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2,606,804

TILTABLE HOLDER FOR WASTE RECEPTACLES

Filed Jan. 27, 1948

2 SHEETS—SHEET 1

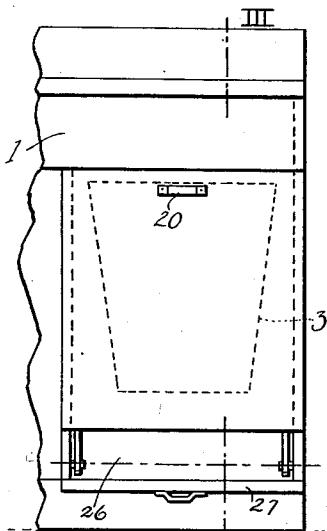


FIG. 2.

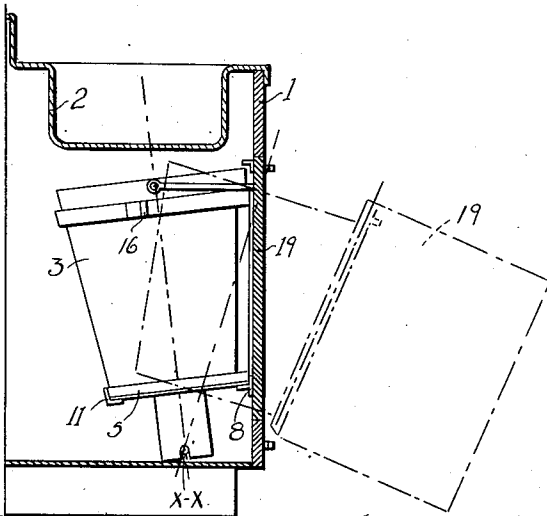


FIG. 3.

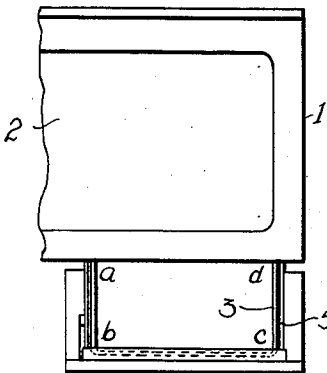


FIG. 4.

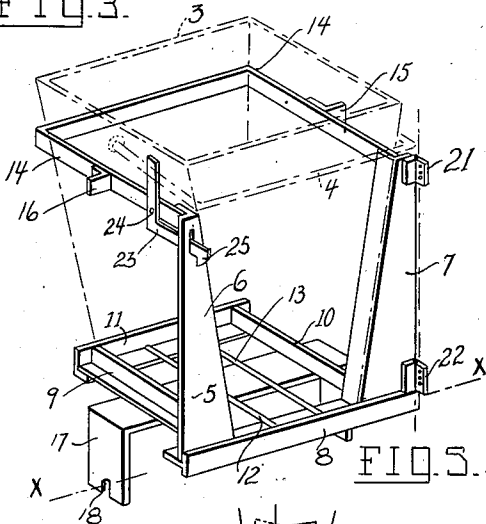


FIG. 5.

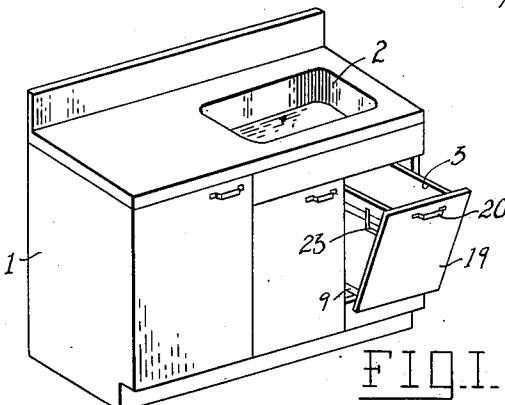


FIG. 1.

