July 10, 1956 A. C. DRAPER 2,753,571

GARBAGE DISPOSER WITH TABLEWARE RECOVERY DEVICE

Filed March 29, 1952 2 Sheets-Sheet 1

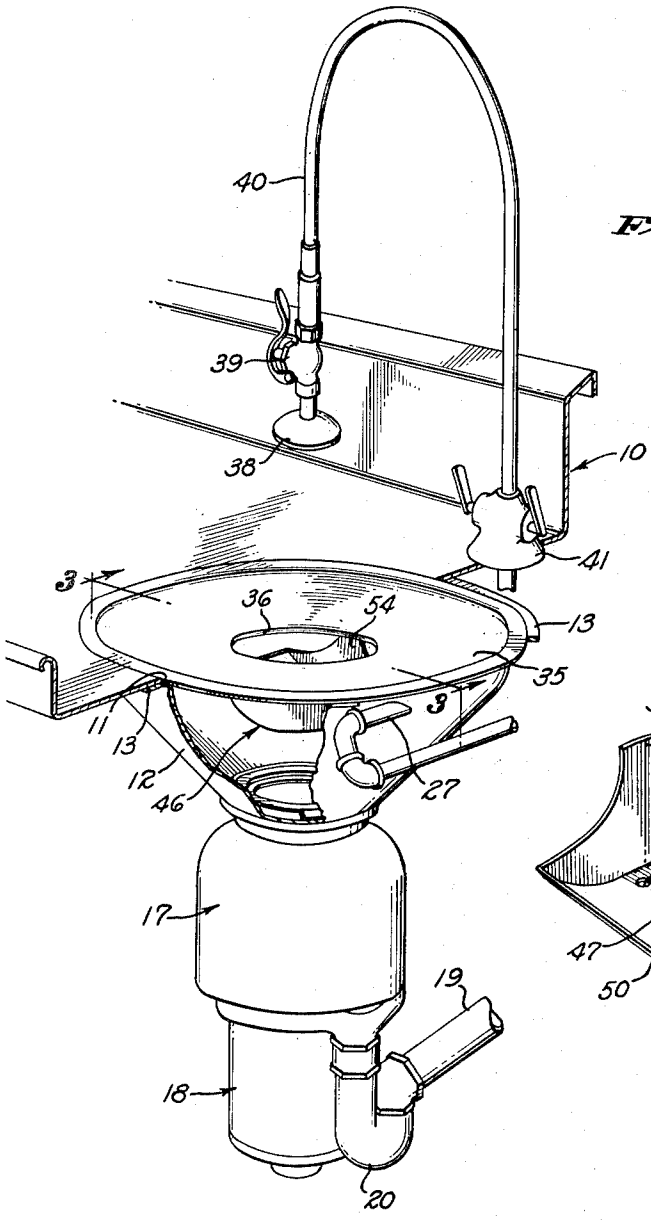


Fig. 1

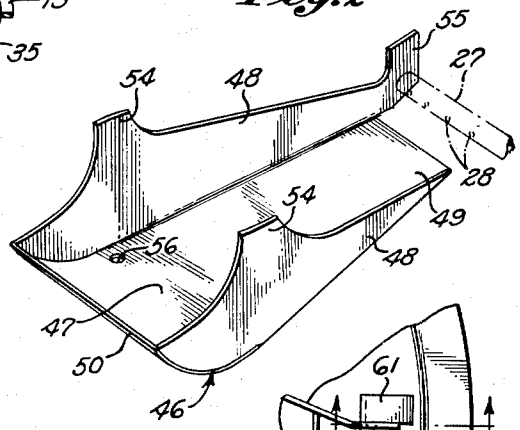


Fig. 2

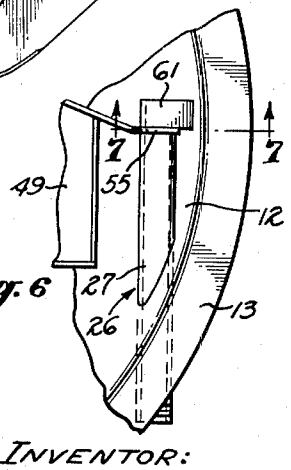


Fig. 6

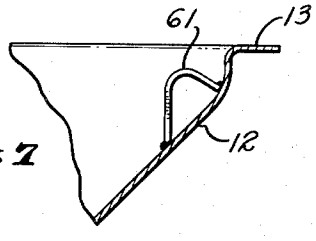


Fig. 7

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Filed March 29, 1952 2 Sheets-Sheet 2

