the lower dispenser casing 32 and a 20 selectively releasable connection 54 just rearwardly of the top wall portion 40 of the lower dispenser casing. Further, the lower dispensing closure 50 is normally maintained closed by engagement of the releasable connection 54 thereof with a locking rod 56 of a lock assem- 25 bly 58, said lock assembly being received upwardly through the right-hand of the connecting flanges 46 on the upper dispenser casing 24 and engaged with a lock mounting flange 60 on said upper dispenser casing, as shown particularly in FIG. 9.

The exact arrangement of the lower dispensing closure 50 and lock assembly 58 is not of particular importance to the principles of the present invention, other than the fact that the lower dispensing closure is selectively releasable for downward pivoting in order to fill the upper dispenser casing 24 with towels and is maintained upwardly closed in the position shown in FIG. 2 during dispensing wherein the towels are dispensed from a usual towel dispensing slot 62, as shown. It is of importance to certain of the principles of the present invention, however, that the lower dispensing closure 50 is originally assembled and carried into final assembly on the lower dispenser casing 32 and in final assembly, provides the lower dispensing closure for the upper dispenser casing 24, completing the upper dispenser cabinet 22. This foregoing feature will be further discussed and the importance thereof more clearly realized during a discussion of the installation and assembly of the dispenser of the present invention.

The lower dispenser casing 32, as previously stated, 50 projects forwardly through the forward opening 20 of the rough-in box lower part 14 and is formed with a generally, vertically projecting border flange 64 vertically overlapping and covering the forwardly projecting portions of both said rough-in box lower part and the previously described forward positioning flange 38 of the upper dispenser casing 24. This border flange 64 defines a forward opening 66 of the lower dispenser casing 32 providing full accessibility into said lower dispenser casing and therethrough to the lower dispensing closure 50 of the upper dispenser cabinet 12. Internally, the lower dispenser casing 32 is formed with a pair of aligned cover positioning flanges 68 projecting from the sidewalls 48 spaced above the bottom wall 34, and a backing flange 70 projecting upwardly from the bottom wall 34 spaced for- 65 wardly of the rear wall 44.

The main part of a soap dispenser, generally indicated at 72, is positioned within the lower dispenser casing 32 between the cover positioning flanges 68 and the bottom wall 34, rearwardly against the backing flange 70, said 70 soap dispenser including a forward dispensing nozzle 74 and viewing window 76. The soap dispenser 72 further includes a cover 78 having a filler plug 80, said cover extending rearwardly to the rear wall 44 of the lower dispenser casing 32 and overlying a rear positioning flange 75

82 on said rear wall. The soap dispenser 72 thereby completes the lower dispenser cabinet 30.

Certain of the fabrication, and combined assembly and installation steps for carrying out the methods of the present invention are illustrated in FIGS. 3 through 8 in sequence.

As illustrated in FIG. 3, prior to the installation of the rough-in box 10 in a wall and prior to the final assembly of the bottom wall 36 on the rough-in box lower part 14, the upper dispenser casing 24 of the upper dispenser cabinet 22 is inserted upwardly into the rough-in box upper part 12 and is suspended therein in said upper part by the flexible suspension cord 28. The assembly of the rough-in box 10 is then completed by securement of the bottom wall 36 thereof in place. Such procedure is required, according to the principles of the present invention, for the reason that the vertical dimensions of the upper dispenser casing 24 are such as to make it impossible to later insert said upper dispenser casing through the rough-in box lower part 14, that is, through the lower part forward opening 20 and upwardly into the upper part 12.

The assembled rough-in box 10 and upper dispenser casing 24 are then positioned in a washroom wall, generally indicated at 84, in the general position shown in FIG. 4, but prior to the installation of finish wall covering 86, ultimately installed forwardly of and fully recessing the rough-in box upper part 12. In such position, the bottom wall 36 of the rough-in box lower part 14 rests on an appropriate wall cross member 88, and the rough-in box 10 is between appropriate wall studs 90, being secured thereto by the mounting brackets 18 on the upper part 12. The finish wall covering 86 is then installed, fully recessing the rough-in box upper part 12, with the rough-in box lower part 14 opening forwardly through a forward wall opening 92.