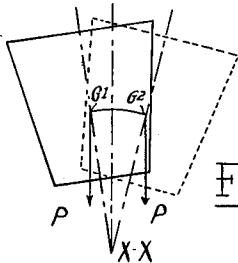


FIG. 6.

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2 SHEETS—SHEET 2

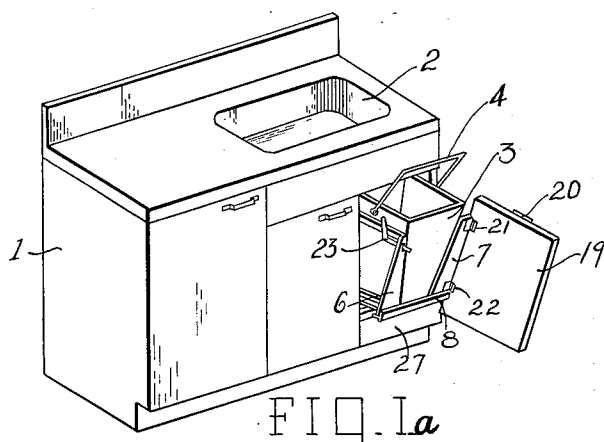


FIG. 1a

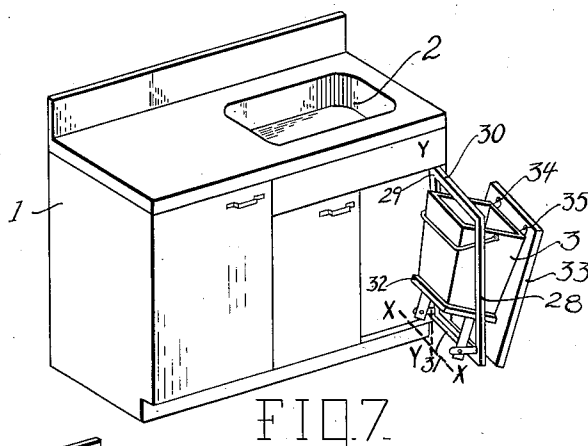


FIG. 7

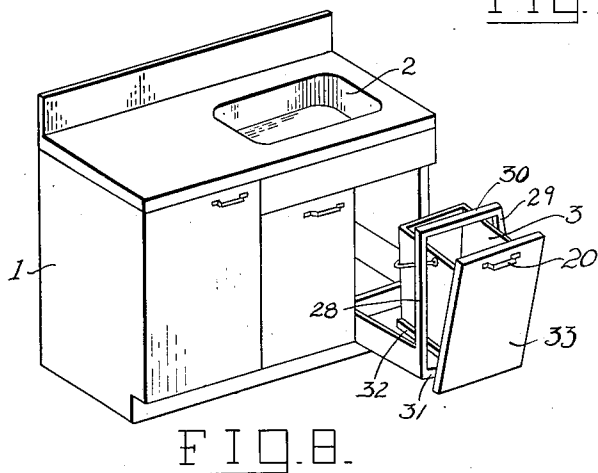


FIG. 8

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TILTABLE HOLDER FOR WASTE
RECEPTACLESHenri Jacques Marc Lambert, Sevres, and Georges
Paul Mongin, Saint-Gratien, FranceApplication January 27, 1948, Serial No. 4,658
In France February 5, 1947

4 Claims. (Cl. 312—300)

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As everybody knows, it is an essential requisite in private dwellings to keep usually in the kitchen within reach of the hand a container for rubbish, waste etc. When the apartment or detached house is not fitted up with a rubbish-shoot in the actual kitchen, movable refuse-cans are used to solve the difficulty.

In a wider sense, the same trouble in regard to waste-buckets, that must be always available, presents itself in the case of industrial works, laboratories, hospitals etc.

As far as private dwellings are concerned the purpose is served generally by a waste-bucket located under the scullery sink, behind an ordinary door, in a wall-cupboard for waste, etc.

