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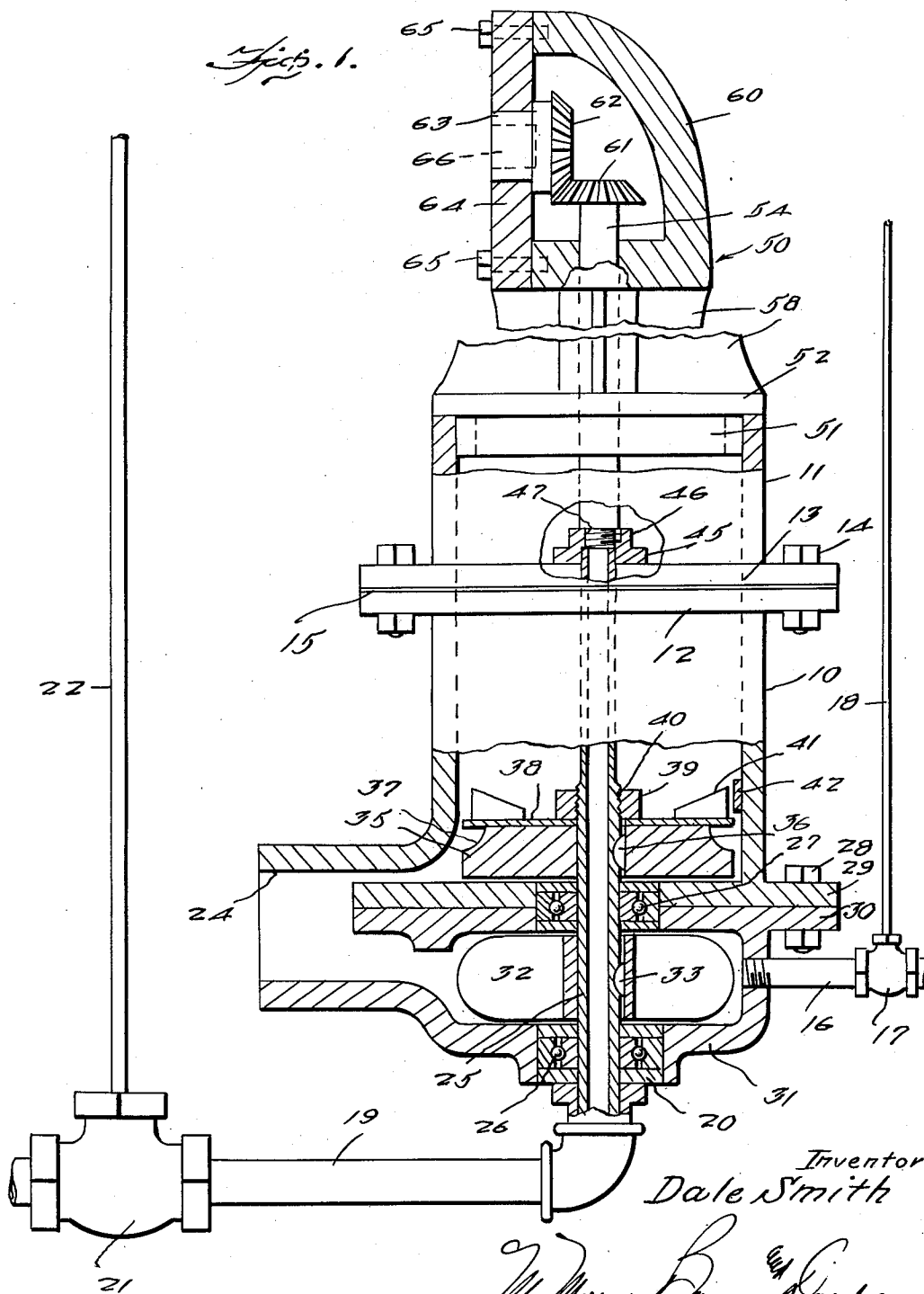
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2,508,583