As shown in FIG. 5, the lower dispenser casing 32 having the lower dispensing closure 50 preassembled thereon is then inserted rearwardly into the rough-in box lower part 14 through the forward opening 20 thereof and is upwardly interengaged with the previously installed upper dispenser casing 24 in the rough-in box upper part 12. This interengagement between the upper dispenser casing 24 and the lower dispenser casing 32 is easily accomplished by pivoting the lower dispensing closure 50 downwardly and inserting the hands through the lower dispenser casing 32 upwardly for grasping the lower end of the upper dispenser casing 24.

Since the upper dispenser casing 24 is of spaced smaller dimensions than the rough-in box upper part 12 and since the flexible suspension cord 28 provides relative freedom of movement of the upper dispenser casing within the rough-in box, the upper dispenser casing is freely moved into proper alignment with the lower dispenser casing 32 for proper interengagement therebetween and proper positioning of the lower dispensing closure 50 completing the upper dispenser cabinet 22.

The choice between whether the flexible suspension cord 28 is merely flexible and nonextensible, such as a sash cord, or is flexible and selectively extensible, such as any usual elastic cord, is dependent upon the desired original positioning of the upper dispenser casing 24 within the rough-in box upper part 12. If it is satisfactory to originally suspend the upper dispenser casing 24 extending vertically downwardly slightly below its final intended position when it is ultimately assembled with the lower dispenser casing 32, then a flexible but nonextensible suspension cord 28 may be used. If, however, it is more satisfactory and desirable to suspend the upper dispenser casing 24 at a vertical level above its final assembled position and draw the same downwardly during later assembly for connection with the lower dispenser casing 32, then the flexible suspension cord 28 must not only be flexible, but also selectively extensible.

Thus, both forms of flexible suspension cord 28 are

intended to be covered according to the principles of the present invention. Furthermore, the term "flexible" is intended to broadly define both nonextensible and extensible cords in the present specification and the appended claims.

After the proper interengagement between the upper and lower dispenser casings 24 and 32, appropriate fastening screws 94 are inserted through the lower dispenser casing 32, the connecting flanges 46 on the upper dispenser casing 24 and through the sidewalls 48 of the rough-in box lower part 14 into the wall studs 90 in the manner particularly shown in FIG. 6, thereby retaining such interengagement and properly positioning both the upper and lower dispenser casings 24 and 32 within the rough-in box 10.

Also, appropriate fastening screws 96 are inserted downwardly through the bottom wall 34 of the lower dispenser casing 32 and through the bottom wall 36 of the rough-in box lower part 14 into the wall cross member 88, as best shown in FIG. 5. The lock assembly 53 with its locking rod 56 may then be assembled with the lower dispensing closure 50, as hereinbefore described and shown in FIG. 9, or such can be accomplished after the other assembly steps, as desired.

Finally, the installation and assembly is completed by 25 inserting the soap dispenser 72 in appropriate position rearwardly into the lower dispenser casing 32, as shown in FIG. 7, and assembling the soap dispenser cover 78 thereon, as shown in FIG. 8. Such completes the assembly of the lower dispenser cabinet 30, as well as the 30 installation and assembly of the entire dispenser of the present invention.

Thus, according to the principles of the present invention, a unique recessed washroom dispenser and method of installing the same is provided wherein the upper 35 dispenser casing 24, impossible of later insertion, is preassembled with the rough-in box 10 prior to installation of the rough-in box into the washroom wall. Furthermore, the upper dispenser casing 24 is uniquely suspended within the rough-in box 10 by means of a flexible 40 suspension cord 28 so as to permit later selective movement of the upper dispenser casing relative to the rough-in box for aligning the same to interengage with a later inserted lower dispenser casing 32.

Still further, the lower dispensing closure 50 for com- 45 pleting the upper dispenser cabinet 22 is preassembled with the lower dispenser casing 32 so that interengagement between the upper and lower dispenser casings 24 and 32 automatically positions said closure and completes the upper dispenser cabinet 22. Also, the lower 50 dispenser casing 32 has the border flange 64 preassembled therewith so that insertion of this lower dispenser casing into the rough-in box lower part 14 automatically positions the border flange properly overlying the finish wall covering 86 so as to mask the edges of the wall forward 55 opening 92 providing an aesthetically pleasing finished installation of the dispenser without further finishing borders being required.

