United States Patent [19]

Kokorzycki, deceased

[11] **3,788,564**

[45] **Jan. 29, 1974**

[54] **WATER POWERED GARBAGE DISPOSAL UNIT**

[76] Inventor: **Zennon Kokorzycki, deceased,** late of 15254 Eastburn Ave., Detroit, Mich. 48205 by Genevieve Kokorzycki, Special Administratrix

[22] Filed: **Aug. 10, 1972**

[21] Appl. No.: **279,683**

[52] **U.S. Cl.** ..... **241/46 A,** 241/257 G

[51] **Int. Cl.** **B02c 18/40**

[58] **Field of Search**..... 241/46, 46 A, 46 B, 257 G

[56] **References Cited**

UNITED STATES PATENTS

2,604,633	7/1952	McPherson	241/257 G
2,902,225	9/1959	Hoaglund	241/257 G

Primary Examiner—Granville Y. Custer, Jr.

Attorney, Agent, or Firm—Robert A. Sloman

[57] **ABSTRACT**

A water powered garbage disposal unit characterized by the fact that all of the water that is used for flushing the garbage shredder is first used for driving such shredder, the admitted water first passing into an impeller chamber for driving the impeller and a shredder connected to it, and then passing into the shredder chamber for flushing the shredder.

The device is further characterized by the fact that it employs driving gears which are sealed from communication with the shredder area or chamber so that garbage within such shredder chamber will not come in contact with the driving gears. Equally, the impeller chamber is sealed from the shredder chamber so that garbage in the shredder chamber will not come in communication with the impeller.

2 Claims, 3 Drawing Figures

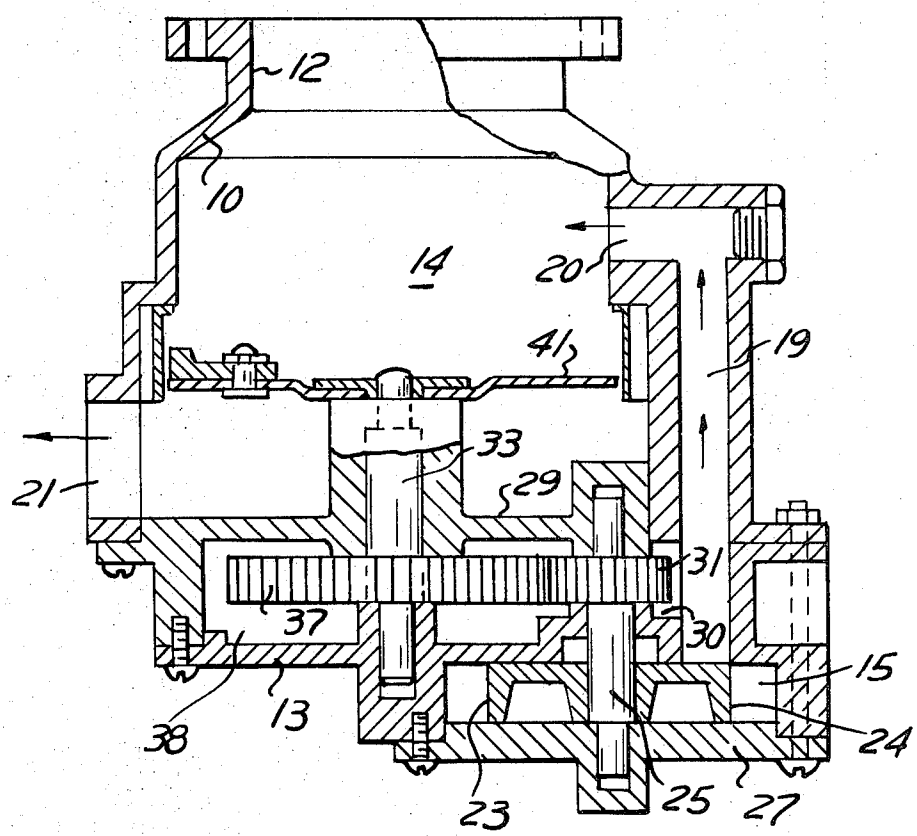
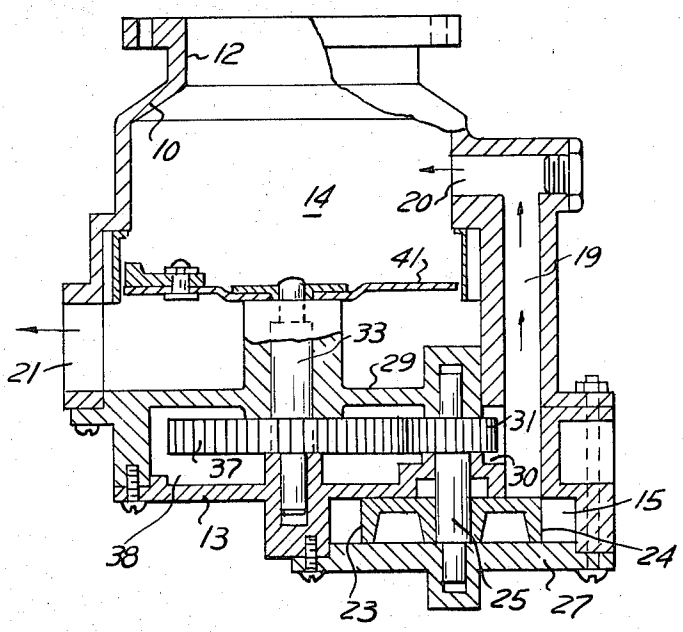