Such an arrangement is most inconvenient; when waste has to be thrown into the bucket, such as scrapings from a dish or plate for instance, it is necessary to stoop down and get above the waste-bucket while the dish is emptied at the top of the cupboard. It is altogether out of the question to pull out the bucket each time.

Certain devices have been designed to overcome this awkward arrangement, for instance waste-buckets as used in laboratories consisting of a container with a lid worked by a pedal. An arrangement like this takes up a lot of room, however, and cannot be housed generally in a waste wall-cupboard.

Some domestic waste-buckets are hung on the inner wall of the door of the waste-cupboard. When this door is opened by turning round its vertical axis, the bucket comes into view and waste can be thrown right into it.

Nevertheless, there is too much time and labour user up in manipulating the bucket every time something has to be thrown in.

It has been suggested also to make use of a rectangular trap-door arrangement fixed in the front of the cupboard. This trap-door, swinging round a horizontal axis, may act as a shoot. Waste thrown on this should in the ordinary course of events fall into the bucket.

The trouble about a layout of this kind is the poor distribution of the rubbish in the bucket, too much collects at one particular spot and again the moist dirty refuse sticks to the shoot and fouls it, and it then has to be washed.

The object of the present invention is to provide a panacea for all these troubles and to accomplish it in a very easy, neat and tidy way.

It refers more particularly to a method for equipping and assembling a waste-bucket or similar container that is quite out of the ordinary, the special feature being that it deals with the

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assembly of the waste-bucket or similar receptacle in a movable way on a frame that, on the one hand, can swing well out, from the front of the piece of furniture or whatever contains the frame, all or portion of the available opening of the bucket so that it is a very simple matter to throw in any waste or scrap, and on the other hand, the frame may be open or capable of opening on at least one side so that the withdrawal of the bucket from the frame may be done very conveniently in practice by a translational motion that is to all intents and purposes horizontal.

According to another feature of the invention the swinging axis of the frame or the instantaneous axis of rotation of the latter is located, on the one hand, appreciably below the bottom of the bucket so as to lessen the angle of swing and, on the other hand, so that the frame and waste bucket assembly has only two stable positions, to wit the open position for taking any waste or rubbish, and the closed position when there is nothing to go into the bucket.

The invention takes in also a waste-bucket or a corresponding sort of thing that is fitted up according to the method mentioned above and it is of particular interest from the fact that this waste-bucket or like container is located on, or in, a frame including contrivances that, on the one hand, make it swing out so as to show, beyond the front of the piece of furniture or whatever else contains the bucket, all or portion of the opening of the bucket, so that waste may be dropped in and, on the other hand, to make it open or capable of opening on at least one side so that the bucket may be taken out conveniently from the frame in practice by a mere translational motion that is substantially horizontal.

The bin itself that is preferably frusto-pyramidal is removably located in the frame and may be removed out of same and reinserted no longer through a vertical movement, but, according to an essential feature, horizontally.

To bring about this essential condition for the frequent withdrawal of the full, and therefore heavy, bucket, the frame includes on its front part a suitable opening or again it opens up by itself when it is brought out from the particular piece of furniture where it is contained, while the translational motion, referred to above, may be effected either from back to front, or from the front towards the back, or it may be a cross-wise motion.

When waste has to be thrown into the bucket

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in normal routine, the frame is swung forward without any trouble and with a very slight expenditure of energy.

The arrangements in accordance with the invention may be summed up, as it were, by remarking that the bucket-frame combination is of a swinging type as concerns the routine job of taking in the rubbish and waste, and of the opening type as far its emptying is concerned.

Other advantages of the invention will make themselves evident by a perusal of what follows.

In the accompanying drawings that are given solely as examples:

Fig. 1 gives a perspective view of a kitchen bench or similar form of table with a waste-bucket in accordance with the invention;

Fig. 1a is a similar view with the bucket ready for release.