Fig. 3

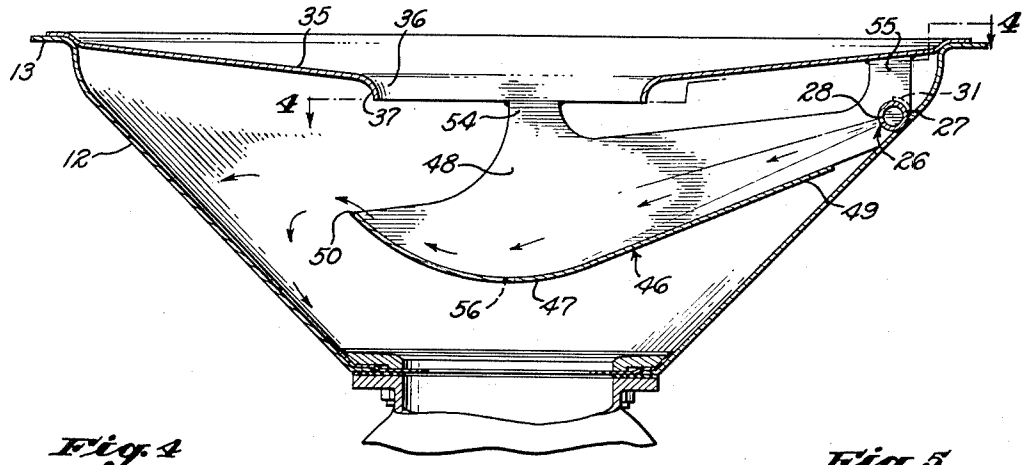


Fig. 4

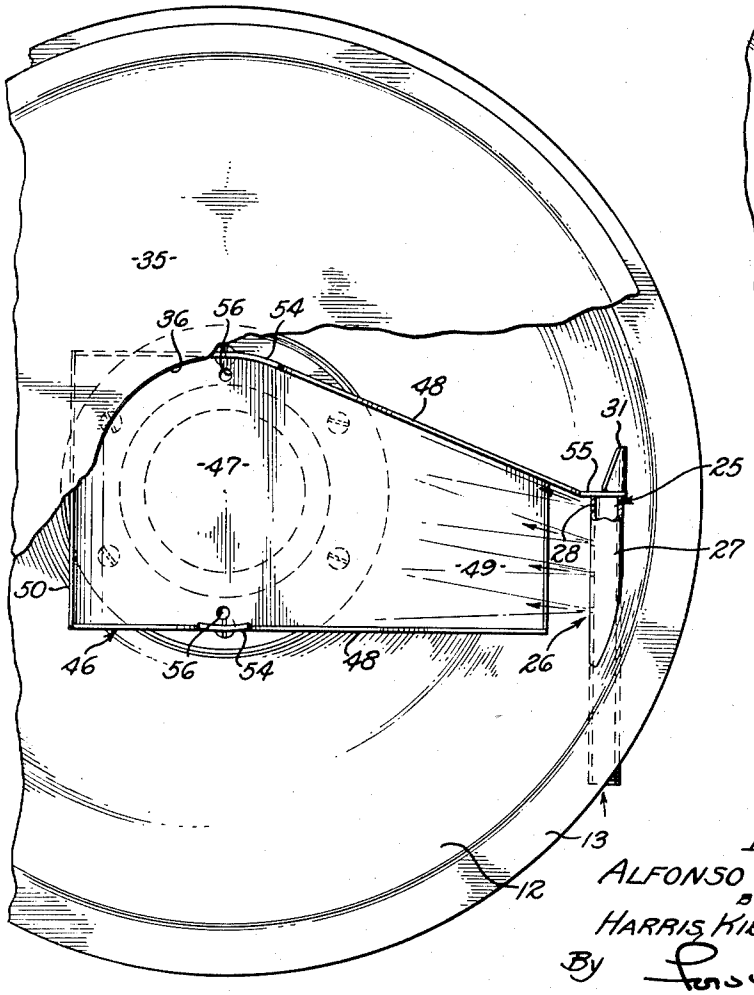
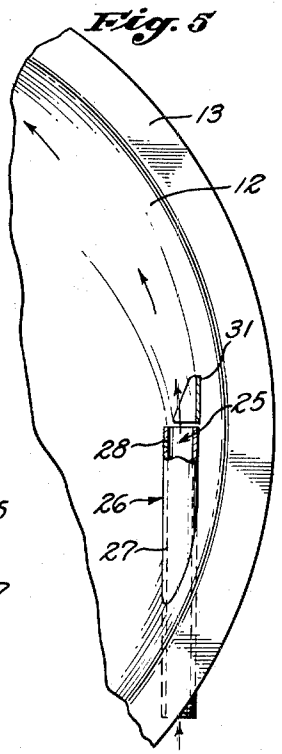


