Dec. 15, 1936. S. C. WINGER 2,064,136

HOUSEHOLD UTENSIL

Filed Dec. 10, 1935

FIG. 1

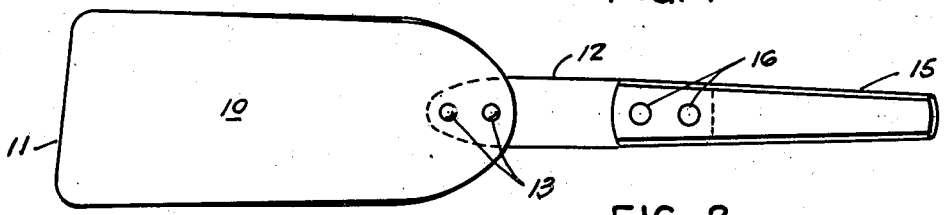



FIG. 2

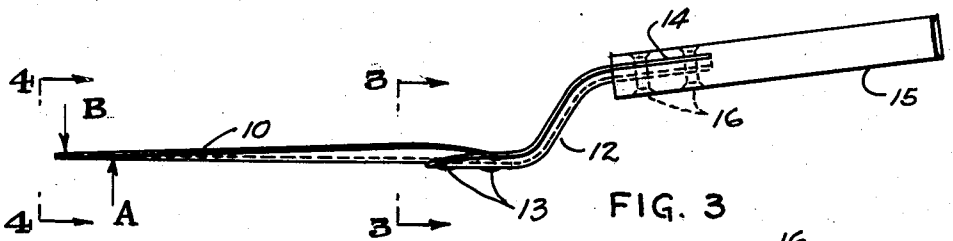



FIG. 3

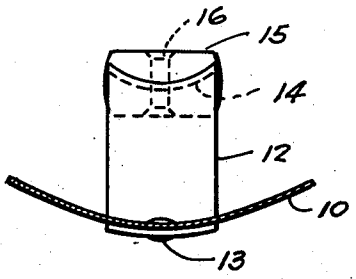



FIG. 4

FIG. 5

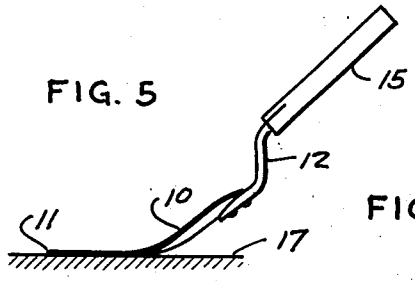



FIG. 6

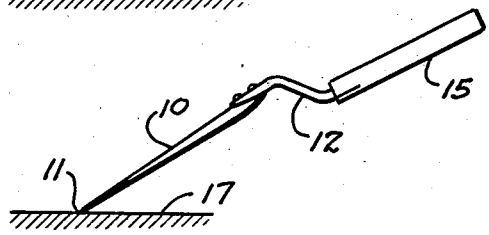



FIG. 8

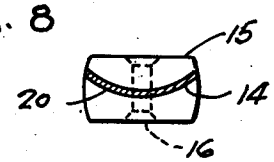
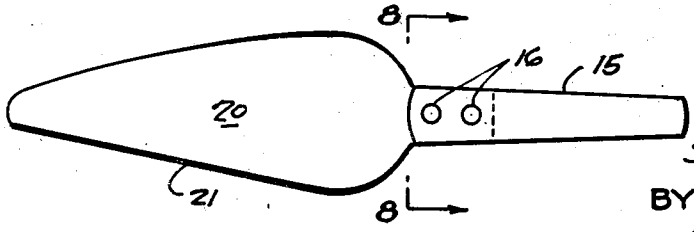



FIG. 7

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# UNITED STATES PATENT OFFICE

2,064,136

## HOUSEHOLD UTENSIL

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11 Claims. (Cl. 294—7)

This invention relates to a flexible kitchen utensil or spatula.

A spatula of the common form includes a flat blade, either of thin resilient material, or of heavier, non-flexible material, which can be used as a pie or cake server, or as a pan scraper or knife. It is apparent that such a device has some disadvantages. If thin enough to flex easily, so as to make it possible to insert the blade easily below the pie or cake even in a limited space, it is not sufficiently rigid to support any considerable load. On the other hand, if made with a rigid blade, the insertion thereof beneath the article of food is much more difficult.

It is one of the objects of this invention to provide a spatula of greatly increased utility, whereby these disadvantages are overcome, and whereby it may serve other useful purposes.

It is another object of this invention to provide a spatula in which the blade will flex or bend in response to force applied to one side thereof but will strongly resist flexure in response to force applied in the opposite direction. In this way, the spatula is very conveniently usable alternatively as a knife, as a scraper, as a support, or a member insertible between an article to be lifted and the surface upon which the article rests.