GARBAGE DISPOSAL UNIT AND POWER HEAD THEREFOR

Filed July 12, 1946

2 Sheets-Sheet 1



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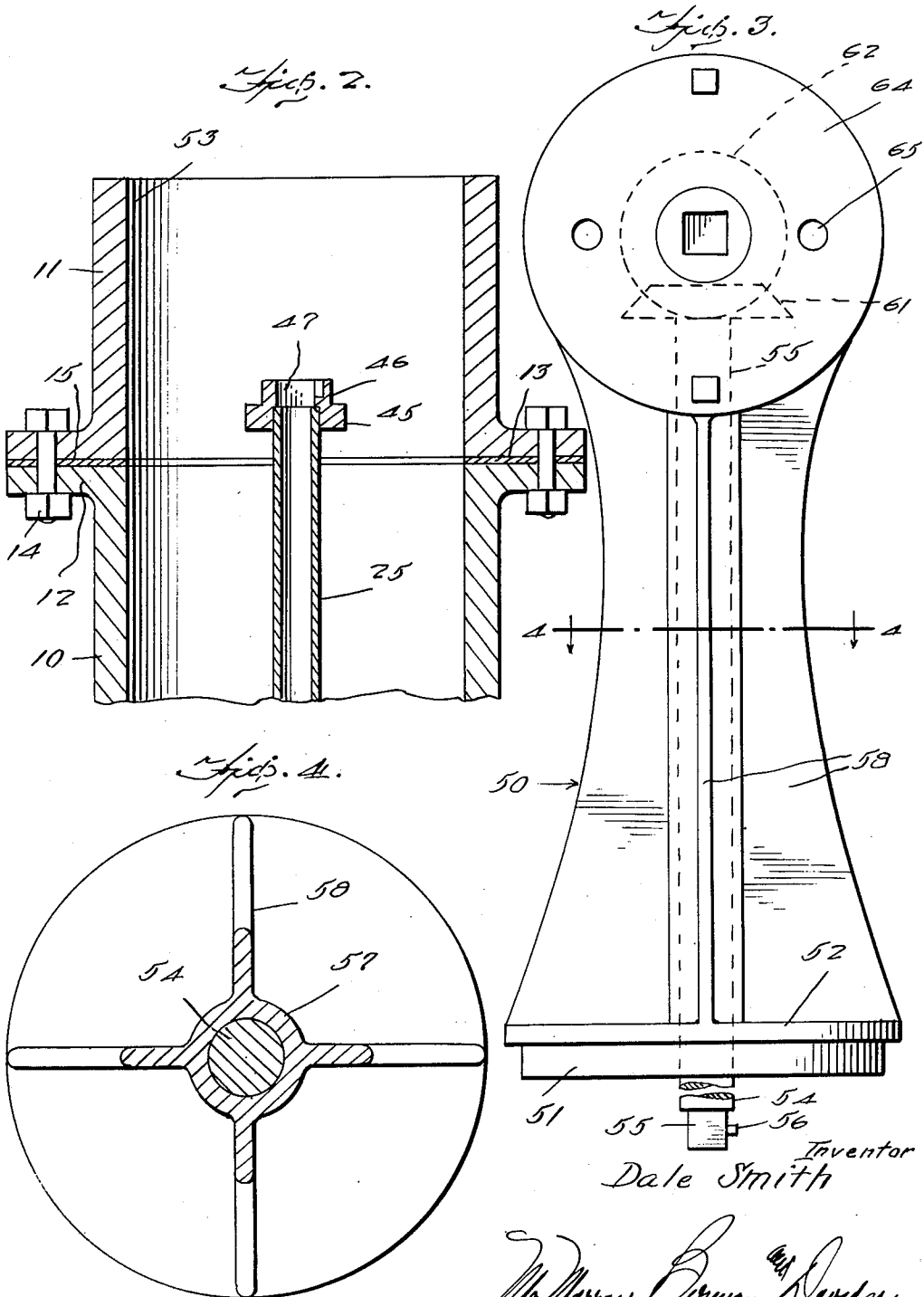
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UNITED STATES PATENT OFFICE

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GARBAGE DISPOSAL UNIT AND POWER
HEAD THEREFOR

Dale Smith, Englewood, Ohio

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1 Claim. (Cl. 241-257)

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This invention relates to a garbage disposal unit and power head therefor, and more particularly to such a unit adapted to be utilized in conjunction with the conventional sink in a dwelling, a restaurant, or the like.

A primary object of this invention is the provision of an improved unit characterized by ready association with a sink or the like, which may be used to macerate and dispose of food waste or garbage with a minimum of effort and difficulty.

A further object of the invention is the provision of such a mechanism which may be readily and simply installed and operated from the sink or drain board level with a minimum of difficulty.

Still another object of the invention is the provision of such a mechanism which is powered hydraulically.

A still further object of the invention is the provision of such a device characterized by a detachable power head which may be utilized for driving a variety of kitchen mechanisms, such as mixers, beaters, grinders, and the like.

Still other objects reside in the combinations of elements, arrangements of parts, and features of construction, all as will be more fully pointed out hereinafter and shown in the accompanying drawings, wherein there is disclosed a preferred embodiment of this inventive concept.

In the drawings:

Figure 1 is a side vertical view, partially in section and partially in elevation, disclosing one form of device embodying features of the instant invention.

Figure 2 is an enlarged fragmentary sectional view showing certain structural details.

Figure 3 is an enlarged front elevational view of the power head adapted to be associated with the mechanism.

Figure 4 is a sectional view taken substantially along the line 4-4 of Figure 3, as viewed in the direction indicated by the arrows.

Similar reference characters refer to similar parts throughout the several views of the drawings.

Referring now particularly to Figure 1, the device of the instant invention includes two casings, a lower casing 10, and an upper casing 11, provided with flanges 12 and 13, respectively, and secured in related assembly, as by bolts and nuts 14, a sealing gasket 15 being provided between the two flanges. In the preferred embodiment of the instant invention, the bottom of the sink, or the like, is apertured and positioned between the upper and lower body portions.

