

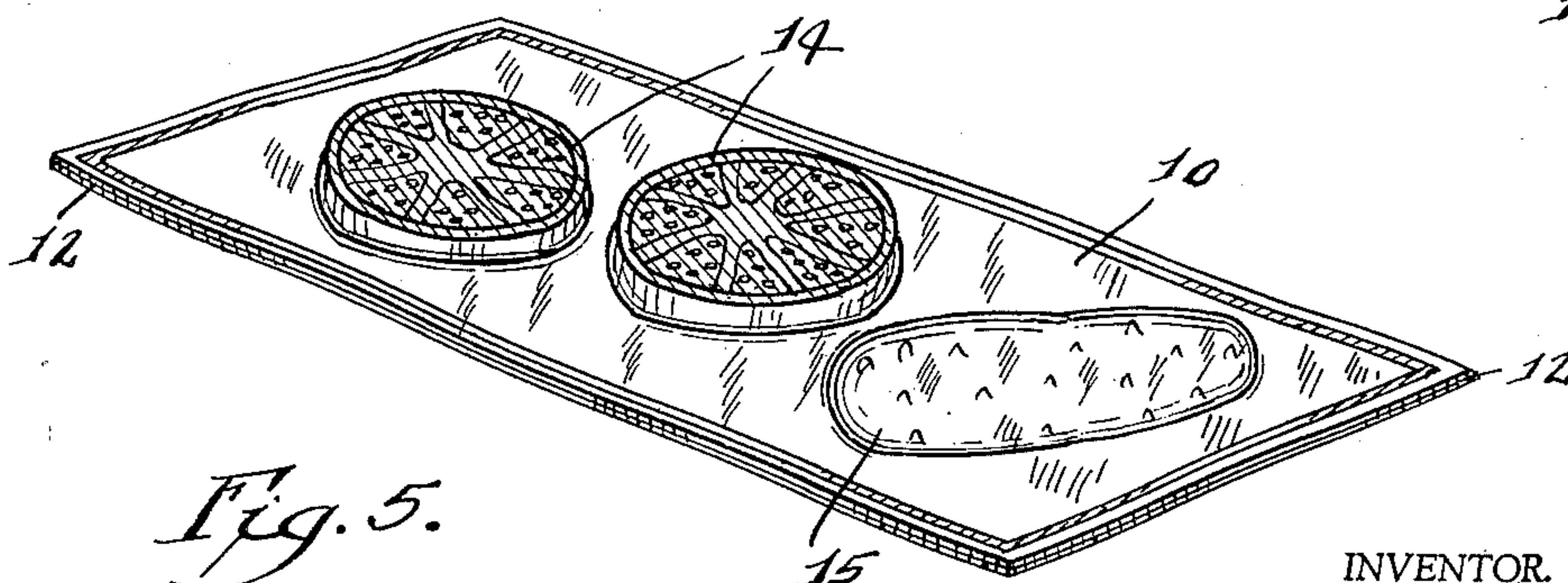
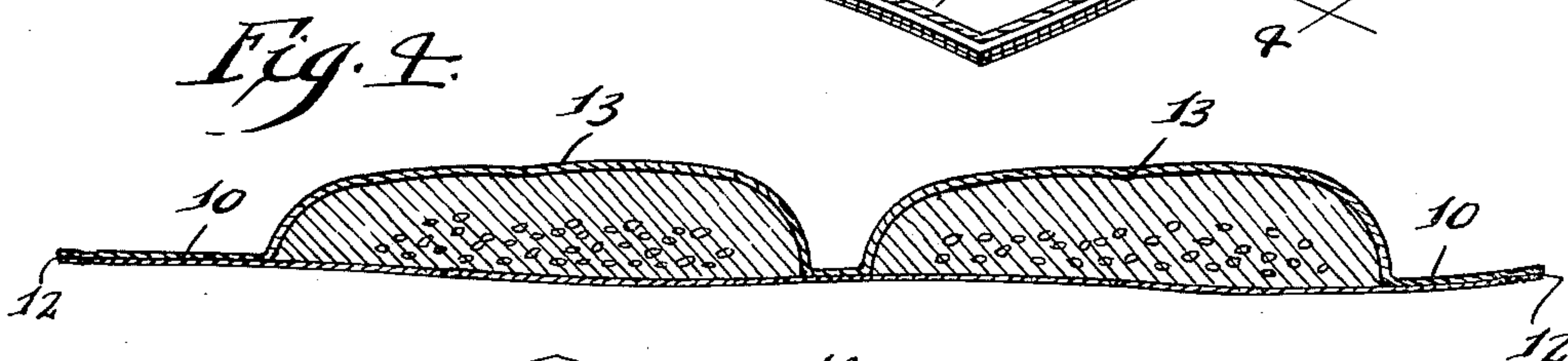
