

Dec. 28, 1965

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3,225,938

SUPPORTING TRAY FOR VESSELS

Filed May 23, 1963

FIG. 1.

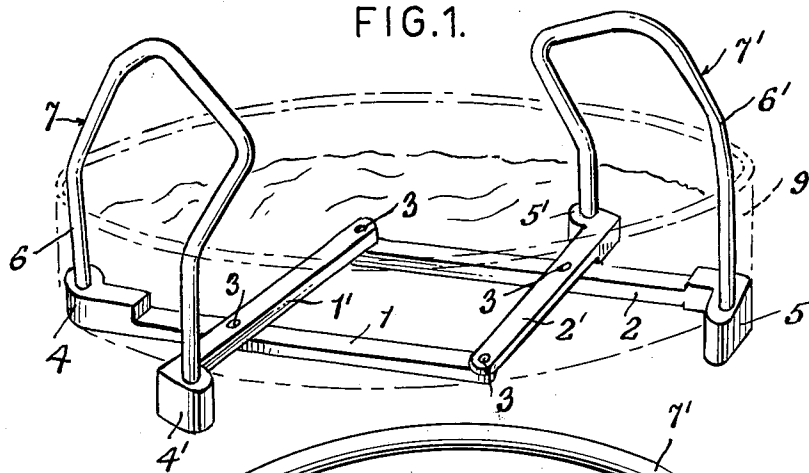


FIG. 2.

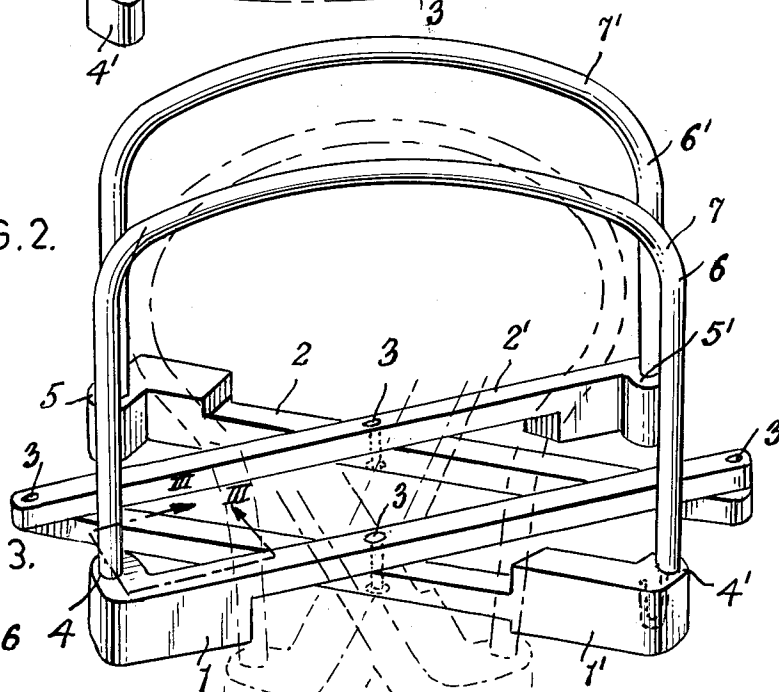
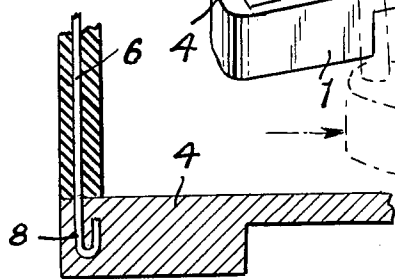


FIG. 3.



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SUPPORTING TRAY FOR VESSELS

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Filed May 23, 1963, Ser. No. 282,773

Claims priority, application Sweden, June 21, 1962,
6,985/62

4 Claims. (Cl. 211-85)

The present invention relates to a device or supporting tray for hot vessels, said support tray comprising an optional number of rods extending longitudinally, said rods being pivotally connected with each other in the form of a lazy-tong arrangement, the rods being arranged to be displaced by means of spring action by which the support tray is contracted. The device includes erect substantially inverted U-shaped clamps rigidly fixed at the free ends of the rods, said clamps being adapted to engage against the outer surface of the vessel and thus engaging said vessel, so that the support tray follows with the vessel, when said vessel is lifted.

A plurality of different constructions of this type of support tray are earlier known. In all previous constructions, separate springs are arranged at the rods, in order to achieve automatic contraction of the trays, so that the clamps are brought to press against the outer sides of the vessels. As a result when any spring loosens, the support tray cannot function in the intended manner. Moreover, the springs complicate the cleaning of the support tray and entail a rather difficult and expensive manufacturing process.

In order to eliminate these above-mentioned disadvantages the present invention has been evolved.

The device according to the present invention is substantially characterized in that the U-shaped clamps are resilient per se, and that each clamp has its ends connected with the free ends of two, in relation to each other, pivoted rods, whereby the clamp, by its spring action, is brought to press the free ends of the rods in a direction away from each other, the support tray being automatically contracted, so that the clamps thereby press against the outer surface of the vessel.

