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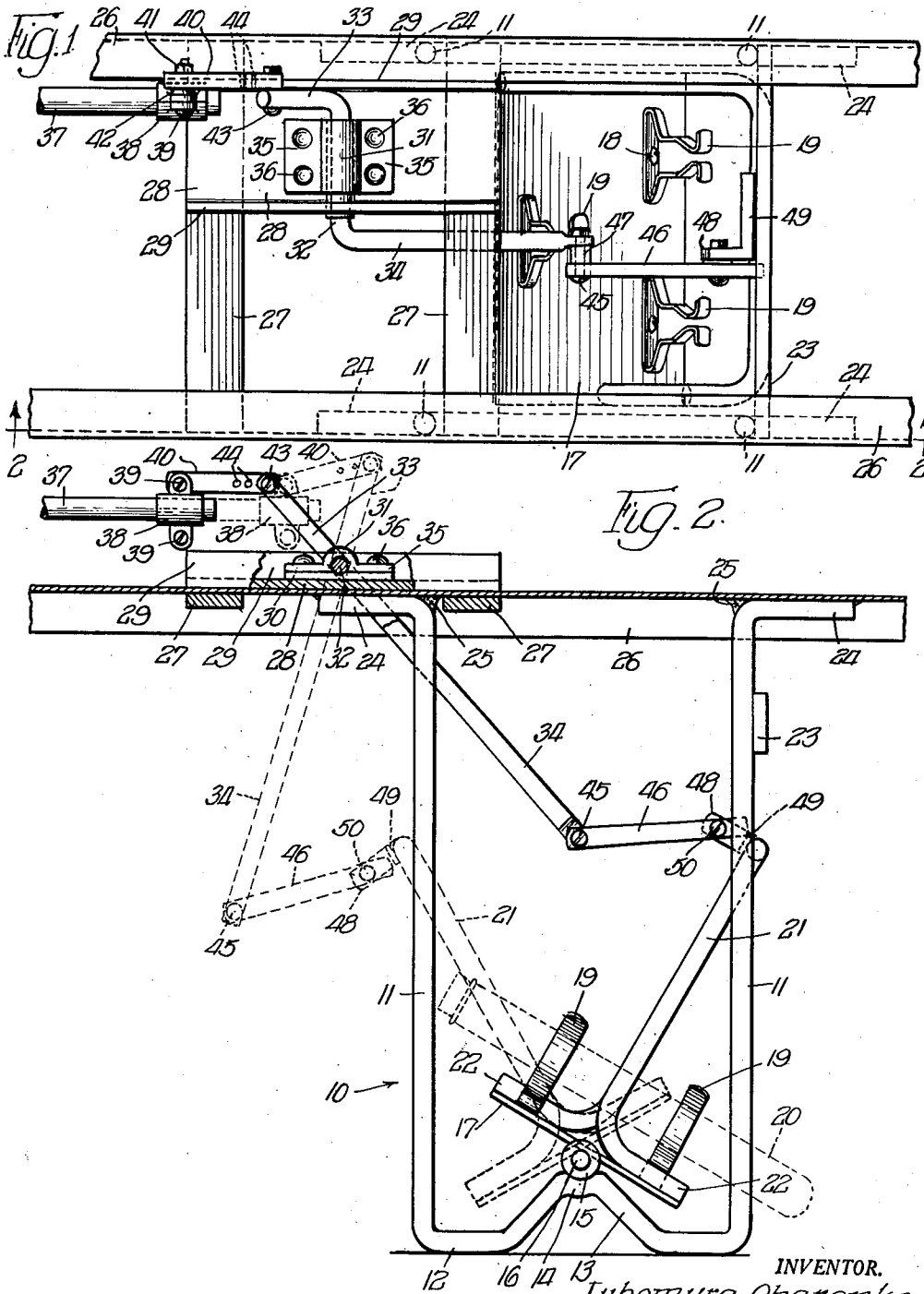
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RETORT SHAKING APPARATUS