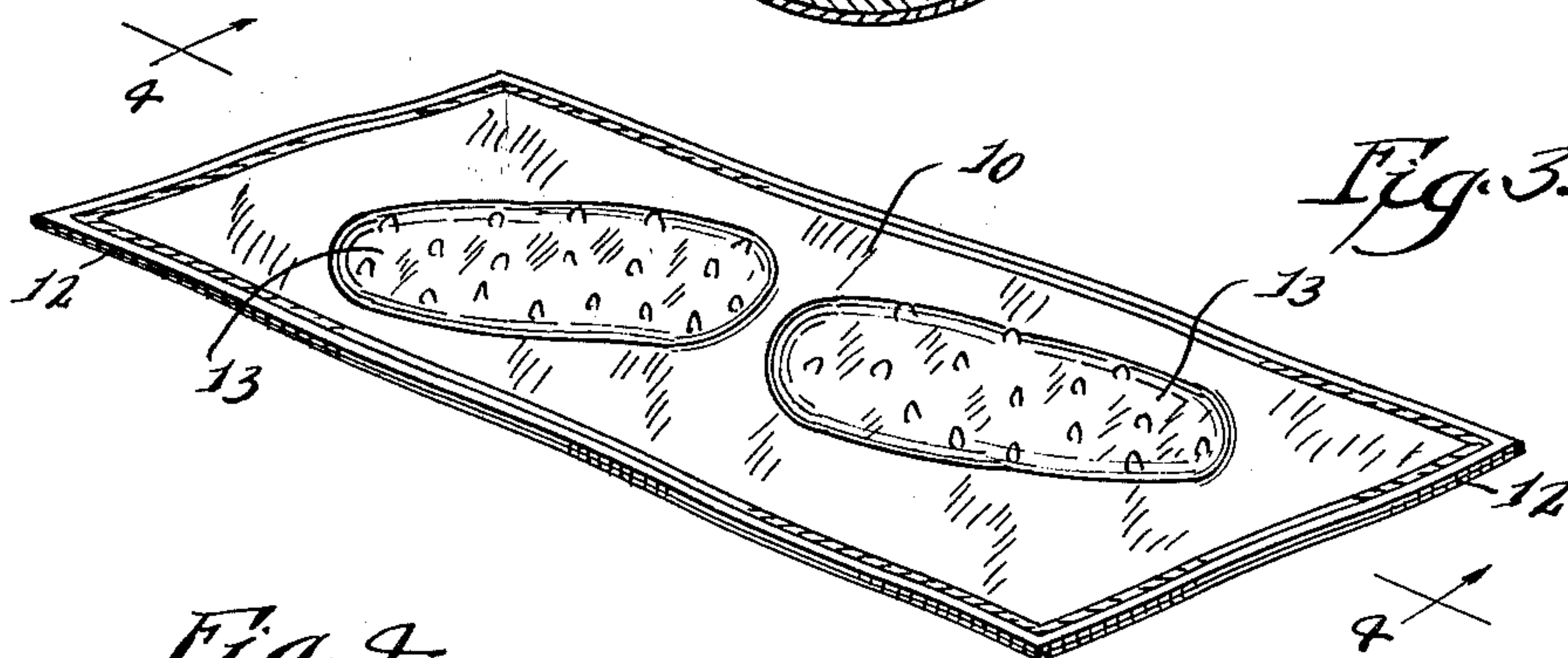
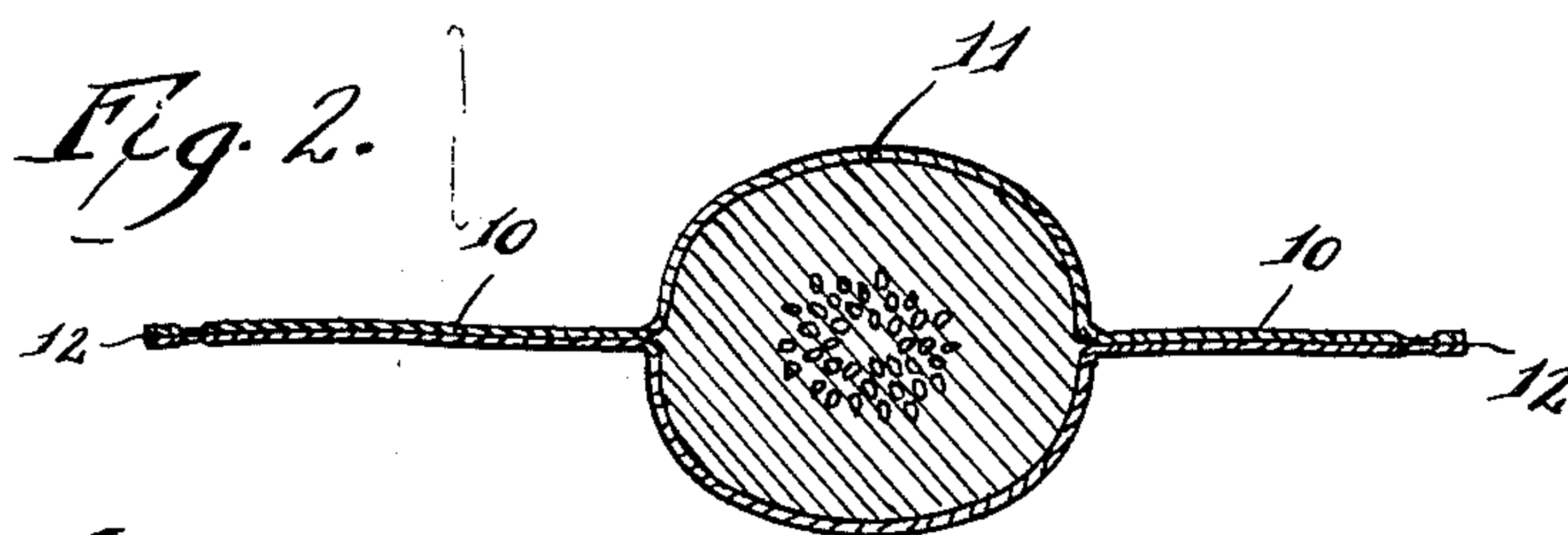
