

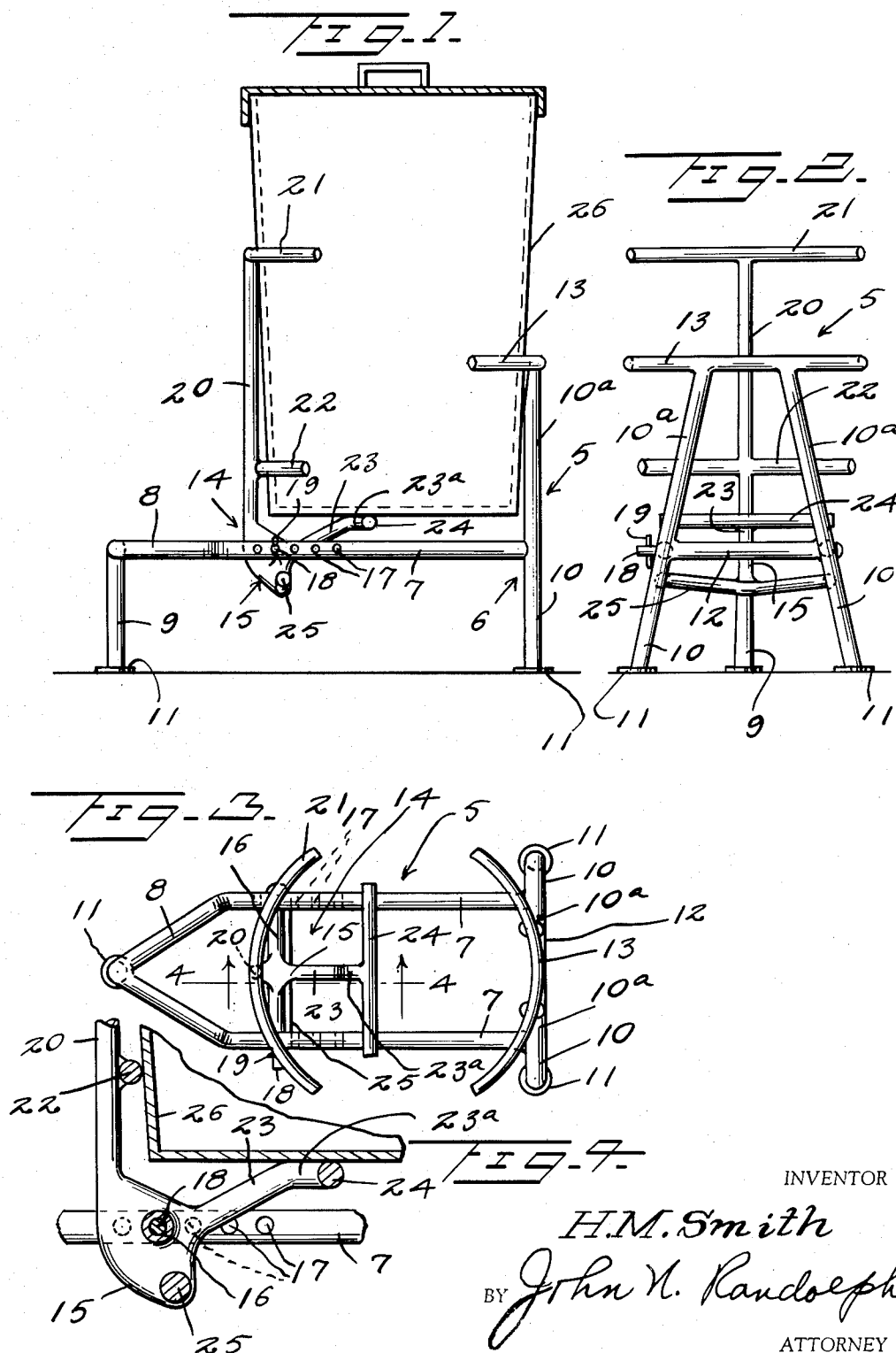
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CAN HOLDER AND RACK

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CAN HOLDER AND RACK

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This invention relates to a novel holder and rack for supporting refuse cans or containers and in which the can is detachably clamped and supported in an elevated position.

Another object of the invention is to provide a novel can rack and holder wherein the weight of the can and its contents will cause the can to be clamped in the holder and so that an upward displacement or lifting of the can will automatically release the can from a clamped position.

A further object of the invention is to provide a can holder or rack which may be readily adjusted to accommodate cans of different cross sectional sizes.

Still another object of the invention is to provide a holder and rack of extremely simple construction which may be very economically manufactured and sold yet which will be extremely efficient and durable in accomplishing its intended result.

Other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing, illustrating a presently preferred embodiment thereof, and wherein:

Figure 1 is a side elevational view showing the rack and holder in an operative position and with a can applied thereto;

Figure 2 is an end elevational view thereof looking from right to left of Figure 1, with the can omitted but with the parts shown in the same position as in Figure 1;

Figure 3 is a top plan view of the holder as seen in Figure 2, and

Figure 4 is an enlarged fragmentary sectional view taken substantially along a plane as indicated by the line 4—4 of Figure 3 and showing a portion of the can in an applied position.