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2 Sheets-Sheet 1



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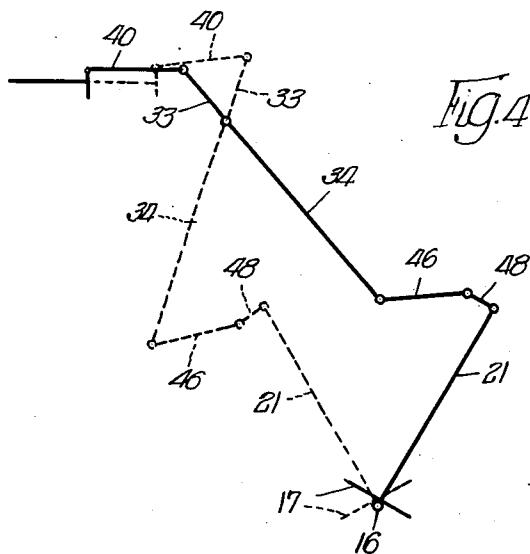
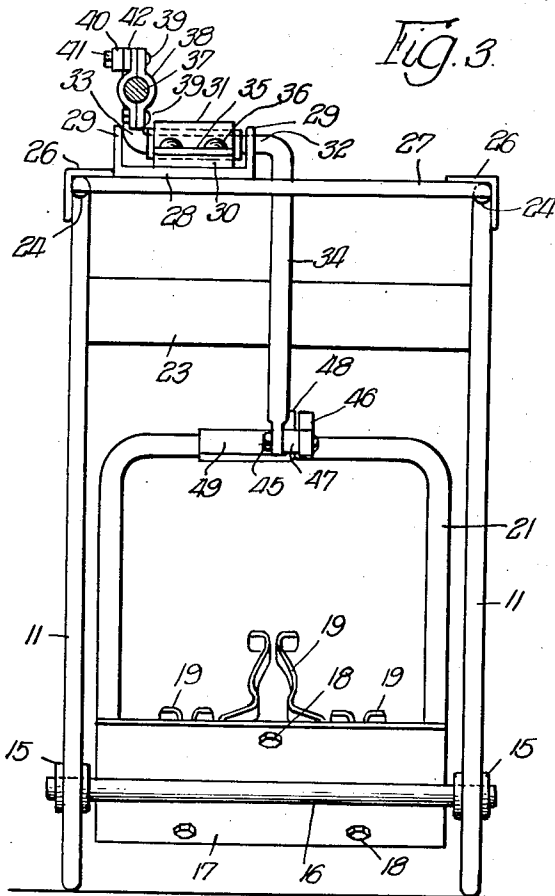
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RETORT SHAKING APPARATUS

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2 Sheets-Sheet 2



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## RETORT SHAKING APPARATUS

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4 Claims. (Cl. 259—75)

The present invention relates to a retort shaking device and has for its main object the provision of a retort shaking device which may include a rocking platform upon which one or more retorts containing chemical ingredients or mixtures thereof may be supported for a rocking movement for a thorough mixing of the retort contents, with a suitable mechanism for imparting a rocking movement to the platform.

A still further object of the present invention is the provision of a retort shaking device of the character indicated including a suitable frame in and upon which a retort supporting platform may be supported for rocking movement.

Another object of the present invention is the provision of a suitable mechanism for imparting a rocking movement to the retort supporting platform, with means for regulating the degree of the rocking movement of the platform.

A further object of the present invention is the provision in a retort shaking device of the character indicated of a suitable supporting means for the device upon the rim of a container containing boiling water or the like for removably immersing the platform supporting frame in the water or any other heat imparting medium when it becomes necessary to bring about the shaking operation of the retorts in the surrounding of increased temperature.

A still further object of the present invention is to generally improve and to render more efficient the devices of the character indicated.

With the above general objects in view and others that will appear as the invention is better understood, the same consists in the novel construction, combination and arrangement of parts hereinafter more fully described, illustrated in the accompanying drawings and pointed out in the appended claims.