Fig. 5



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GARBAGE DISPOSER WITH TABLEWARE RECOVERY DEVICE

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15 Claims. (4—187)

This invention relates in general to the disposal of garbage and other waste materials and, more particularly, to a garbage disposal apparatus having means for recovering any tableware, i. e., knives, forks, spoons and the like, which may be mixed with the garbage, a primary object of the invention being to provide such a garbage disposal apparatus.

More particularly, an object of the invention is to provide a generally conical basin or sink which is adapted to be mounted beneath and in communication with a dishtable, drainboard, or other work surface, and which communicates at its lower and smaller end with a garbage disposer having means for comminuting garbage dumped therein and for delivering the comminuted garbage to a sewer line.

Another object is to provide such a sink having interconnected lateral and tangential inlet port means respectively facing laterally and tangentially of the sink to direct water laterally and tangentially thereof, the area of the tangential inlet port means being large as compared to that of the lateral inlet port means so that the water normally discharges into the sink through the tangential inlet port means. Such tangential discharge of water into the generally conical sink results in a swirling action of the water around the sink with the result that the swirling water washes any garbage adhering to the sides of the sink downwardly into the comminuting means connected to the lower end of the sink.

Another object is to provide a cover for the generally conical sink which is provided with an opening through which garbage may be dumped into the interior of the sink.

A further object is to provide a tableware trapping basin carried by the cover beneath the opening therethrough for trapping any silverware which may accidentally be dropped through the opening in the cover, the tableware basin being disposed in the line of the water discharge from the lateral discharge port means when the cover is in place so that the lateral discharge of water flushes garbage from the tableware basin into the generally conical sink. The tableware, being heavier than the garbage, remains in the tableware basin and thus is prevented from being delivered to the comminuting means.

Still another object is to provide on the cover a closure which is adapted to seat against and close the tangential inlet port means when the cover is in place so that all of the water delivered to the two port means is discharged laterally through the lateral inlet port means, thereby producing a jetting or spraying action which flushes garbage out of the tableware basin.

Another object is to provide an installation which includes a spray head positionable above the conical sink and its cover assembly for rinsing garbage off dishes and into the sink, either directly, or by way of the opening through the cover and the tableware trapping basin.

The foregoing objects and advantages of the present invention, together with various other objects and advantages thereof which will become apparent, may be attained

with the exemplary embodiment of the invention which is illustrated in the accompanying drawings and described in detail hereinafter. Referring to the drawings:

Fig. 1 is a perspective view of a garbage disposal apparatus which embodies the invention;

Fig. 2 is a fragmentary perspective view showing a tableware trapping basin of the invention;

Fig. 3 is a fragmentary sectional view taken along the arrowed line 3—3 of Fig. 1;

Fig. 4 is a fragmentary view taken along the arrowed line 4—4 of Fig. 3;

Fig. 5 is a fragmentary view similar to a portion of Fig. 4 but with a cover assembly of the invention removed;

Fig. 6 is a fragmentary view similar to a portion of Fig. 4, but showing another embodiment of the invention; and

Fig. 7 is a sectional view on the arrowed line 7—7 of Fig. 6.