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The lower body portion is provided at one side thereof with a cold water inlet fed by a cold water pipe 16, provided with a valve 17 operable by a rod 18 extending upwardly to any desired source, as for example, the drain board of a sink.

A hot water inlet pipe 19 extends through a suitable sealing gasket 20 into the bottom of the casing, and is controlled by a valve 21 which in turn is controlled by a control rod 22 extending upwardly to any desired remote locality.

The casing is also provided with a relatively large water and garbage or waste outlet 24.

Extending upwardly from the hot water inlet 19 is a tubular member 25, journaled in a bearing 26 in the lower part of the casing, and in a second bearing 27 situated in a partition 28 formed by two flanges 29 and 30, secured together, as by bolts, and dividing the lower casing into a casing proper and a removable plate portion. The space between the partition 28 and the bottom 31 of the housing contains a water motor or rotor 32, provided with a plurality of blades, and keyed, as by a key 33, to the revoluble sleeve 25. The cold water inlet 16 is adapted to strike the motor, and by impact against the blades thereof cause rotation of the shaft 25, the water subsequently escaping through the outlet 24.

Above the partition 28, a fly wheel 35 is keyed, as by a key 36, to the sleeve 25, and is provided about its upper surface with an annular groove 37, to permit the passage of garbage passed down therethrough into the outlet 24 above the partition 29.

A perforated strainer plate 38 is secured above the fly wheel 35 and held in position, as by a lock nut 39, suitably engaging threads 40 on the tubular member 25. The strainer plate 38 is suitably perforated, and provided with macerating or cutting knives 41, adapted to coact with fixed knives 42 secured to the inner wall of the casing in such manner as to complete the fine chopping up of garbage or waste material passed into the device.

The upper portion of the tube 25 terminates in a flange 45, provided with a boss 46 in which is positioned a socket 47 for a purpose to be more fully described hereinafter.

From the foregoing the operation of the device should now be readily understandable. Cold water is injected into the device through the inlet 16, and garbage dropped into the top thereof. The cold water striking the water motor 32 causes rotation of the fly wheel, and consequent rotation of the blades 41 against the blades 42, which thoroughly macerates the garbage and passes the same through the outlet 24 where it is washed

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away by the water. Simultaneously hot water may be introduced through the inlet 19 to further the washing out of the garbage, or conversely, if no garbage is to be destroyed, the hot water introduced through the outlet may serve the purpose of washing dishes, or the like.

Under certain conditions it is desired to derive power from the water motor and its driven shaft 25. For this purpose a power head generally indicated at 50 is provided, and includes a downwardly depending annular flange 51, surrounded by a peripheral flange 52, adapted to seat within the recess 53 formed at the top of the upper section 11. A power shaft 54 depends below the rim 51, and is provided with a member 55 having a key 56 thereon adapted to engage in the socket 47. The body portion of the power head 50 includes a circular member 57, provided with reinforcing flanges 58, the member 57 being tubular in form and adapted to closely surround the power shaft 54.

The upper portion of power head 50 terminates in a casing 60, having a recess therein, within which the extremity of the shaft 54 terminates in a bevel gear 61. Bevel gear 61 engages a corresponding bevel gear 62, mounted on a stub shaft 63, which extends through a face plate 64 secured to the housing 60, as by bolts 65. The shaft 63 is provided with an internal socket 66, and, when rotated through the bevel gears 61 and 62, is adapted for the driving of any suitable power mechanism having a portion adapted to engage in the socket 66.

From the foregoing, it will now be seen that there is herein provided an improved garbage disposal device, dish washing machine, and power head therefor, which accomplishes all the objects of this invention, and others, including many advantages of great practical utility and commercial importance.

As many embodiments may be made of this invention, and as many modifications may be made in the embodiment hereinbefore shown and

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described, it is to be understood that all matter herein is to be interpreted merely as illustrative and not in a limiting sense.

I claim:

- 5 A hydraulic garbage disposal unit comprising a vertical cylindrical casing having an inlet at the top for feeding garbage into the casing, a lateral outlet adjacent the bottom of the casing, a horizontal partition in the casing aligned with said outlet but of less thickness than the vertical dimension of the outlet, a vertical shaft rotatably mounted in and extending above and below the partition, a rotor having vanes mounted on the shaft for horizontal rotation beneath and adjacent said partition, means for injecting fluid into the side of the casing and against the vanes for driving the rotor, a flywheel of slightly less diameter than the casing mounted on the shaft for horizontal rotation immediately above said partition, garbage macerating means mounted on the flywheel adjacent its periphery, and means for introducing fluid into the casing above said macerating means, space being provided in the casing laterally of the flywheel for passage of the macerated material into said outlet above the partition and for ejection from the casing of the drive fluid into said outlet from beneath the partition.

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