FIG. 1



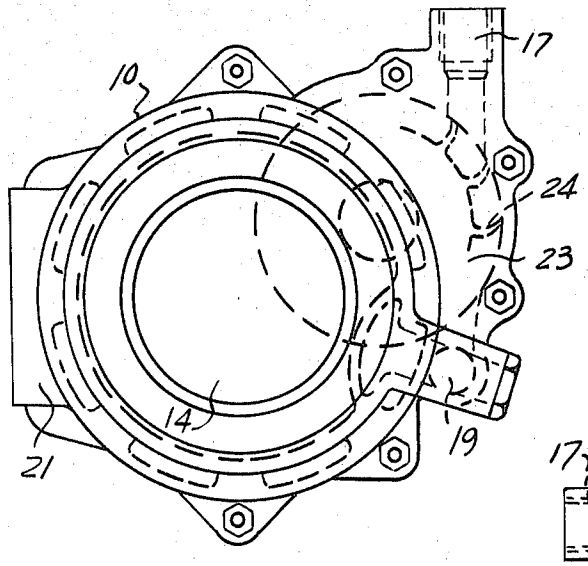


FIG. 2

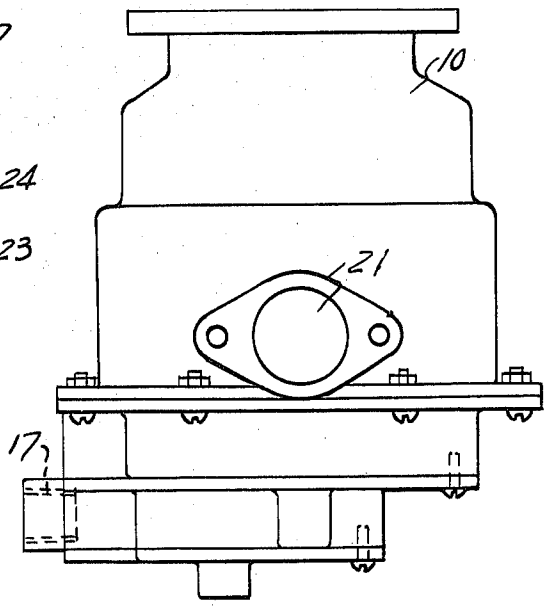


FIG. 3

WATER POWERED GARBAGE DISPOSAL UNIT

GENERAL DESCRIPTION

This application relates to certain new and useful improvements in water powered garbage disposal units. Such units have been known.

This application relates specifically to two specific areas of improvement in such units, such improvements having been outlined in a foregoing portion of this specification and described in detail in the claims which follow this specification.

A PREFERRED EMBODIMENT

A preferred embodiment containing such improvements and representing a present development of the invention is shown in the appended drawings.

In this drawing:

FIG. 1 is an elevation section view.

FIG. 2 is a top plan view.

FIG. 3 is a side elevation view as if on the left side of FIG. 1.

DETAILED DESCRIPTION

FIG. 1 shows a water powered garbage disposal unit comprising a casing **10** having an open upper end **12** and a closed lower end **13** and having a central shredder chamber **14.** Casing **10** has an integral supplemental side or impeller chamber **15** below and to one side of shredder chamber **14.**

A water inlet **17** communicates to impeller chamber **15.** A vertical side passage **19** in a wall of the casing communicates with the impeller chamber **15** and opens at **20** into the upper portion of the shredder chamber **14.** A side drain **21** opens from the lower portion of shredder chamber **14.**

A horizontal rotary impeller **23** in impeller chamber **15** is so positioned that edge blades **24** intercept water flow from inlet **17** to side passage **19** whereby impeller **23** will be rotated by water entered through inlet **17.** Inlets **17** and passage **19** are at substantially diametrically opposite points of impeller **23** and impeller chamber **15.**

Impeller **23** is mounted on a vertical drive shaft **25** journalled at its ends in lower and upper horizontal wall parts **27–29** of impeller chamber **15.** Shaft **25** has a pinion **31** in the hollow space **30** under wall part **29.**