Referring particularly to Fig. 1 of the drawings, the numeral **10** designates a conventional dishtable of the type usually found in restaurants, although it will be understood that the present invention may be employed in the home if desired. The bottom of the table **10** is provided with a hole **11** therein and disposed below and registering with this hole is a generally conical, or, more particularly, frustoconical, basin or sink **12**, the latter having a flange **13** which is seated against the under side of the bottom wall of the table **10** and which is suitably secured thereto in a manner not specifically shown. Secured to the lower and smaller end of the sink **12** is a comminuting means **17** of any suitable construction and driven by a motor **18**, the comminuted garbage being discharged into a sewer line **19** through a trap **20** as is conventional.

As best shown in Figs. 4 and 5 of the drawings, the sink **12** is provided with a tangential inlet port means **25** and a lateral inlet port means **26** respectively facing tangentially and laterally of the sink to direct water tangentially and laterally thereof, the area of the tangential inlet port means **25** being large as compared to the lateral inlet port means **26** so that the water normally discharges into the sink through the tangential inlet port means with a swirling action around the sink **12**. In the particular construction illustrated, a water inlet pipe **27**, connected to any suitable source of water supply, extends into and tangentially of the generally conical sink **12** and terminates adjacent the point of tangency of the pipe to the sink to provide an open end which serves as the tangential inlet port means **25**. The lateral inlet port means **26** comprises a plurality of laterally directed ports **28** having a total area considerably less than the internal cross-sectional area of the pipe **27** so that the water normally flows freely from the open end of the pipe and produces a swirling action around the sink **12**. This is shown in Fig. 5 of the drawings. However, if the open end of the pipe **27** is closed in a manner to be described hereinafter, the water then is discharged laterally through the ports **28**, as shown in Fig. 4 of the drawings.

Secured to the inner wall of the sink **12** in alignment with the pipe **27**, but spaced slightly from the open end thereof, is a stop **31**. The purpose of this stop will be discussed hereinafter.

Adapted to seat on the flange **13** of the sink **12** and to fit in the hole **11** in the bottom wall of the table **10** is a cover **35** for the sink **12**, this cover sloping downwardly toward an opening **36** therethrough which is centrally located in the particular construction illustrated and which is bounded by a depending flange **37**. As best shown in Fig. 1 of the drawings, an overhead spray device **38** controlled by a valve **39** is provided to furnish a source of water for flushing scraps of garbage off plates and the like. Preferably, the spray device **38** is supported by a flexible conduit **40** so that the spray device

may be maneuvered around as desired in rinsing off dishes and the like and in flushing garbage rinsed from the dishes through the opening **36** in the cover **35**. A shut-off valve **41** is shown as installed in the conduit **40**, although it may be elsewhere in the system.

Carried by the cover **35** is a tableware trapping basin **46** having a lower wall **47** and side walls **48**. As best shown in Fig. 3 of the drawings, the lower wall **47** includes an apron **49** which slopes upwardly toward the lateral ports **28** in the pipe **27**. The lower wall **47** of the basin **46** terminates at its other end in a lip **50** over which water jetted or sprayed into the basin **46** is discharged, as indicated by the arrows in Fig. 3. The side walls **48** of the basin **46** are provided with tabs **54** which are welded, or otherwise secured, to the flange **37** bounding the opening **36** in the cover **35**, thereby securing the tableware basin **46** to the cover **35**. One of the side walls **48** of the basin **46** is provided with a tab **55** which is insertable into the space between the open end of the pipe **27** and the stop **31** and which serves as a closure for the tangential inlet port means **25** when it is inserted between the open end of the pipe and the stop so that it is seated on the open end of the pipe. The entire tableware basin **46** is preferably formed of sheet metal, although other materials may be employed.

Considering the operation of the invention, it will be assumed that dishes and tableware are on the table **10** for removal of scraps prior to washing. The operator uses the spray device **38** to flush table scraps from the dishes into the opening **36** in the cover **35**. In doing this, a piece of tableware may occasionally be dropped through the opening **36** also. With the cover **35** in place, the closure **55** blocks the end of the pipe **27** so that the water supplied to the comminuting means **17** is discharged laterally through the lateral ports **28** into the tableware basin **46**. The lateral ports **28** are relatively small so that the water is discharged into the tableware basin **46** with a jetting action, as indicated by the arrows in Figs. 3 and 4, which tends to carry table scraps and other garbage upwardly over the lip **50** of the tableware basin and into the sink **12**. The pieces of tableware in the basin **46**, being heavier, are not affected by the lateral water discharge from the pipe **27** and thus remain in the basin. Whenever the tableware basin **46** becomes too full, the tableware may be removed therefrom by the operator as desired.

