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TUMBLER HOLDER FOR CLEANING MACHINES

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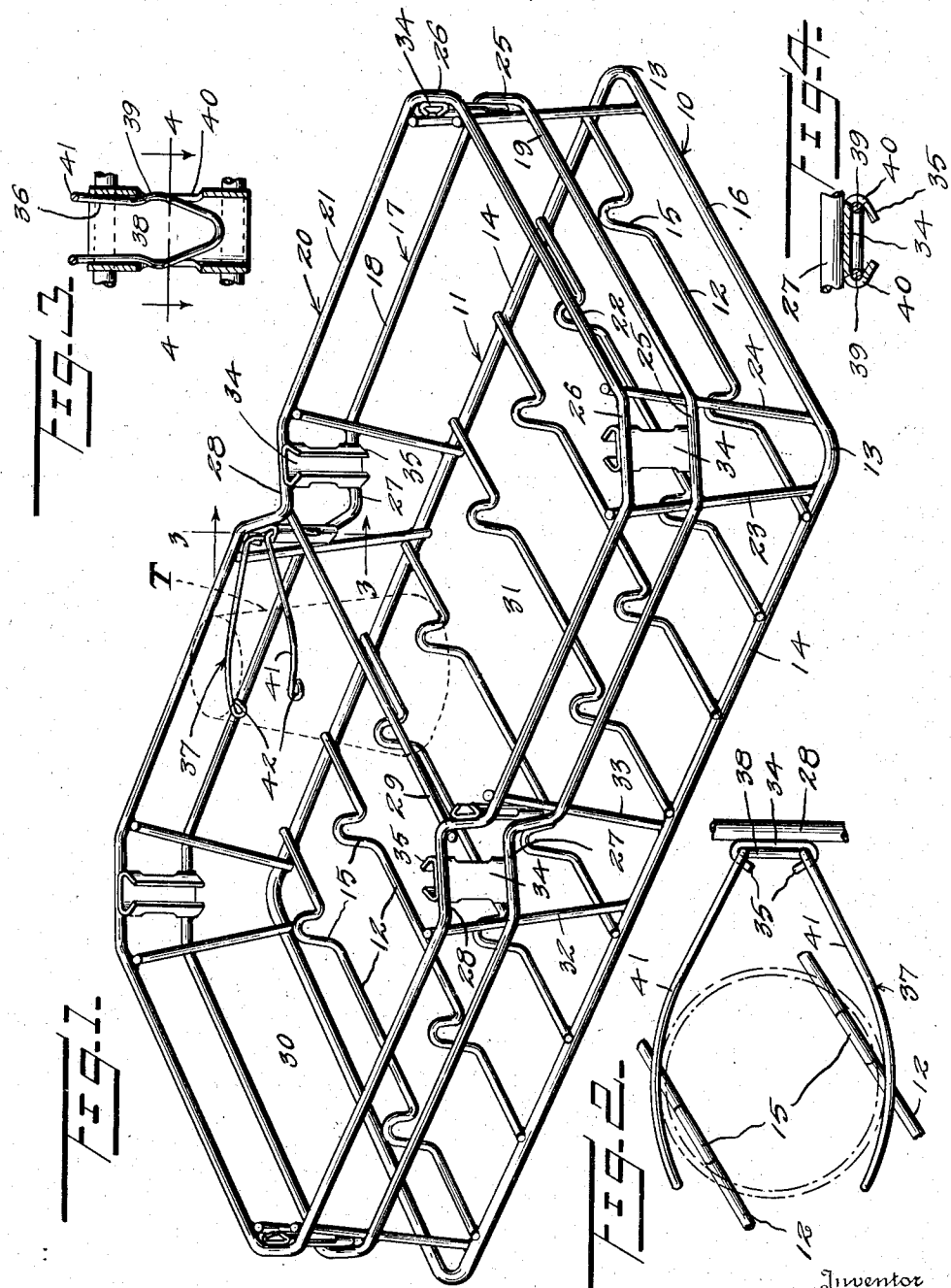


Fig. 1.

Fig. 2.

Fig. 3.

Fig. 4.

Inventor
A. R. Lofstrand, Jr.

By Kimmel & Crowell
Attorneys

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TUMBLER HOLDER FOR CLEANING MACHINES

Anders R. Lofstrand, Jr., Washington, D. C., assignor to The Lofstrand Company, Washington, D. C., a corporation of Delaware

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6 Claims. (Cl. 141—9)

This invention relates to tumbler cleaning or washing and drying apparatus and more particularly to an improved basket or holder for use in connection with a washing and drying machine.

An object of this invention is to provide an improved basket or holder for supporting a number of tumblers in inverted position so that the tumblers may be operated upon by cleaning devices associated with a cleaning machine.

Another object of this invention is to provide a basket structure of this kind which is so constructed that the clamping means for the tumblers may if desired be removed from the basket without the necessity of using tools so that the single basket may be used for different sizes of tumblers which may be passed through the cleaning and drying machine.