In the drawings forming a part of this application and in which like designating characters refer to corresponding parts throughout the several views;

Fig. 1 is a top plan view of the present invention;

Fig. 2 is a cross sectional view on line 2—2 of Fig. 1;

Fig. 3 is an end elevational view thereof; and

Fig. 4 is a diagrammatical view of the parts of the mechanism for imparting a rocking movement to the retort supporting platform, illustrating their maximum shifted position in either direction when the platform has been shifted to the maximum of the two angular positions thereof in its rocking movement.

Referring in detail to the present drawings there is shown therein a pair of substantially U-shaped frame members 10, each of which includes a pair of vertical bars 11. The lower ends of said vertical bars 11 in each frame member 10 are connected by horizontal member 12. Each member 12 has at its center an upwardly offset bearing supporting member 13 substantially of an inverted V-shape. The upper end of each member 13 is blunt and downwardly curved as at 14 for providing a seat for an annular bearing 15, as seen in Fig. 2.

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There is a pair of bearings 15 supported upon members 13. Shaft 16 by its ends is passed through and is supported by said bearings 15. If bearings 15 are rigidly affixed to seats 14, which may be a preferable arrangement, in that event shaft 16 will be freely positioned within bearings 15 for rocking movement therewithin.

Located intermediately of said frame members 10 is platform 17 which by its underface and along its longitudinal center is affixed to said shaft 16. Affixed to the upper face of said platform 17 by means of screws 18 or other suitable means, is a plurality of leaf clamps 19 for clamping one or more retorts 20 for rigidly supporting the same upon and above the upper face of said platform 17 in a transverse relation therewith.

Disposed above said platform in a longitudinal central relation is a U-shaped rocking member 21, the lower ends of which have integrally formed legs 22 directed into opposite directions, which are welded to the upper face of platform 17, or otherwise rigidly affixed thereto, adjacent the ends of said platform 17.

One or more transverse braces 23 connect the opposed vertical bars 11 in the pair of frame members 10 for the purpose of maintaining said frame members 10 in a rigidly connected relation for imparting sturdiness to the platform supporting frame.

Rigidly formed with vertical bars 11 in each frame member 10 are horizontal extensions 24 turned to the opposite directions, as is best shown in Fig. 2. Said extensions 24 in each frame member 10 are secured by welds 25, or by any other suitable means, to the horizontal portion of one of the angle horizontal frame bars 26.

The two frame bars 26 may be as long as desired. The same remain in a spaced relation and are rigidly connected by a pair of horizontal transverse braces 27, the ends of which are disposed below and in a contactual relation with the horizontal portions of said angle frame bars 26.

The free ends of said frame bars 26 may extend as far from the platform supporting frame, including said vertical bars 11 as may be desired, and said free ends of said frame bars 26 may be mutually interconnected by braces such as braces 27 to form handles to be manually grasped for lifting or moving the device.

Supported upon the pair of braces 27, in a transverse relation therewith, and adjacent one of said frame bars 26 is a ledge, including base 28 and vertically extending sides 29.

Supportable upon base 28 in a rigid relation is bearing base 30, over which bearing cap 31 is fitted, and in conjunction with which the same defines a bearing for reception of the horizontal portion 32 of a crank, the latter including upwardly directed upright portion 33 and a downwardly directed lower portion 34. Said bearing cap 31 has a pair of laterally projecting flanges 35, whereby said bearing cap 31 may be secured to bearing base 30 by means of screws 36. Said screws 36 may extend to and engage base 28 whereby the bearing may be rigidly secured to the latter.

The end of said horizontal portion 32 of the crank, which is adjacent to the longitudinal center of the device may be passed through the adjacent side 29 as is seen in Figs. 1 and 3.

The device further includes a reciprocating shaft 37 supported in any suitable manner above the plane of said frame bars 26 for a reciprocating shifting movement. The outermost end of said shaft 37 may be disengageably connected with any source of motive power (not shown) such as motor or the like for imparting thereto a reciprocating shifting movement.

The proximate end of said shaft 37 is engaged by a pair of flanged clamping straps for defining clamp 38.