As indicated above, the table scraps and garbage are removed from the tableware basin **46** by the jetting action of the water discharge by the lateral ports **28**. In order to prevent pooling of the water in the basin **46** from interfering with this jetting action, holes **56** for drainage are provided in the bottom of the basin **46**, although such holes may be in the side walls **48** if desired.

After all of the dishes have been flushed off in the foregoing manner, the operator removes the cover **35**, which disengages the closure **55** from the end of the pipe **27**. Consequently, the water delivered to the pipe **27** is discharged through the open end of the pipe and swirls around the sink **12** in the manner suggested in Fig. 5, thereby washing off any pieces of garbage which may have adhered to the sides of the sink **12**, which is an important feature of the invention.

In Figs. 6 and 7 is shown an alternative embodiment in which a loop **61** replaces the stop **31** and serves the same purpose. The loop **61** provides a somewhat more positive stop arrangement than does the stop **31**.

Thus, the present invention provides a garbage disposal apparatus which includes comminuting means for comminuting garbage before it is discharged into a sewer line and which includes means for salvaging any silverware dropped through the opening **36** so that such ware does not enter the comminuting means. The invention further provides a lateral jetting action for flushing garbage from the salvaged silverware and provides a swirling action upon removal of the cover assembly for flushing any garbage off the walls of the sink **12**.

Although an exemplary embodiment of the invention has been disclosed herein for purposes of illustration, it will be understood that various changes, modifications and substitutions may be incorporated in the embodiment disclosed without departing from the spirit of the invention.

The invention includes:

1. In combination: a sink with two interconnected inlet port means for water, the area of one of said inlet port means being less than that of the other so that water normally tends to discharge through said other inlet port means; and a cover for said sink carrying a closure for closing said other inlet port means, whereby the water is discharged from said one inlet port means.

2. In combination: a generally conical sink with interconnected lateral and tangential inlet port means respectively facing laterally and tangentially of said sink to direct water laterally and tangentially thereof, the area of said tangential inlet port means being large as compared to that of said lateral inlet port means so that the water normally discharges into said sink through said tangential inlet port means; a tableware basin disposed in said sink and positioned opposite said lateral inlet port means to receive water therefrom; and a removable closure in said sink seated against and closing said tangential inlet port means, whereby water is discharged from said lateral inlet port means into said basin.

3. In combination: a generally conical sink with interconnected lateral and tangential inlet port means respectively facing laterally and tangentially of said sink to direct water laterally and tangentially thereof, the area of said tangential inlet port means being large as compared to that of said lateral inlet port means so that the water normally discharges into said sink through said tangential inlet port means; a removable cover for said sink, and provided with an opening therethrough; a tableware trapping basin carried by said cover below said opening and positioned opposite said lateral intake port means to receive water therefrom when said cover is seated on said sink; and a closure carried by said cover for closing said tangential inlet port means when said cover is seated on said sink, whereby water is discharged from said lateral inlet port means into said basin.

4. The combination defined in claim 3 wherein said tangential inlet port means is one end of a pipe extending into and tangentially of said sink, and wherein said lateral inlet port means includes a plurality of holes in one side of said pipe adjacent said end thereof.

5. The combination defined in claim 3 wherein said basin is provided with holes therein for the drainage of water discharged into said basin.

6. In combination: a generally conical sink; a pipe extending into and tangentially of said sink and having an end substantially at the point of tangency of said pipe to said sink; a stop carried by said sink in alignment with said pipe and spaced from said end thereof; a removable cover for said sink and provided with an opening; a tableware trapping basin carried by said cover below and opening and positioned opposite holes in one side of said pipe so as to receive water therefrom, the total area of said holes being small as compared to the area of the end of said pipe so that water normally discharges into said sink through said end of said pipe; and a closure carried by said cover for closing said end of said pipe, whereby water is discharged from said holes into said basin.