A further object of this invention is to provide an improved basket structure of this kind which is adapted to be made out of wire and which will firmly hold the glasses so that the glasses or tumblers may be worked upon by the cleaning and drying devices associated with the cleaning and drying machine.

A still further object of this invention is to provide a basket of this kind which is adapted to firmly hold the glasses so that the glasses or tumblers may be moved to the several cleaning and drying stations forming part of the cleaning machine without removing the glasses or tumblers from the basket or holder.

To the above objects and to others which may hereinafter appear, the invention consists of the novel construction, combination and arrangement of parts as will be more specifically referred to and illustrated in the accompanying drawing, wherein is illustrated an embodiment of the invention, but it is to be understood that changes, modification and variations may be resorted to which fall within the scope of the invention as claimed.

In the drawing:

Figure 1 is a perspective view of a basket or holder constructed according to an embodiment of this invention,

Figure 2 is a fragmentary top plan of one of the tumbler clamping devices carried by the basket shown in Figure 1,

Figure 3 is a sectional view taken on the line 3—3 of Figure 1, and

Figure 4 is a sectional view taken on the line 4—4 of Figure 3.

Referring to the drawing, the numeral 10 designates generally a bottom structure for a wire basket and comprises a substantially rectangularly shaped base member 11 and constructed of endless form and constructed from a wire which is bent in rectangular form having rounded corners 13. The bottom member 10 is provided with a plurality of transversely extending bars 12 which are secured at the opposite ends thereof as by welding to the side bars 14 and the bottom forming bars 12 are each provided with inverted substantially U-shaped upwardly projecting spaced glass holding members 15. The holder members 15 on one bar 12 are disposed in parallel relation with respect to the holder members 15 of an adjacent bar 12 and in practice, the tumbler designated T is inverted and the open end thereof engages over a pair of these U-shaped holding members 15. The bars 12 are disposed in parallel relation with the end bars 16 which are integral with the side members 14 and the bars 12 are spaced apart a distance sufficient to permit the projection of an interior cleaning device for and within a tumbler T when the tumbler is disposed in the basket.

An intermediate frame member 17 comprising side members 18 and end members 19 is positioned in upwardly spaced relation to the bottom member 11 and an upper frame member 20 comprising side members 21 and end members 22 is disposed in upwardly spaced relation to the intermediate member 17. The frame members 17 and 20 are secured to the bottom or base member 11 by means of a plurality of upwardly extending supporting bars 23 and 24 which are secured at their lower ends to the bottom member 11 and extend upwardly in divergent relation. Preferably, the intermediate member 17 at the junction between the side members 18 and the end members 19 is provided with a diagonally disposed portion 25 and in like manner the upper member 20 is provided with a diagonally disposed portion 26 and is parallel with the diagonal portion 25. The supporting bars 23 and 24 are welded to the base member 10 and also to the intermediate member 17 and the upper member 20 at the junction between the side members 18 and 21 with the end members 19 and 22 respectively.

The intermediate member 17 at a point between the opposite ends of the side members 18 is provided with V-shaped extensions 27 and the upper member 20 is provided with a V-shaped extension 28. The two side members 18 and 21 are each provided at a medial point with the V-shaped extensions 27 and 28 and a con-

necting or dividing bar 29 is secured to the V-shaped members 28 at the convergent or inner ends thereof, thus dividing the basket into two tumbler or glass receiving chambers 30 and 31. The side bars 18 and 21 are supported intermediate the end members 19 and 22 thereof by means of upwardly extending supporting bars 32 and 33.

A plate 34 is fixed to extensions 25 and 26 and a similar plate is fixed to the extensions 27 and 28 thus providing four plates at each corner of each chamber 30 and 31. The plates 34 are welded or otherwise fixedly secured to the basket 10 and each plate 34 is provided with reverted opposite end portions 35 which provide channels or guides on the opposite vertical edges of the plate 34 within which the U-shaped supporting portion 36 of a glass clamping or holding member 37 is adapted to engage. The U-shaped supporting member 36 is provided with a substantially V-shaped lower end portion 38 and the holder 36 is provided with bulges or arcuate offset portions 39 at the upper ends of the V-shaped member 38 which are adapted to project laterally through elongated slots 40 provided in the supporting member comprising the plate 34 and the reverted or channelled member 35. The holder 37 comprises a pair of arcuate arms 41 which are integral with the U-shaped supporting member 36 and the arms 41 are provided with reverted free end portions 42 forming eyes. The arms 41 are of resilient construction and are normally biased toward each other so that when a tumbler T is inserted therebetween the arms 41 will be yieldingly forced apart and will yieldingly hold the tumbler T in inverted position on a pair of bottom bars 12 with the open end of the tumbler 10 engaging over a pair of bar extensions 15.

