

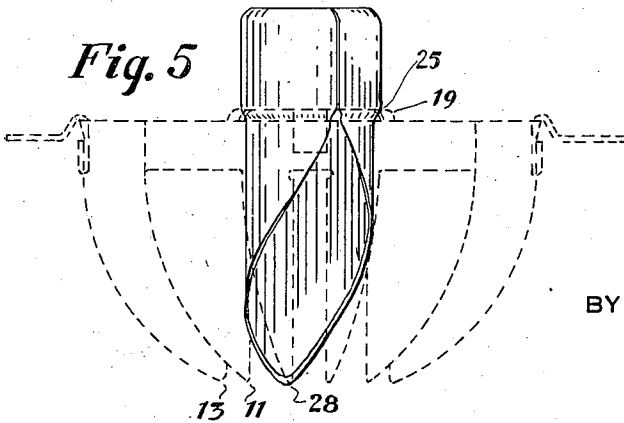
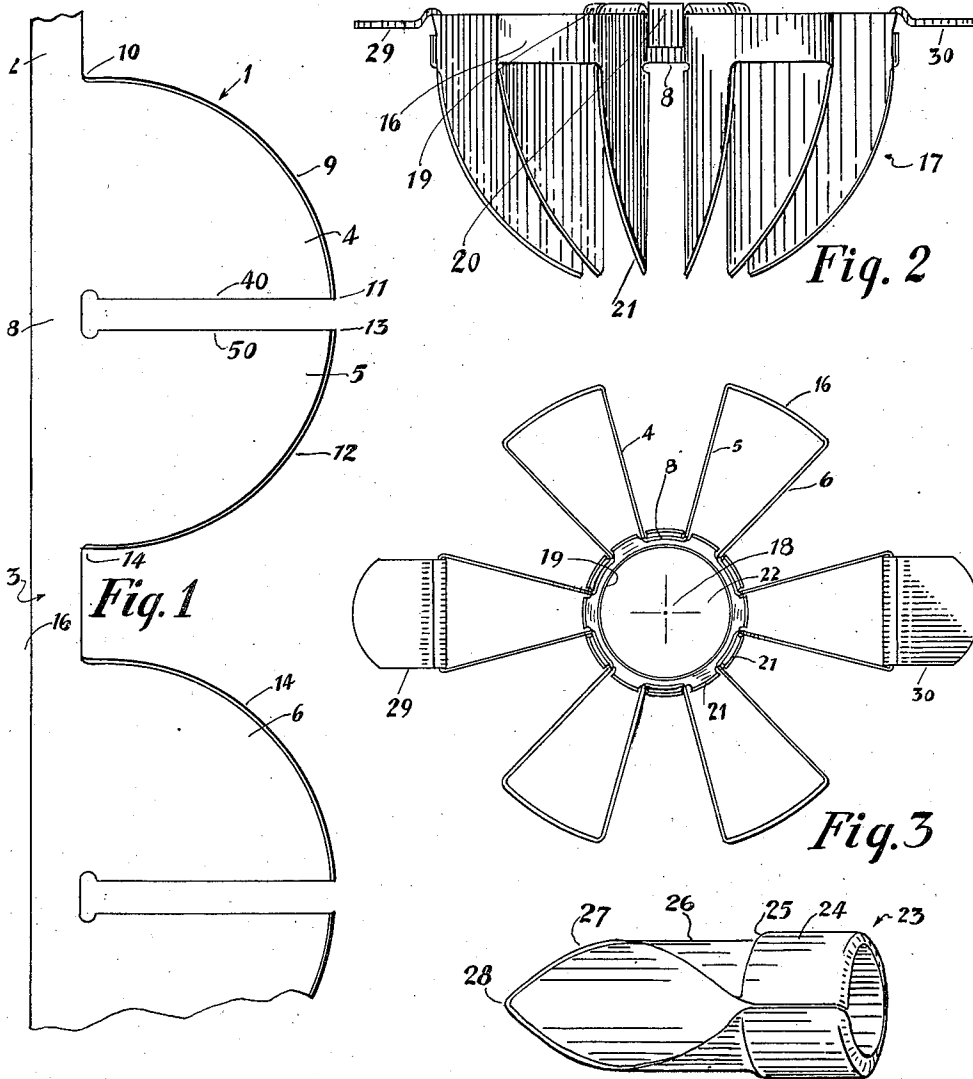
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GRAPEFRUIT CUTTER

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GRAPEFRUIT CUTTER

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The invention relates to a grapefruit cutter and particularly to a tool for cutting the pulp of half a grapefruit into a plurality of sections to facilitate their removal from the rind.