Fig. 2 is an elevational part view;

Fig. 3 is a section along the line III—III of Fig. 2;

Fig. 4 is a plan, with the bucket swung out so that waste may be thrown in it;

Fig. 5 is a perspective view of the frame;

Fig. 6 shows a diagram of forces;

Fig. 7 is a perspective view of a modification with the bucket released from the rear;

Fig. 8 is a similar view of another modification.

In accordance with the example illustrated in Figs. 1 to 6, the kitchen table or similar piece of furniture 1 comprises for instance a scullery sink 2 under which is located a waste-bucket 3. This bucket 3 is preferably in the shape of the frustum of a pyramid and is furnished with a handle 4.

It is inserted in a frame 5 formed for instance (Fig. 5) by two uprights 6 and 7 fastened to a crosspiece 8. At the lower end, longitudinal members 9 and 10 constitute side edgings connected at the rear by a cross member 11. Rods 12 and 13 finish off the assembly.

At their upper end, the uprights 6 and 7 carry a hooping or piece of crosswork 14 acting as a holder for the bucket and furnished with brackets 15 and 16. The whole thing is fastened on a bearing piece 17 substantially in the shape of an upside down U that is capable of swinging round an axis $x-x$ through its notches 18. Care should be taken that this axis $x-x$ is as low as possible with reference to the bottom of the bucket.

The whole assembly is closed by a door 19 provided with a handle 20 and fastened by hinges 21, 22; it is held in its closed position through a bent lever 23 pivoting at 24 and furnished with a catch fastening it to the door.

The centre of gravity G of the assembly of bucket and frame (Fig. 6) goes from position G_1 (bucket closed) to that shown at G_2 (bucket open), these two positions being preferably substantially symmetrical in relation to the vertical plane going through axis $x-x$.

The waste-bucket works in a very simple way.

To open up and throw in waste straight into the bucket that has been brought out from the front face of the kitchen bench, all that has to be done is to pull on the handle 20 to make the frame and bucket assembly 3, 5, swing forward; a considerable portion of the opening of the bucket shows up in advance of the front face at $abcd$ (Fig. 4), the frame-bucket assembly stays open, in a stable position while bearing through stops 15, 16 to the front thereof.

The movement of the centre of gravity and the stable positions with intervening unstable positions is shown in Fig. 6. G goes from G_1 to G_2 and vice versa.

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The frame-bucket assembly 3, 5 is, as a general rule, located under the kitchen sink that is the obvious place for recovery of waste products, or under any working surface formed by the top of a bench or low cupboard.

All that has to be done to take out the bucket and empty it is to swing the frame forward, then unhook the door 19 while working the catch 25 that has now come into view. The door makes a quarter turn around the axis 21—22, and that it does automatically through its own weight. The bucket 3 is then taken by the handle 4 and lifted clear of the low front edge. The bucket is taken right out to be emptied.

To put the bucket back, it only has to be inserted in the frame 5, between the uprights 6, 7. The lower part of the bucket is wedged at the rear by the back edging 11 and in front by edging 8. On the sides, the bucket is fixed in by the flanges of the uprights 6, 7. Above, the bucket is held in by the iron hooping 14.

If some of the waste refuse happens to go over the edge of the bucket, it falls under the frame 5 into a compartment 26 adapted to cooperate with the bucket and closed by a flat swinging door 27. The bottom of the frame is made open to allow the waste scraps to fall through.

The incidental falls are picked up easily from compartment 26 by sliding them over the swinging door 27 and from there they are collected on a dust-pan.

Provision is generally made in this compartment for keeping the dust pan and small broom.

The uprights 6, 7 and the crosspiece 8 shaped like a girder, form a U-assembly so as to leave passage for the bucket and it is very solidly built so that the door 19 fits closely and never gets out of position. This represents the indispensable release opening that has been referred to above.