It is a further object of this invention to provide a spatula having these advantages, and which can be manufactured at low cost.

Briefly, the invention contemplates a spatula wherein the blade of thin resilient material is stiff and resistant to bending in one direction, whereby it is adapted for cutting or scraping, and is resilient and may be readily flexed in the opposite direction adapting it to be inserted under an object for lifting the object. This discrimination of resistance to flexure is achieved by having the blade substantially arcuate or arched about its longitudinal axis for at least along a substantial portion of its length.

This invention possesses many other advantages, and has other objects which may be made more easily apparent from a consideration of several embodiments of the invention. For this purpose there are shown a few forms in the drawing accompanying and forming part of the present specification. These forms shall now be described in detail, illustrating the general principles of the invention; but it is to be understood that this detailed description is not to be taken in a limiting sense, since the scope of the invention is best defined by the appended claims.

Referring to the drawing:

Figure 1 is a top plan view of a kitchen utensil or spatula, incorporating the invention;

Fig. 2 is a side elevation of a spatula of Fig. 1;

Figs. 3 and 4 are sections on an enlarged scale as seen on correspondingly numbered planes of Fig. 2;

Figs. 5 and 6 are diagrammatic elevations showing possible uses of the spatula;

Fig. 7 is a plan view of a modified form of kitchen utensil made in accordance with the invention; and

Fig. 8 is a detail section on an enlarged scale as seen on plane 8—8 of Fig. 7.

Referring to the drawing (Figs. 1 to 6 inclusive) the blade of the spatula is indicated by 10 and is formed of thin resilient material, such as spring steel or its equivalent, of a thickness of the order of .010", although other metals or non-metals may be used. The forward or advancing edge 11 of the blade is cut at a small deviation from a right angle with the sides and the corners are rounded in accordance with common practice. This end 11 of the blade can be used as a scraper or knife. The rear of the blade 10 may be secured in an offset metal step piece 12 by rivets 13. The step piece 12 in turn may be held in a kerf 14 formed in handle 15, as by screws or rivets 16.

Blade 10 is substantially flat adjacent its outer end 11 (see Fig. 4), but is arched towards its rear end as indicated in Fig. 3. The depth of the arch obviously decreases as the edge of the blade is approached, being practically nil at the edge. The blade 10 is formed or set initially with this arch, or arcuate portion in any preferred manner. By referring to Fig. 3 it will be noted that step piece 12 has a similar configuration, the result of this being to hold the blade closely to its original curve when assembled and riveted in place.

If pressure is applied to the bottom of blade 10 near its outer edge as indicated by the arrow marked "A" in Fig. 2, the blade will be substantially flattened for some distance back from the edge. Being resilient, it may be readily bent as indicated in Fig. 5, by urging the convex side against a solid surface, such as a pie plate or cake plate 17, or any other supporting surface. That part of the blade 10 in contact with the surface will be substantially flat, while near the point where it diverges from the surface it will begin to assume its original arched cross-section. The flattened part is urged to the flat position by the stresses obtained in the blade 10 at the area of the transverse bend. The amount of flat-

tening and flexing will obviously depend upon the amount of pressure applied, but in any event a portion of the blade will be maintained in its original arch by the step piece 12, and this ensures the return of the blade to its initial form upon the removal of the pressure.

If the pressure is applied as indicated by arrow "B" (Fig. 2), the pressure will tend to increase the extent and depth of the arched portion of the blade which will prevent the blade flexing and cause it to remain as shown in Fig. 6. It is of course possible to apply sufficient pressure to flex the blade in this direction too, but the pressure applied in the direction of "B" would always have to be very much greater than that applied in the direction of "A" to cause flexing. The relative amounts will depend on the material and design of the blade. This may be briefly summarized as the blade being so formed as to have discrimination with respect to the resistance to the direction of the flexing force. Accordingly, blade 10 can support an article, such as a food article, on its upper, concave surface without any flexure; and yet it may be easily inserted under such an article by urging its convex side firmly downwardly and between the article and its support.

To use the blade 10 as a scraper or cleaner, the edge 11 can be placed in the position of Fig. 6, the bending force being in such direction as to encounter great resistance.

The step piece 12 may be omitted and the blade fastened directly in the kerf formed in the handle as in the form shown in Figs. 7 and 8. It may be desirable to form the blade 10 in many other configurations than that shown in Fig. 1, the better to adapt it to a wide range of uses, and this may be readily done while yet maintaining the arched cross section together with the resultant discrimination of the resistance to flexure. For example, in Fig. 7 is shown a wedge shaped blade having a sharpened edge 21. This has utility in serving pie or cake or other similar articles of food, as the article can first be cut using the spatula as a knife; it can then be flexed as shown in Fig. 5 and forced under the severed piece, the stiffness of the blade then coming into play to lift the piece onto the blade for removal. The handle 15 may be the same as in the first form, such as wood, or phenolic condensation product, or any other preferred material, having an arcuate kerf 14. The blade 20 has a portion of reduced width which is inserted directly in the kerf, rivets 16 serving to retain it there.