For further details of the invention, reference may be made to the drawing wherein

Fig. 1 is a plan view of a strip of sheet metal, stamped from a blank and certain edges sharpened, to provide a blank from which the tool of this invention may be made.

Fig. 2 is a side view in elevation of a grapefruit cutter according to the present invention and embodying in bent form the blank of Fig. 1.

Fig. 3 is a bottom plan view of the tool of Fig. 2.

Fig. 4 is a perspective view of a coring device for use with the tool of Fig. 2.

Fig. 5 is a side view in elevation illustrating the coring device in position in the tool of Fig. 2, the tool of Fig. 2 being shown in dotted lines.

Referring in detail to the drawing, the cutter blank 1 in Fig. 1 may be of non-corrosive steel and may be stamped from a sheet. The blank 1 on one side thereof has a straight edge indicated at 2 which forms one edge of a band portion 3 from which laterally project a suitable number, such as twelve cutter blades, some of which are indicated at 4, 5, and 6. The cutter blades 4 and 5 are reversed in position so that a straight edge 40, which extends at right angles to the band 3 on the cutter blade 4, is adjacent and parallel to a similar straight edge portion 50 on the adjoining cutter blade 5. The straight edges 40 and 50 are separated by a comparatively short band portion 8 which lies on an inner circle of the finished article as shown in Figs. 2 and 3. The cutter blade 4 has a convex blade portion 9 which is suitably sharpened from a position 10 adjacent to band 3, to a point 11 where the blade 9 merges with the outer end of the straight line 40. The convex sharp edge 12 of the cutting blade 5 similarly extends from the outer end 13 of the straight edge 50 to the band 3 as indicated at 14. The convex sharp edge 12 is reversed with respect to the convex sharp edge 14 on the cutter blade 6 and is spaced therefrom at their inner ends by a comparatively long band portion 16, which forms a portion of the outer periphery of the tool 17 as indicated in Figs. 2 and 3. The tool 17 in Fig. 2 has six pairs of blades like the pair 4, 5, above described.

The arrangement of the convex cutting edges 9, 12, 14, etc., is such that when the blank 1 is bent back and forth to form the finished tool 17 shown in Fig. 2, these convex cutting edges will lie on a hemispherical surface and will extend like the

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polar arcs of a hemisphere around its axis 18. Also, the cutter blades 4, 5, 6, etc., in the finished article 17 lie substantially in radial planes around the axis 18. The blades 4, 5, 6, etc., are thus held in position, with sector spaces between, by a grommet 19 having an end flange 20 which is split to form a plurality of tongues 21, each alternate one of which is bent over one of the short band sections such as 8 in Fig. 1.

The grommet 19 has a circular bore 22 which is coaxial with the axis 18.

While Fig. 3, for the sake of clarity, indicates a space between the tongues 21 and the band 8 and a space between the latter and the body of the grommet 19 preferably, for sanitary reasons, no such space exists, the tongues 21 being clamped, in a machine operation, firmly against the band 8 and the latter firmly against the body of the grommet 19. Also, whatever small spaces then remain are filled up by dipping the cutter 17 in a hot tinning bath. Hence, the finished article has a sanitary, smooth, exterior with no cracks between the grommet 19 or tongues 21 and the adjacent band portions 8.