The flanges of said clamping straps may be engaged by screws 39 for maintaining the clamp in an operative engagement with shaft 37. The upper screw 39 is made sufficiently long to provide a pivot for one end of arm 40.

Nut 41 engages the free end of said upper screw 39. Spacer 42 set upon said upper screw 39 is interposed between the adjacent flange of clamp 38 and said arm 40, as is clearly seen in Fig. 3.

The opposite end of said arm 40 is pivotally connected with the upper free end of the upper upright portion 33 of the crank, through the medium of screw and nut connection 43. A plurality of apertures 44 may be made upon the adjacent end of said arm 40 for selectively engaging the free upper end of said upper upright portion 33 of the crank for regulating the degree of leverage, that is the degree of angular shifting movement of the crank.

The lower free end of the lower upright portion 34 of the crank is flattened and through the medium of bolt and nut fastener 45 pivotally engages the adjacent end of link bar 46. Spacer 47 is interposed between the adjacent end of said lower upright portion 34 of the crank and the adjacent end of said link bar 46.

Substantially centrally of the upper horizontal portion of the U-shaped rocking member 21 there is a lug 48 projecting therefrom in a lateral direction. One suggested means for affixing said lug 48 to said horizontal portion of the U-shaped rocking member 21 is an angularly extending member 49 projecting from the lower end of said lug 48, which said member 49 may be welded or otherwise rigidly affixed to said upper horizontal portion of said U-shaped rocking member 21, as is seen in Figs. 1 and 3.

The opposite end of said link bar 46 is pivotally affixed to the free end of said lug 48 by means of bolt and nut connection 50.

From the hereinabove description it will be readily seen that the crank including upright portions 33 and 34 thereof are angularly shifted when a reciprocating movement is imparted to shaft 37 for the purpose of imparting an angular shifting movement in opposite directions to said U-shaped rocking member 21, by virtue of connection through the medium of link bar 46. Angular shifting movement of said rocking member 21 will effect the rocking movement to platform 17.

The degree of the angular shifting movement of the crank, including portions 33 and 34 thereof, may be decreased or increased by shifting the upright vertical portion 33 of the crank along said arm 40 and connecting the same thereto and selectively transposing the nut and screw connection 43 at the point of the selected aperture 44. By virtue of this arrangement the U-shaped rocking member 21 will be caused to shift to a greater or smaller extent, depending upon the point of connection of said portion 33 with arm 40, for thereby selectively increasing or decreasing the degree of the angular rocking movement of platform 17.

From the hereinabove description it will be apparent that on disconnecting of the far end of reciprocating shaft 37 from its source of motive power the device herein disclosed may be transported and set up at any convenient place. By virtue of this arrangement the frame, including vertical bars 11, horizontal members 12 and supporting members 13, together with shaft 16 and platform 17, may be immersed within any heat exchange medium, such as boiling water in a container so that a suitable temperature may act upon retorts 20 when supported by platform 17 and thereby act upon the contents of said retorts for speeding their reaction or for any other desired processes while the contents in retorts 20 undergo the shaking operation.

When the temperature source, such as boiling water, is contained in a pot or like receptacle, the frame bars 26 will be supported by the rim of the receptacle with the vertical bars 11 depending therefrom in a downward direction within the receptacle, and with them platform

17 and retorts 20 immersed in the water, while said retorts undergo a shaking process, presupposing of course that the far end of the reciprocating shaft 37 has been first connected with a source of motive power.

It is of course within the purview of the present invention that the upper upright portion 33 of the crank may be entirely disconnected from the reciprocating shaft 37, in which event manual oscillatory movement to said portion 33 may be imparted, when for a thorough mixing of the contents of retorts 20 the shaking operation thereof of any great duration is not required. It is only when it is desirable to impart a shaking operation to retorts 20 over an appreciably longer period of time that the connection of the free end of the upper upright portion 33 of the crank with shaft 37 through the medium of arm 40 may be desirable or advantageous.