A vertical driven shaft **33** in shredder chamber **14** is laterally spaced from drive shaft **25** and has its ends journalled in upper and lower horizontal wall parts **29–13** of shredder chamber **14** and has a gear **37** on it, meshing with pinion **31,** and located in a hollow or space **38** between wall parts **13–29.**

On the upper end of driven shaft **33** is a shredder **41,** above drain **21** and wall part **29,** and exposed to the open upper end **12** of casing **10** and to the upper end **20** of side passage **19,** to receive garbage dropped into shredder chamber **14** through its open upper end **12** and to receive water from side passage **19–20** for flushing, all draining at **21.**

All water flow from inlet **17** to side passage **19** is used to drive impeller **23** and, thus, the shredder **41;** and is also used secondarily to flush garbage at shredder **41** into drain **21.** Thus, all the water that is used to flush the shredder will first be used to drive the shredder.

Total water supply will be available for driving the shredder as well as for flushing the shredder.

Since gears **31—37** are located in sealed chambers **30–38,** they are not exposed to garbage in shredder chamber **14.** Likewise, impeller **23** and its chamber **15** are sealed from shredder chamber **14** and, thus, are not exposed to garbage in such shredder chamber.

CONCLUSION

From the foregoing it will be seen that there has been disclosed here an improved garbage disposal unit of the water power type, characterized by the fact that all of the water that is available is used first to drive the shredder and secondarily, to flush the shredder. The unit is further characterized by the fact that the drive gearing and the drive impeller are sealed against being exposed to garbage at the shredder.

Now having described the water powered garbage unit herein disclosed, reference should be had to the claims which follow.

I claim:

1. A water powered garbage disposal unit comprising a casing having an open upper end and a closed lower end and having a central shredder chamber;

the lower end of the casing being formed to provide an integral supplemental impeller chamber below and connected to the shredder chamber of the casing;

a water inlet passage opening into the impeller chamber;

said casing having a vertical side passage communicating with the impeller chamber and opening into the upper portion of the shredder chamber of the casing;

and a side drain opening from a lower portion of the shredder chamber;

a horizontal rotary impeller in the impeller chamber positioned so that blades on its edge intercept water flow from the inlet to the side passage whereby the impeller will be rotated by the water passing from inlet to passage, these being at substantially diametrically opposite parts of the impeller chamber;

a vertical drive shaft journalled at its ends in lower horizontal wall parts of the impeller chamber and having a pinion fixed to it, above the impeller chamber;

a vertical driven shaft in the shredder chamber laterally spaced from the drive shaft and journalled in lower horizontal wall parts of the shredder chamber and having a gear thereon meshing with the pinion and being below the shredder chamber;

a horizontally disposed shredder on the upper end of the driven shaft in the shredder chamber and above the drain and exposed to the upper end of the casing and to the upper end of the vertical side passage, to receive garbage dropped into the shredder chamber through its open upper end and to receive water from the upper end of the vertical side passage;

with the meshing gears being sealed from communication with both chambers and with the impeller also being sealed from communication with garbage at the shredder;

and with all water flow from inlet to drain passing first into the impeller chamber and from there through the side passage into the shredder chamber.

2. A water powered garbage disposal unit comprising a main casing having an open upper end and a closed lower end and formed to provide separate and distinct chambers;

one chamber being a shredder chamber directly under the open top of the casing and the other being an impeller chamber below and to one side of the shredder chamber;

a water inlet opening into the impeller chamber;

a garbage and water drain opening from the shredder chamber;

and said casing further having a vertical side bore water passage opening into the upper parts of both said chambers and providing the sole water communication between the impeller chamber and the shredder chamber;

a horizontal rotary impeller in the impeller chamber positioned so that blades on its edge intercept water flow from the inlet to the lower end of said passage;

a vertical drive shaft journalled in vertically spaced upper and lower walls of the impeller chamber and having a pinion fixed to it, above the impeller chamber and located in such space above such chamber;

a horizontal rotary shredder in the shredder chamber positioned above the drain but below the open top

of the shredder chamber and below the upper end of the side passage to intercept garbage and water flow from the upper part of the shredder chamber to the drain;

and a vertical driven shaft journalled in vertically spaced lower walls of the shredder chamber and having a gear fixed to it, meshing with said pinion, and below said shredder chamber;

whereby all water entering the inlet will first pass through the impeller chamber on its way through the side passage to the shredder chamber and then to the drain;

and whereby no garbage passing through the shredder chamber from the open top through the shredder and to the drain will enter the impeller chamber;

and whereby the meshing gears are sealed from both chambers, with a pinion being located in a hollow part of the upper wall of the impeller chamber and the gear being located in a hollow part of a lower wall of the shredder chamber;

these hollow wall parts having adjacent intercommunicating side openings providing clearance for the gear and pinion, with such hollow wall parts being sealed from the impeller and shredder chambers.

* * * * *