In the grommet 19 fits a tubular coring device 23 which fits over and is larger than the core. Coring device 23 has an enlarged handle portion 24 merging with an annular shoulder 25 and a reduced body portion 26 which fits in the grommet 19. The body portion 26 has a curved cutting edge 27 which slants from shoulder 25 along two lines to a sharp point 28. The shoulder 25 rotatably fits on top of grommet 19 as shown in Fig. 5, and in this position the cutting point 28 extends on a level with the circular array of points 11, 13, etc., of all the blades.

The body 26 of the coring device 23 and its slanting blade 27 fit snugly inside of and against the circular array of straight edges such as 40 and 50. As the coring device is rotated, the leading edge of blade 27 crosses each straight edge such as 40 at a point which moves downwardly as the coring device 23 is rotated, to cut the webs or films from the core, with a scissors or shearing action.

At opposite positions, two sheet metal handles 29 and 30 are bent over and clamped onto a wide band portion similar to 16.

In using the tool of this invention, the handles 29 and 30 are employed to force the tool 17 into one-half of a grapefruit, the sharp edges 9, 12, etc., substantially fitting the inside of the rind when the tool 17 is in its lowermost position. The depth to which the tool 17 is inserted is governed by the size of the grapefruit, the tool 17 being

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forced into the pulp until the bottom of the tool, that is the points 11 and 13, reach the rind. The radial blades 4, 5, etc., cut the pulp into a plurality of sections which approximate the sections naturally occurring in the grapefruit. The coring device 23 is then inserted in the grommet 19 and rotated to cut or shear the webs or films from the core.

Thereafter, the lower end of the core and the pulp may be cut from the rind in any suitable manner; for example, with the use of a curved knife, not shown.

Due to the skeleton formation of the tool, it can be readily cleaned by simply holding it under a faucet.

It will be apparent that various modifications may be made in the invention without departing from the spirit of the following claims; for example, the tool may be used on other fruits, such as oranges.

I claim:

1. A tool comprising a unitary sheet metal stamp consisting of a circular array of spaced radial flat cutting blades each having an outer convex cutting edge and the outer edges of said cutting blades extending in spaced relation like polar arcs around the axis of a hemisphere, said blades having inner straight edges parallel to each other and to said axis and arranged in a circle around said axis, each of said straight edges at its outer end merging with the outer end of its said convex edge, short band portions of said stamping integrally connecting adjacent blades at one end of adjacent inner straight edges, and longer band portions of said stamping integrally connecting adjacent blades at the same end of adjacent outer convex edges, a central grommet having tongues bent over said short band portions and securing said blades in position, said grommet having a bore coaxial with said axis, and a tubular coring device removably fitting said bore, said coring device having an outer blade end and having a shoulder rotatably fitting on said grommet with the outer blade end of said coring device rotatable

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adjacent the outer ends of the straight edges of said blades.

2. A tool comprising a single strip of sheet metal consisting of a band at one edge thereof and lateral extensions therefrom, each extension having a convex cutting edge conjoining a straight edge and the latter extending at right angles to said band portion, with said edges reversed in position on adjoining extensions whereby the straight edge of one first extension is opposite and parallel to the straight edge of an adjoining extension on one side of the first extension with the convex cutting edge of the first extension opposite a convex cutting edge on an adjoining extension on the other side of said first extension, and a grommet having tongues secured to said band at spaced intervals and retaining said extensions in a radial array with said convex cutting edges extending like spaced polar arcs around the axis of a hemisphere, and with said straight edges arranged in spaced relation in a circle around said axis, said band at alternate spaced intervals connecting adjoining ones of said extensions.

3. A tool comprising a unitary sheet metal stamping consisting of a circular array of spaced radial flat cutting blades each having an outer convex cutting edge and the outer edges of said cutting blades extending in spaced relation like polar arcs around the axis of a hemisphere, said blades having inner straight edges parallel to each other and to said axis and arranged in a circle around said axis, each of said straight edges at its outer end merging with the outer end of its said convex edge, short band portions of said stamping integrally connecting adjacent blades at one end of adjacent inner straight edges, and longer band portions of said stamping integrally connecting adjacent blades at the same end of adjacent outer convex edges, and a central grommet having tongues bent over said short band portions securing said blades in position.

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