As an indication of a convenient size for making the spatula, the overall length of the blade as shown in Figs. 1 and 2 may be made about six inches, and the other dimensions in the proportions indicated. The arched section at the back of the blade may be of the proportions shown in Fig. 3.

I claim:

1. In a kitchen utensil of the character described, a blade of resilient material, and a handle therefor, said blade having an arched cross section, and the material of the blade being sufficiently thin and the depth of the arch being such as to permit ready flexing of the blade on an axis transverse to the blade when the bending force is applied in one direction, but to resist flexing of the blade on a transverse axis when the bending force is applied in the opposite direction.

2. In a device of the character described, a balde of resilient material and a handle therefor, said blade having an arched cross section, the depth of the arch decreasing toward the free end of the blade, and the material of the blade being sufficiently thin to permit ready flexing of the blade on an axis transverse to the blade when the bending force is applied in one direction, but to resist flexing of the blade on a transverse axis when the bending force is applied in the opposite direction.

3. In a device of the character described, a blade of resilient material, a handle therefor, said blade having an arched cross section, means for securing said blade to said handle, said means being adapted to substantially maintain said arched cross section for part of the length of said blade, the material of the blade being sufficiently thin and the depth of the arch being such as to permit ready flexing of the blade on an axis transverse to the blade when the bending force is applied in one direction, but to resist flexing of the blade on a transverse axis when the bending force is applied in the opposite direction.

4. In a device of the character described, a blade of thin resilient material and a handle therefor, said blade being so formed as to be more readily deformable about a transverse axis of the blade in response to a bending force applied to one side of the blade than to a force applied to the opposite side.

5. In a device of the character described, a blade of thin resilient material and a handle therefor, said blade being so formed as to be more readily deformable about a transverse axis of the blade in response to a bending force applied to one side of the blade than to a force applied to the opposite side, said handle being adapted to maintain a portion of said blade against such deformation.

6. In a device of the character described, a blade of resilient material and a handle therefor, said blade having an arched cross section, the depth of the arch decreasing toward the free end of the blade, whereby the free end of the blade is substantially flat, and the material of the blade being sufficiently thin to permit ready flexing of the blade on an axis transverse to the blade when the bending force is applied in one direction, but to resist flexing of the blade on a transverse axis when the bending force is applied in the opposite direction.

7. In a device of the character described, a blade of resilient material and a handle therefor, said blade forming a curved surface, the length of the blade being substantially parallel with the axis of the curve and the free end of the blade having less curvature, and the material of the blade being sufficiently thin to permit flexing of the blade about a transverse axis of the blade when a force is applied to the convex side of said blade, but to resist flexing of the blade about a transverse axis when a force is applied to the concave side of said blade.

8. A device of the character described having a blade of thin, resilient material and a handle, said blade being substantially concave at the end adjacent the handle and substantially flat at the opposite end, the intermediate portion of the blade merging gradually from said concave form to said flat form.

9. In a device of the character described a blade of resilient material and a handle therefor, said blade having at its free end a substantially flat form, changing to an arched portion of increasing curvature as the handle end is approached, said blade being thin enough to permit ready flattening when its convex side is urged

against a surface by first contacting the free end of the blade therewith, that part of the blade which extends from the free end of the blade to the area where the blade diverges from the surface staying substantially flat against said surface, and the arch of the blade imparting resistance to flexure of the blade in the opposite direction.

10. In a device of the character described, a blade of resilient material and a handle therefor, said blade having at its free end a substantially flat form, changing to an arched portion of increasing curvature as the handle end is approached, said blade being thin enough to permit ready flexing and being characterized by the capability, when its convex side is urged against a surface by first contacting the free end of the blade therewith, of having that part of the blade which is urged into contact with said surface, assume a substantially flat form, and the arch of the blade imparting resistance to flexure of the blade in the opposite direction.

11. In a device of the character described, a blade of resilient material and a handle therefor, said blade having at its free end a substantially flat form, changing to an arched portion of increasing curvature as the handle end is approached, said blade being of such resilience that when it is bent along a transverse axis, in the direction of the concavity of the blade, that portion which is between the free end and the point of flexure assumes a substantially flat form due to the straightening effect of the flexure, combined with the flat end, and the arch of the blade imparting resistance to flexure of the blade in the opposite direction.

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