The extreme maximum positions of the several parts of the device for imparting a rocking movement to platform 17 is shown in full and dotted lines in Figs. 2 and 4.

It is further observed that when retorts 20 are in a transverse relation with platform 17, that is in a coincidental relation to the direction of the rocking movement of platform 17, as is shown in Fig. 2, retorts 20 will be shaken in the direction of their longitudinal axes, which condition will be the most practicable for a thorough mixing of the contents of the retorts.

As is obvious the crank, including its horizontal portion 32 and its vertical portions 33 and 34, may be substituted by a straight arm pivoted intermediately of its ends within the frame defined by said frame members 10 or within the frame bars 26, in which event the pivot thereof would functionally correspond to the horizontal portion 32 of the crank. Such an arm would constitute the modification of the crank defined.

While there is described herein a preferred embodiment of the present invention, it is nevertheless to be understood that minor changes may be made therein without departing from the spirit and scope of the invention as claimed.

What I claim as new is:

1. A retort shaking device comprising a pair of spaced frame members, each frame member having a pair of spaced vertical bars connected at their lower ends by a horizontal member having its ends terminating in said vertical bars, a pair of spaced interconnected horizontal bars, each connected to the upper ends of the vertical bars, means on said frame members extending laterally substantially beyond the lateral confines of said frame members, a platform pivoted to and between said lower horizontal members, an upwardly directed rocking member rigidly connected with said platform, a crank member pivoted to the upper horizontal frame bars, linkage means interconnecting the upper end of said rocking member and said crank member, and a reciprocable shaft pivoted to said crank member, whereby said shaking device may be suspended in a container containing boiling water with said laterally extending means resting on the rim of said container.

2. A retort shaking device comprising a pair of spaced frame members, each frame member having a pair of spaced vertical bars connected at their lower ends by a horizontal member having its ends terminating in said vertical bars, a pair of spaced interconnected horizontal bars, each connected to the upper ends of the vertical bars, said horizontal bars having their end portions extending laterally substantially beyond the lateral confines of said frame members, a platform pivoted to and between said lower horizontal members, an upwardly directed rocking member rigidly connected with said platform, a crank member pivoted to the upper horizontal frame bars, linkage means interconnecting the upper end of said rocking member and said crank member, and a reciprocable shaft pivoted to said crank member, whereby said shaking device may be suspended in a container containing boiling water with said laterally ex-

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tending end portions of said horizontal bars resting on the rim of said container.

3. A retort shaking device comprising a pair of spaced frame members, each frame member having a pair of spaced vertical bars connected at their lower ends by a horizontal member having its ends terminating in said vertical bars, a pair of spaced interconnected horizontal bars, each connected to the upper ends of the vertical bars, means on said frame members extending laterally substantially beyond the lateral confines of said frame members, a platform pivoted to and between said lower horizontal members, an inverted U-shaped rocking member rigidly connected with said platform to extend upwardly from and medially of said platform, a crank member pivoted to the upper horizontal frame bars, linkage means interconnecting the upper end of said rocking member and said crank member, and a reciprocable shaft pivoted to said crank member, whereby said shaking device may be suspended in a container containing boiling water with said laterally extending means resting 20 on the rim of said container.

4. A retort shaking device comprising a pair of spaced frame members, each frame member having a pair of spaced vertical bars connected at their lower ends by a horizontal member having its ends terminating in said 25 vertical bars, a pair of spaced interconnected horizontal

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bars, each connected to the upper ends of the vertical bars, means on said frame members extending laterally substantially beyond the lateral confines of said frame members, a platform pivoted intermediate its ends to and between said lower horizontal members, an upwardly directed rocking member rigidly connected with said platform, a depending crank member pivoted intermediate its ends to the upper horizontal frame bars, linkage means interconnecting the upper end of said rocking member and the lower end of said depending crank member, and a horizontally extending reciprocable shaft pivoted to the upper end of said depending crank member, whereby said shaking device may be suspended in a container containing boiling water with said laterally extending means 15 resting on the rim of said container.

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