Referring more specifically to the drawing, the can rack and holder in its entirety is designated generally 5 and includes a stand, designated generally 6, having spaced substantially parallel members 7 forming the stand bottom and which have converging and merging portions 8 at one end of the stand bottom. A supporting leg 9 is fixed to and depends from the merging ends of the bottom portions 8. The opposite ends of the bottom members 7 are suitably secured to complementary portions of a pair of upwardly converging legs 10, lower portions of which diverge downwardly from said members 7. The lower ends of the legs 9 and 10 are disposed coplanar to provide a tripod or three legged support for the stand 6. Foot members 11 may be secured to and project horizontally from the lower ends of the legs 9 and 10 to rest on a supporting surface or to be embedded and secured in a supporting surface, as for example by being anchored in cement. The legs 10 are provided with a cross brace 12 preferably disposed in the plane of said bottom members 7.

The legs 10 have upper portions 10a which extend upwardly from the members 7 in converging relationship to one another and the upper ends of which are secured in any suitable manner to an arcuate can engaging mem-

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ber 13, at points preferably equally spaced from the ends thereof. Said elongated can engaging member 13 has a concavely arced inner side, as best seen in Figure 3. The parts 10a, 13 constitute a stationary can clamp.

The rack and holder 5 also include a movable can clamping unit, designated generally 14, including a web member 15 to which is secured a spacing sleeve 16 having end portions projecting outwardly from opposite sides of said web. The spacing sleeve 16 is of a length to fit turnably between parallel portions of the bottom members 7 which are provided with complementary longitudinally spaced openings 17 to align with the bore of the sleeve 16. The openings 17 are located remote to the legs 10. A headed shaft or pin 18 extends through the sleeve 16 and through openings 17 of the members 7 which are in alignment with said sleeve. The sleeve 16 is turnably mounted on the pin 18 for swingably mounting the movable clamping unit 14 on the stand bottom. A cotter pin 19 or its equivalent may extend through the shank end of the pin 18 to cooperate with the head thereof for retaining the pin in engagement with the sleeve 16 and members 7.

An elongated arm 20 is fixed to and extends upwardly from the portion of the web 15. An upper movable can clamping member 21 comprising an elongated rigid element is secured in any suitable manner intermediate of its ends to the upper end of the arm 20 and is disposed at substantially a right angle thereto. A lower movable can engaging member 22, similar in construction to the member 21, is suitably secured intermediate of its ends to the inner side of the arm 20 near the lower end thereof and is disposed beneath and substantially parallel to the member 21. The concavely arced inner sides of the members 21 and 22 face toward the stationary can engaging member 13. The lower member 22 is of a length slightly less than the upper member 21 and has a slightly greater curvature. A relatively short arm 23 projects from an edge portion of the web 15 upwardly and toward the leg portions 10a at an acute angle to the arm 20 and has a curved outer end portion 23a which is disposed at substantially a right angle to the arm 20. A crossbar 24 is fixed to the outer end of the arm portion 23a intermediate of the ends of said crossbar and transversely of the arm 23. The ends of the crossbar 24 extend laterally over the bottom members 7, as seen in Figure 3. A second crossbar 25 is fixed to a bottom portion of the web 15 and projects outwardly from opposite sides thereof, below the members 7. Said crossbar 25 forms a stop and is sufficient length so that the ends thereof are disposed beneath the bottom members 7.

From the foregoing it will be readily apparent that the preponderance of the weight of the unit 14 will normally cause said unit to swing counterclockwise about its pivot 18, as seen in Figure 1, from its position as seen in Figure 1 until the ends of the stop member 25 contact the undersides of the bottom members 7. When thus disposed, the arm 20 will extend outwardly and upwardly from the stand bottom and the arm 23 will extend upwardly and inwardly from said stand bottom and toward the member 13. Accordingly, a can or container 26 of proper size may be readily applied downwardly between the can engaging member 13 and the can engaging members 21 and 22 until the bottom of the can or container 26 comes to rest upon the can bottom engaging cross member 24. The weight of the can and its contents on the member 24 will cause the unit 14 to swing in the opposite direction or clockwise about its pivot 18 back toward its position of Figure 1. This will cause the upper movable can engaging member 21 to initially embrace a circumferential portion of the can 26 and to displace the can so that another part thereof which is longitudinally and circumferentially spaced from said first mentioned portion will be embraced by the stationary

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can engaging portion 13. As illustrated, the portion 13 is located substantially below the level of the member 21 so that engagement of the can by said members 21 and 13 will cause the can to be rocked slightly in a clockwise direction to bring another portion of the can into a position to be embraced by the lower can engaging member 22, which is located below the member 13. Thus, the can will be releasably gripped at three spaced points one of which is longitudinally and circumferentially spaced from the other two points to thereby effectively hold the can immobile. When the unit 14 is thus disposed in its operative position of Figure 1 the angular arm portion 23a will be disposed substantially horizontally to engage the underside of the can bottom together with the member 24 for supporting the can and for transmitting the torque exerted on the arm 23 by the weight of the can so as to urge the can engaging members 21 and 22 into tighter clamping engagement with the can. It will be obvious that the can 26 may be manually displaced from right to left of Figure 1 and at the same time lifted to release it from the rack and holder and so that the can can be lifted upwardly and completely removed.