In Figure 1 there is disclosed only one tumbler clamping member 37 but it will be understood that each holder comprising the plate 34 and the guide members 35 is adapted to have a tumbler clamping member engaged therewith so that in the structure disclosed in Figure 1 there will normally be at least eight tumbler clamping members 37 in the basket 10 although if desired, where certain corners do not have any tumblers therein, the clamping members 37 may be readily removed.

The basket structure hereinbefore described is adapted to be made entirely out of wire with the exception of the supporting members 34—35 and all of the parts comprising the basket with the exception of the tumbler clamping members 37 are adapted to be welded together and then coated with a suitable coating such as tin or the like so as to resist corrosion from the cleaning fluid.

In the use and operation of this basket the arms 41 of the clamping members 37 are adapted to be spread apart so as to permit the insertion of the tumbler T therebetween, with the tumbler in an inverted position and with the open end thereof enclosing a pair of bottom bar extensions 15. These extensions 15 are adapted to loosely engage within the open end of the tumbler and the adjacent clamping members 37 are so positioned relative to each other that tumblers of different sizes may be readily used with this same basket structure. Where smaller stem or bottom structures are provided in the tumblers the clamping arms 41 may be bent closer together so that these clamping arms 41 will yieldingly clamp about the reduced portion of the tumbler or glass. The basket herein disclosed is adapted to be used with a cleaning or drying machine, which has a movable carriage or basket supporting member so that the bottoms of the tumblers are adapted to be engaged by combined cleaning and clamping devices and the entire structure then immersed in the cleaning fluid where the interior cleaning devices are adapted to project upwardly between pairs of the bottom bars 12 so as to clean the inside of the glasses. After the glasses have been thoroughly brushed in the cleaning fluid, the basket having the glasses mounted therein is then moved to a rinsing station where the glasses are thoroughly rinsed and from this station the basket still containing the same glasses is shifted to a drying station. After the glasses have been dried the glasses may be removed from the basket and the clamping members 37 or if desired, the glasses may be left in the basket and a number of these baskets stacked one upon the other. Preferably, however, the glasses are removed from the basket when they have passed the drying station or zone associated with the cleaning machine.

What I claim is:

1. In combination, a rectangular wire basket, pairs of yieldable clamping arms projecting inwardly of the corners of said basket, and means carried by said arms and the corners of said basket removably securing said arms on said basket.

2. A holder for use with tumbler cleaning and drying machines comprising a wire basket provided with spaced apart parallel bottom bars, each bar having spaced apart upwardly bent portions, the adjacent upwardly bent portions of a pair of adjacent bars engaging within the inverted end of a tumbler to hold one tumbler against contact with adjacent tumblers, a pair of arcuate tumbler clamping arms disposed above each pair of upwardly bent bottom bar portions, and means carried by said arms and the basket removably securing said arms to said basket.

3. A holder for use with tumbler cleaning and drying machines comprising a wire basket provided with spaced apart parallel bottom bars, each bar having spaced apart upwardly bent portions, the adjacent upwardly bent portions of a pair of adjacent bars engaging within the inverted end of a tumbler to hold one tumbler against contact with adjacent tumblers, a pair of arcuate tumbler clamping arms disposed above each pair of upwardly bent bottom bar portions, a U-shaped supporting member integral with each pair of arms, a channeled member carried by said basket engageable with said supporting member for removably holding said arms on said basket, and coacting means carried by said supporting member and said channeled member for releasably locking said supporting member in said channeled member.

4. A holder for use with tumbler cleaning and drying machines comprising a wire basket provided with spaced apart parallel bottom bars, each bar having spaced apart upwardly bent portions, the adjacent upwardly bent portions of a pair of adjacent bars engaging within the inverted end of a tumbler to hold one tumbler against contact with adjacent tumblers, a pair of arcuate tumbler clamping arms disposed above each pair of upwardly bent bottom bar portions, a plurality of spaced apart plates fixed to said basket, a pair of channel members carried by each plate, each channel member having an elongated slot therein, a U-shaped member

carried by each pair of arms and removably engaging between each pair of channel members and outwardly offset portions carried by said U-shaped member engageable in said slots to yieldably lock said U-shaped member between said channel members.

5. In combination, a rectangular wire basket of skeleton form, a pair of spaced yieldable clamping arms projecting inwardly from each corner of the basket, oppositely disposed spaced pairs of spaced yieldable clamping arms projecting inwardly from each side of the basket adjacent each side of the vertical center of the basket side, and means carried by said arms, said corners and said sides for securing said arms to the basket.

6. In combination, a rectangular wire basket of skeleton form having diagonally disposed superposed portions at each of its corners and inwardly extending superposed V-shaped extensions intermediate the ends of each of its sides, a yieldable glass clamping device extending inwardly from the superposed diagonally disposed portions at each corner of the basket, a pair of oppositely disposed spaced yieldable glass clamping devices extending inwardly from the superposed V-shaped extensions at each side of the basket, and means secured to the said diagonal portions and said extensions for connecting said devices to the basket.

ANDERS R. LOFSTRAND, JR.