I claim:

of: a rough-in box including an upper part and a lower part, said upper part being dimensioned to be mounted in a wall, said lower part being secured to said upper part and formed to open forwardly through said wall; an upper cabinet including an upper dispenser casing preassembled into said box upper part movably telescoped by said box upper part during original assembly of said box; a flexible suspension member operably connecting said box upper part and said upper dispenser casing normally retaining said upper dispenser casing movable 70 in said box upper part; a lower cabinet including a lower casing insertable through said forward opening of said box lower part and into said box lower part; and fastening means between said upper and lower casings for connecting said casings upon insertion of said lower 75

casing into said box lower part and alignment of said casings by selective movement of said upper casing relative to said box upper part as permitted by said suspension member.

8

2. A dispenser as defined in claim 1 in which said upper dispenser casing is dimensioned for both horizontal and vertical movement relative to said box upper part.

3. A dispenser as defined in claim 1 in which said box upper part has greater vertical dimensions than said box lower part; and in which said upper dispenser casing has vertical dimensions greater than said box lower part providing said upper dispenser casing impossible of insertion through said forward opening of said box lower part and into said box upper part.

4. A dispenser as defined in claim 1 in which said suspension member is an elastic suspension member.

5. A dispenser as defined in claim 1 in which said lower cabinet includes a border flange secured to said lower casing adapted for overlying said box lower part around said forward opening of said box lower part when said lower casing is inserted through said forward opening and connected to said upper casing.

6. A dispenser as defined in claim 1 in which said upper cabinet includes a lower closure for said upper dispenser casing preassembled on said lower casing and positioned closing a lower end of said upper casing when said upper and lower casings are connected.

7. A dispenser as defined in claim 1 in which said lower cabinet includes a lower dispensing mechanism insertable into said lower casing after insertion of said lower casing into said box lower part and the connection

of said upper and lower casings.

8. A dispenser as defined in claim 1 in which said upper cabinet is a towel dispenser cabinet and includes a lower towel dispensing closure, said closure being preassembled on said lower casing and connected over a lower end of said upper casing upon said connection of said upper and lower casings.

9. A dispenser as defined in claim 1 in which said upper cabinet is a towel dispenser cabinet and includes a lower towel dispensing closure, said closure being preassembled on said lower casing and connected over a lower end of said upper casing upon said construction of said upper and lower casings, said closure comprising means for selectively opening said closure to permit the insertion of towels upwardly into said upper casing after said connection of said upper and lower casings; and in which said lower cabinet includes a soap dispensing mechanism positioned in said lower casing spaced downwardly from said closure of said upper casing and assembled in said lower casing after said connection of said upper and lower casings.

10. In a rough-in box for a recessed washroom dispenser, the combination of: an upper part adapted to be mounted recessed in a wall; a lower part secured to said upper part and formed to open forwardly through said wall; an upper dispenser casing preassembled into said box upper part movably telescoped by said box upper part during original assembly of said box; and a flexible 1. In a recessed washroom dispenser, the combination 60 suspension member operably connecting said box upper part and said upper dispenser casing normally retaining said upper dispenser casing in said box upper part, said flexibility of said suspension member permitting selective movement of said upper dispenser casing within said box upper part for proper alignment during final assembly of said dispenser.

11. A rough-in box as defined in claim 10 in which said box upper part has greater vertical dimensions than said box lower part; and in which said upper dispenser casing has vertical dimensions greater than said box lower part and is impossible of insertion through said forward opening of said box lower part and into said box

upper part.

12. A rough-in box as defined in claim 10 in which said flexible suspension member is an elastic suspension

10

cord operably connected between said box upper part and said upper dispenser casing.

13. A rough-in box as defined in claim 10 in which said box upper part has a top wall; in which said upper dispenser casing has a top wall; and in which said flexible suspension member is operably connected between said top walls of said box upper part and said upper dispenser casing.

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