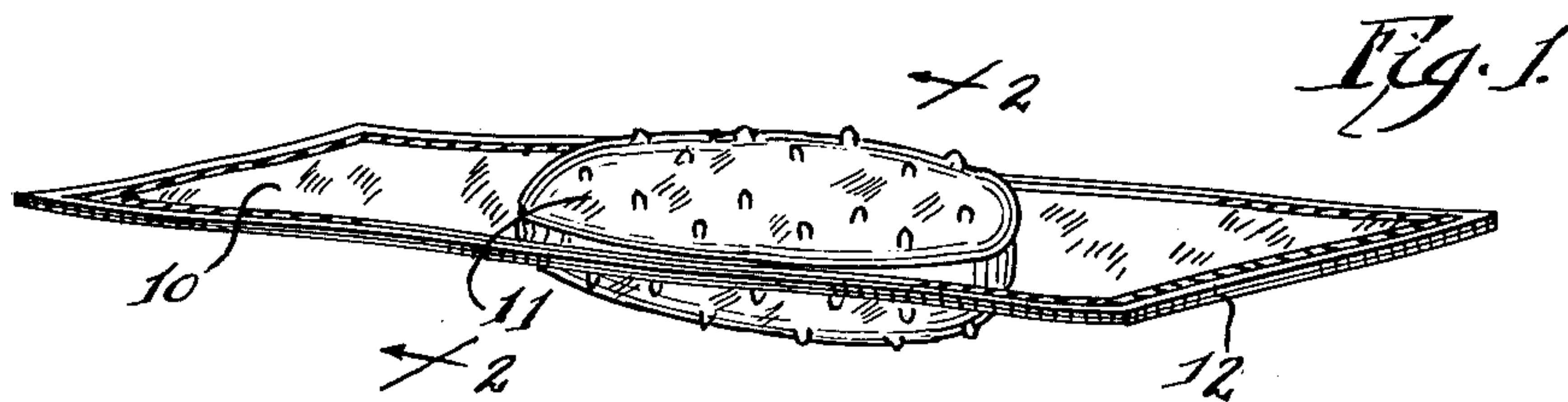
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H. WEINBERG