Furthermore, the device is characterized in that the free ends of the rods are embodied in, perpendicularly to the longitudinal direction of the rods, projecting flanges, in which the clamps are secured.

One embodiment of the device according to the invention is now described with reference to the drawing, wherein

FIG. 1 is a perspective view of the support tray, a flat vessel being inserted therein and shown in dotted lines,

FIG. 2 is, on a larger scale, a perspective view of the support tray in a nearly contracted position, and the spring action of the clamp being shown in dotted lines, when the support tray is expanded for application, and

FIG. 3 is, on the same scale, a vertical section through one of the rods, and the connection of the clamp to the rod is being shown.

1 and 1' as well as 2 and 2' designate the rods, which in a known manner by means of pivot pins 3 or similar elements, are pivotally connected with each other, so as to form a so-called lazy-tong arrangement. The rods 1, 1', 2, 2' are at their free ends embodied in, perpendicularly to the longitudinal direction of the rods, projecting lugs 4, 4' as well as 5, 5', the clamps 6, 6'—consisting of wire composed of spring-steel or similar material, coated with elastic material 7, 7'—are secured in said lugs. The clamps 6, 6' are at their free end-portions suitably bent in U-shape 8, in order to allow a secure attachment to the rods.

As it is clearly apparent from FIG. 2, the clamps 6, 6' are substantially U-shaped and strive, by their spring

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action, to press the free ends of the rods away from each other. When these ends, by applying manual force are, brought towards each other, i.e. against the spring action of the clamps, the legs of the clamp will also follow in this movement. Since the clamps are non-pivotally secured in the rods, the clamps being resilient act as torsion springs, which resiliency substantially increases their spring- or tension force, the tension force between the clamps and the vessel, being relatively high.

The clamps per se achieve the resilience required to retain the vessel rigidly on the support tray, for which reason separate springs for the purpose are not necessary.

The projecting lugs 4, 4', 5, 5', in which the clamps are secured, bring about increased balance and the stability of the support tray, when the tray is in an expanded position, i.e. when a vessel is placed on the tray.

The elastic coating 7, 7' of the clamps consists suitably of heat-resistant, soft plastic material, the outer surfaces of which frictionally engages against the vessel to secure a good fit around same.

The clamps, in their upper portions, are inclined towards each other, as a result there is obtained a good fit against vessels which are conically shaped upwardly, i.e. having their largest cross-section area in their lower portion. In shallow vessels 9, for example dishes and similar containers, the upper portions of the clamps serve as handles for lifting the vessel and the support tray on which it is rested.

A further effect served by the device according to the invention is, that the portion between the legs of the clamp is flexible, so that good fit against vessels of different areas is obtained. The portion between the legs automatically obtains a greater bending radius the more the clamps are displaced in a direction away from each other.

With the device according to the invention, there is obtained a support tray, which is simple and stable, and which does not have the disadvantages of earlier known support trays.

The invention is not limited to the embodiment above-described and shown in the enclosed drawing, but it can be varied in a further number of ways considered to be within the scope of the inventive idea and the claims attached hereto.

Thus, the legs of the clamps 6, 6' can be pivotally mounted in the rods, whereby the support tray can be arranged to be contracted by separate spring means, which thus replace the action of torsion, which is obtained when the clamps are non-pivotally secured in the rods. The clamps are per se resilient outwardly, for which reason it is not necessary that they are non-pivotally secured in the rods.

What is claimed is:

1. A supporting tray for vessels comprising, a plurality of rods crossing one another and constituting a support for a vessel, the rods being pivotally connected to one another at their points of crossing to thereby provide a lazy-tong arrangement, a plurality of inverted U-shaped resilient clamps connected to and extending upwardly from the ends of the rods, one leg of each clamp being mounted in the end of one of the rods and the second leg of the clamp being mounted in the end of another rod so that when the ends of these rods are brought toward one another, the clamp will be resiliently bowed in an upward direction.

2. A supporting tray according to claim 1, wherein said clamps are composed of springy material, and by their springiness they tend to spread apart the rods in which they are anchored to thereby cause the clamps to be urged into contact with a vessel rested on top of the rods.

3. A supporting tray for vessels comprising, a plurality of rods crossing one another and pivotally connected to-

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gether at their points of crossing to thereby form a lazy-tong arrangement, resilient inverted U-shaped clamps having one leg fixedly mounted in the end of one of the rods, the clamps having a second leg fixedly mounted in the end of a second one of the rods, the clamps extending upwardly from the rods in which it is mounted, the rods constituting a support for a vessel, the clamps tending, by their resilience, to normally tend to spread the legs in which it is mounted apart, said clamp being capable of vertical extension by the application of manual force imposed on it to thereby cause the ends of said rods to be brought toward one another.

4. A supporting tray according to claim 3 wherein each leg of the clamps is hook-shaped at its end, said hook-shaped end being embedded in the rod, and each clamp is provided with a protective covering.

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