7. The combination defined in claim 6 wherein said closure comprises a sheet metal tab insertable between said end of said pipe and said stop.

8. In a cover assembly for a generally conical sink having interconnected, lateral and tangential inlet port means respectively facing laterally and tangentially of the sink to direct water laterally and tangentially thereof,

the area of the tangential inlet port means being large as compared to that of the lateral inlet port means so that the water normally discharges into the sink through the tangential inlet port means, the combination of: a removable cover for the sink and provided with an opening therethrough; a tableware trapping basin carried by said cover below said opening therein and positioned opposite the lateral inlet port means to receive water therefrom when said cover is seated on the sink; and a closure carried by said cover for closing the tangential inlet port means when said cover is seated on the sink, whereby the water is discharged from said lateral inlet port means into said basin.

9. In a cover assembly for a generally conical sink having extending thereinto and tangentially thereof a water inlet pipe which is provided with an open end adjacent the point of tangency of the pipe to the sink and which is provided with lateral holes therein extending toward the center of the sink, there being a stop aligned with said pipe but spaced from said end thereof, the combination of: a removable cover for said sink, and provided with an opening therethrough; a tableware basin carried by said cover below said opening and positioned opposite said holes in the pipe to receive water therefrom when the cover is seated on the sink; and an element carried by said cover and insertable between said end of the pipe and said stop when said cover is seated on the sink, said element closing said end of the pipe so that water is discharged into said basin through the lateral holes in the pipe.

10. In combination: a generally conical sink; a pipe extending tangentially into said sink and terminating approximately at the point of tangency of said pipe to said sink to provide an open end; a stop carried by said sink and forming a continuation of said pipe, said stop being aligned with said pipe and being spaced from said open end thereof; a cover for said sink, and provided with an opening therethrough; a tableware trapping basin carried by said cover below said opening and positioned opposite holes in one side of said pipe adjacent said open end thereof, said holes being small as compared to said pipe so that water is normally discharged through said open end of said pipe, said basin including an apron extending upwardly toward said holes in said pipe; and a closure for said open end of said pipe carried by said cover and insertable between said open end of said pipe and said stop to close said open end of said pipe, whereby water is discharged from said holes and onto said basin.

11. In combination: a sink; cover means removably positionable over said sink and having an opening therethrough providing manual access to said sink; receptacle means below said cover and aligned with said opening; first inlet means for supplying a liquid to said sink below said cover so as to direct the same into said receptacle; second inlet means for supplying a liquid to said sink

below said cover so as to by-pass said receptacle; and means associated with said cover and operative when said cover is in a predetermined position over said sink to render said first inlet means operative and said second inlet means inoperative to supply liquid to said sink.

12. In combination: a sink; cover means removably positionable over said sink and having an opening therethrough providing manual access to said sink; receptacle means below said cover and aligned with said opening; inlet means for supplying a liquid to said sink below said cover; and means carried by said cover and cooperable with said inlet means for opening or closing said inlet means in response to movement of said cover.

13. In combination: a sink; cover means removably positionable over said sink and having an opening therethrough providing manual access to said sink; receptacle means below said cover and aligned with said opening; inlet means for supplying a liquid to said sink below said cover; and means carried by said cover and cooperable with said inlet means for opening or closing said inlet means in response to movement of said cover to control a flow of said liquid into said receptacle.

14. In combination: a sink; cover means removably positionable over said sink and having an opening therethrough providing manual access to said sink; receptacle means below said cover and aligned with said opening; inlet means for supplying a liquid to said sink below said cover; and means carried by said cover and cooperable with said inlet means for opening or closing said inlet means in response to movement of said cover to control a flow of said liquid so as to by-pass said receptacle.

15. In combination: a sink; cover means removably positionable over said sink, having an opening therethrough providing manual access to said sink; receptacle means in said sink below said cover and aligned with said opening; inlet means connected to said sink below said cover and above said receptacle and adapted to supply a liquid to said sink; and means associated with said cover and cooperable with said inlet means when said cover is in a predetermined position over said sink to control the flow of liquid from said inlet means into said sink.

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