3,102,034

METHOD OF PACKAGING PROCESSED PICKLES AND TOMATOES

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INVENTOR.

Herman Weinberg.

BY

Wallenstein, Spangenberg & Nattis
Attorneys.

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3,102,034

METHOD OF PACKAGING PROCESSED PICKLES AND TOMATOES

Herman Weinberg, Evanston, Ill., assignor to The Manhattan Pickle Co., Inc., Chicago, Ill., a corporation of Illinois

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2 Claims. (Cl. 99-171)

The invention relates to packaged processed pickles and processed tomatoes. The term "processed" as employed in connection with pickles and tomatoes contemplated by this invention refers to the fact that the pickles and tomatoes, during at least a part of their processing, have been subjected to a common salt brine solution, or to a solution containing common salt and other agents such as sugar, vinegar, flavoring agents, and preservatives, examples of such processed pickles and tomatoes being dill pickles, sweet pickles, sour pickles, and sour tomatoes.

Processed pickles and tomatoes are conventionally packed and shipped in brine or similar solutions and this is the usual case whether the packaging is in glass jars, wooden barrels, or other types of containers. Packaging in glass jars is relatively expensive; and while packaging in wooden barrels is substantially less costly, the pickles and tomatoes have a tendency to deteriorate and become soft and soggy after a period of time, this being independent of conditions of handling. Even in the case of glass packed pickles and tomatoes, appreciable deterioration not infrequently occurs in approximately six months. It has also heretofore been proposed to market processed pickles encased in wax coatings so that the pickles may be dry packed. While such wax coated pickles have gone into some commercial use, various difficulties have been encountered in connection with production techniques so that only very limited commercial use has actually occurred.

In accordance with my invention, processed pickles and tomatoes are packaged in a manner such as to eliminate a number of objections which, so far as I am aware, have always existed with respect to the packaging, shipping and handling of such products.

I have discovered that if a processed pickle or tomato is packaged in a flexible film, which is especially desirably of transparent or translucent character, and essentially impervious to gas and moisture, and sealed under vacuum, whereby to collapse the flexible film about the processed pickle or tomato, the thus packaged product will not only keep for prolonged periods of time but the maintenance of its flavor, freshness, and crispness is enhanced. My invention has the additional important advantages of permitting effective packaging of processed pickles or tomatoes in sliced form for ready eating, as well as, of course, in whole or unsliced form.

Processed pickles and tomatoes packaged in this manner are compact and easily handled, and a number of the individual packages may, if desired, be packed in conventional paper boxes and sold as such, thus materially reducing packing and shipping costs. Various other advantages of substantial commercial significance will be pointed out hereafter in connection with the detailed description of the invention which follows.

In order to illustrate my package and to simplify understanding, I have, on the attached sheet of drawings, shown typical embodiments of my invention. Referring to the drawings:

FIG. 1 is a view in perspective of a package containing a single processed pickle.

FIG. 2 is a view taken in section on line 2-2 of FIG. 1.

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FIG. 3 is a view in perspective of a package containing a halved processed pickle.

FIG. 4 is a view taken in section on line 4-4 of FIG. 3.

FIG. 5 is a view in perspective of a package containing slices of a processed tomato and a processed pickle.

In the particularly preferred aspects of my invention, processed pickles and tomatoes are individually packed, either whole or sliced, under vacuum in a transparent, flexible film or wrapper 10. In addition to being transparent and flexible, the film or wrapper employed is desirably of thermoplastic character so that it may readily be sealed by conventional heat sealing or like sealing techniques, and it should be essentially impermeable to aqueous media and air. The film, moreover, should be one that does not readily tear and yet can be easily opened to expose the processed pickles or tomatoes by simply removing the film from the surface of said product. Of equal importance, and as indicated above, the film should be one which is not attacked by any fluids that may have been retained by the processed pickles or tomatoes as, for example, brine, causing a breakdown of the protective features of the film as well as the seals which are made at the time of wrapping.

A number of transparent, flexible films, which may be in the form of laminate films, now commercially available satisfy the requirements outlined and may be used pursuant to my invention. One of these comprises cellophane coated on both sides with a polyvinylidene chloride plastic film sold under the trade name "Saran" and then laminated to polyethylene. Another particularly suitable film is made from polyethylene terephthalate and available commercially under the trademark "Mylar."

In carrying out my invention, a processed pickle 11, or tomato, preferably free or substantially free of adhering water or brine solution, or the like, is placed between two layers of the film 10, the assembly is removed to a vacuum chamber, and, while under vacuum, sealing means is brought into operation to effectively and hermetically seal the juxtaposed edges 12 of the film. An envelope or container fabricated of the film may also be utilized, the edge portions being pre-sealed or fused by thermo sealable or pressure means. After the processed pickle or tomato is placed into said envelope or container, vacuum is applied to such an envelope or container and the open mouth thereof sealed as indicated above.