The selected waste-bucket 3 has, preferably, the shape of a frustum of a pyramid. This shape, in the first place, is the most suitable shape with a certain amount of taper to ease the emptying of the rubbish. In addition, the trapezoidal shape of uprights 6, 7 is the most practical from the point of view of any tendency of buckling as these uprights are fitted into the crosspiece 8. Pedal control or any auxiliary electric, hydraulic or air power may also be provided to take the place of opening and shutting by the handle 20.

The great advantage of this new type of waste-bucket will be remarked at once more particularly in the case of the design that includes a release opening towards the front, i. e. towards the middle of the premises.

In the first place, from the point of view of the routine running of this waste-bucket system, it is clear that what has to be done when throwing something into the bucket is to pull the frame forward so that the bucket swings out beyond the wall, as far as possible and therefore within hand reach; in this position all or a portion of its opening comes into view outside the wall. Any waste material is thrown straight in and very easily. The bucket stays automatically in this stable position, keeping quite plumb on its swinging axis and not getting out of true.

To close the bucket again, a swing in the opposite direction must be started until the centre of gravity goes beyond the vertical plane of the swinging axis; the bucket closes then by itself and its weight automatically keeps closed the front door engaging the frame.

The release of the bucket is done very simply by swinging the frame into the "open" position,

by opening the front door and withdrawing the bucket without having to do any lifting to speak of.

Moreover, in this arrangement, the bucket occupies all the capacity available in the cupboard and there is no idle space.

The modification illustrated in Fig. 7 shows a frame closed by uprights 28, 29 and cross-pieces 30 and 31. A support 32 carries the bucket and it may swing around an axis X—X. A door 33 is fixed rigidly with support 32. The bucket is hung on this door 33 at 34 and 35. The frame 28, 29, 30, 31 is hinged along a vertical axis Y—Y belonging to the kitchen table 1.

It will be noted that the swinging motion will bring the bucket out of the table 1 and allow waste to be easily thrown in the bucket. The opening of the frame brought about by its swivelling around the axis Y—Y releases the back of the frame and allows the bucket to be drawn out while exerting an effort in a direction which is practically perpendicular to the axis X—X translational movement, or by a translational movement towards the rear in relation to the frame.

The modification illustrated in Fig. 8 shows the case where the frame carrying the bucket is assembled in the manner of a drawer and may be released by a forward translational movement, as a consequence of which the bucket may be drawn out sideways.

As in the previous examples, the swinging arrangement formed by a support 32 and a door 33, on which is attached the bucket 3, allows the routine operation of the appliance, namely the frequent discharge of rubbish into the bucket. The withdrawal of the bucket takes place after the movement of the frame 28, 29, 30, 31 outside the table as shown in Fig. 8, but without any swinging motion. In this case the bucket 3 after it has assumed the position shown in Fig. 8 is removed by the operator who exerts a substantially horizontal effort towards the rear followed by a lifting.

The invention obviously is in no way restricted to the embodiments illustrated as set forth and submitted only as examples and many modifications may be brought thereto without widening unduly thereby the scope of our invention as defined in accompanying claims.

What we claim is:

1. A dust bin situated inside a cupboard, comprising a receptacle, a frame tiltably mounted in said cabinet and removably carrying said receptacle and having an upstanding portion at the front thereof, a door hinged to said upstanding portion, by the opening of which door is allowed the removal of said receptacle through a horizontal translational movement.

2. A dust bin according to claim 1 wherein the upstanding portion of said frame includes uprights at its front end, a cross member associated therewith in U formation forming a U-shaped opening through which the said receptacle may be entered and extracted and longitudinal and transversal elements rigid with said uprights and cross member and forming the bottom of the frame adapted to carry the said receptacle.

3. A dust bin according to claim 2, further comprising a flange to the rear of said bottom, and an iron fitting rigid with the upper part of the uprights and adapted to hold the upper part of the dust bin.

4. A dust bin according to claim 1 wherein the axis about which the said frame is adapted to tilt is located below the said frame.

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