The unit 14 may be adjusted toward or away from the legs 10 by means of the removable pivot pin 18 for adapting the rack and stand to cans of different diameters and so that the cross member 24 will be above and out of contact with the bottom members 7 when a can is supported thereon. The member 24 will also obviously limit swinging movement of the upper portion of the unit 14 toward the member 13 by engagement with the members 7, when a can is not supported in the holder.

The bottom member 22 is ordinarily curved to a greater extent than the members 13 and 21 due to the fact that most cans are tapered and for a like reason the member 13 is ordinarily curved to a slightly greater extent than the member 21. However, said members may be of a uniform size and curvature for accommodating straight walls of cans.

Various other modifications and changes are contemplated and may obviously be resorted to, without departing from the spirit or scope of the invention as herein-after defined by the appended claims.

I claim as my invention:

1. A can rack and holder comprising a stand including an elongated elevated base, a stationary can engaging member, means supporting said can engaging member above one end of the base, said can engaging member and said means constituting parts of the stand, a movable can clamping unit, means pivotally connecting said unit to the stand base remote from said end of the base for swinging movement of said unit toward and away from the stationary can engaging member, said unit including can engaging arms, and a can supporting member forming a rigid part of said unit and disposed above the stand base between said end thereof and the pivot means and on which the bottom of the can is adapted to rest for rocking said unit to displace said can engaging arms toward said stationary can engaging member for clamping a can therebetween, said can engaging arms including an upper can engaging arm disposed above the level of said stationary can engaging member and a lower can engaging arm disposed below the level of said stationary can engaging member.

2. A can rack and holder as in claim 1, said stationary can engaging member and said can engaging arms each comprising an elongated member curved to conformably fit a portion of the can wall and to extend circumferentially of said wall portion.

3. A can rack and holder comprising a stand including an elongated elevated base, a stationary can engaging

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member, means supporting said can engaging member above one end of the base, said can engaging member and said means constituting parts of the stand, a movable can clamping unit, means pivotally connecting said unit to the stand base remote from said end of the base for swinging movement of said unit toward and away from the stationary can engaging member, said unit including can engaging arms, and a can supporting member forming a rigid part of said unit and disposed above the stand base between said end thereof and the pivot means and on which the bottom of the can is adapted to rest for rocking said unit to displace said can engaging arms toward said stationary can engaging member for clamping a can therebetween, and a stop forming a part of said unit and disposed below the stand base and swingable into engagement with the stand base to limit swinging movement of said can engaging arms and can supporting means away from said end of the stand base.

4. A can rack and holder comprising a stand including an elongated elevated base, a stationary can engaging member, means supporting said can engaging member above one end of the base, said can engaging member and said means constituting parts of the stand, a movable can clamping unit, means pivotally connecting said unit to the stand base remote from said end of the base for swinging movement of said unit toward and away from the stationary can engaging member, said unit including can engaging arms, and a can supporting member forming a rigid part of said unit and disposed above the stand base between said end thereof and the pivot means and on which the bottom of the can is adapted to rest for rocking said unit to displace said can engaging arms toward said stationary can engaging member for clamping a can therebetween, and means for adjustably mounting said pivot means on the stand base for varying the spacing between the pivot means and said end of the stand base for adjusting the rack and holder to fit cans of different cross sectional sizes.

5. A can rack and holder comprising a stand including an elongated elevated base, a stationary can engaging member, means supporting said can engaging member above one end of the base, said can engaging member and said means constituting parts of the stand, a movable can clamping unit, means pivotally connecting said unit to the stand base remote from said end of the base for swinging movement of said unit toward and away from the stationary can engaging member, said unit including can engaging arms, and a can supporting member forming a rigid part of said unit and disposed above the stand base between said end thereof and the pivot means and on which the bottom of the can is adapted to rest for rocking said unit to displace said can engaging arms toward said stationary can engaging member for clamping a can therebetween, said movable can clamping unit extending upwardly from the stand base and being outwardly offset relative to the pivot means in a direction away from said stationary can engaging member and being of a size to overbalance the can supporting means, whereby said movable can clamping unit is gravity urged to swing away from the stationary can engaging member to an open position of the holder and to elevate said can supporting member relative to the base, and a stop forming a part of said clamping unit, swingable therewith into engagement with the underside of the base to limit the gravity swinging movement of said unit toward an open position.

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