The vacuum or sub-atmospheric pressure is preferably maintained at a level of from about 14 to 18 inches of mercury for a time sufficient to evacuate as much air as possible and to establish as great a differential in pressure as can be obtained between atmospheric pressure and the reduced pressure in the package. Due to the fact that the package is imperforate and is hermetically sealed under vacuum, the atmospheric pressure acting exteriorly on the package collapses it around the encased processed pickle or tomato. The vacuum package results in a complete and final fitting of the package film about the encased product, as best shown in FIG. 2, eliminating loss of moisture from the periphery of the product. Moreover, the film, collapsed as it is about the product and, thus, being in contact with substantially all exterior surfaces thereof, effectively prevents access of any residual air in the package to the article thereby serving to inhibit activity of harmful aerobic bacteria. Furthermore, the generation of gases which normally form in the aging of such processed products is virtually overcome. Finally, the individual processed pickles or tomatoes, encased as they are in the package, are effectively prevented from movement within the package and thus physical change and abrasion of the products is avoided.

Those areas of the inner surfaces of the packaging film or wrapper not in contact with the outer surfaces

of the processed product are substantially in pressure contact with one another due to atmospheric pressure acting exteriorly of the package. This results in the formation of flattened or planar areas surrounding the encased processed product, as shown in the drawings. The package thus formed is adapted to lie substantially flat on a plane surface thereby facilitating handling and packing. The collapsed condition of my package has the further added advantage of substantially preventing the migration in the package of any residual processing fluids that might be released by the processed product. The package thus retains its attractive and wholesome appearance, and no spillage or messiness is encountered by the consumer when the package is opened.

It will be appreciated that processed pickles or tomatoes packaged as is contemplated by this invention are maintained in uncontaminated form until ready to be consumed. It may also be noted that my invention makes possible and commercially feasible the marketing of individual single processed pickles or tomatoes, or a plurality of such products, preferably spaced from each other, said processed pickles and tomatoes being in either whole or in sliced form, as shown in FIGS. 1 and 4 illustrating embodiments containing a whole processed pickle 11 and slices 13 of same, or a given single package may be made up of both processed pickles and tomatoes, either whole or in sliced form, the latter embodiment being illustrated in FIG. 5 wherein two slices 14 of a processed tomato and one slice 15 of a processed pickle are shown.

The practice of my invention eliminates the need for incorporating brine solution, or the like, in the package with the processed pickle or tomato. This, of course substantially prevents the said products from deteriorating and becoming soft and soggy, conditions that commonly arise particularly with sliced processed pickles and tomatoes.

Shelf life tests conducted with my packaged processed pickles and tomatoes indicate that they maintain their original fresh taste, flavor and crispness for substantial periods of time, of the order of at least several months.

While my invention has been described in detail, no unnecessary limitations are to be read thereinto, the scope of the invention being set out in the appended claims.

What I claim as new and desire to protect by Letters Patent is:

1. A method of preparing a package containing a product selected from the group consisting of processed pickles and tomatoes comprising the steps of placing the processed product substantially free from adhering processing fluids into a container formed of a transparent, flexible packaging film substantially impervious to gas and moisture, exhausting air and other gases from the container

and sealing the container whereby the contents of the container will be vacuumized and the normal pressure of the atmospheric air surrounding the container will cause the inner surfaces of the container immediately adjacent to said product to collapse about the product to thereby compartmentalize said product in the package and to substantially prevent movement of the product within said container, the remainder of the inner surfaces of the film being brought into pressure contact and forming substantially flattened areas surrounding the product to thereby facilitate handling and packing of the package and to substantially prevent the migration in the package of any residual processing fluids that may be released by the encased processed product, said product in said package remaining crisp and fresh and said package retaining a clear and wholesome appearance for a prolonged period.

2. A method of preparing a package containing slices of a processed food item selected from the group consisting of processed pickles and tomatoes, comprising the steps of placing the slices of the processed food item substantially free from adhering processing fluids into a container formed of a transparent, flexible packaging film substantially impervious to gas and moisture, exhausting air and other gases from the container, and sealing the container whereby the container will be vacuumized and the normal pressure of the atmospheric air surrounding the container will cause the inner surfaces of the container immediately adjacent to the slices to collapse against said slices and compartmentalize the same to thereby substantially prevent movement of the slices within said container, the remainder of the inner surfaces of said container being brought into pressure contact and forming substantially flattened areas surrounding the slices to thereby facilitate handling and packing of the package and to substantially prevent the migration in the package of any residual processing fluids that may be released by the encased slices, said slices in said package remaining crisp and fresh and said package retaining a clear and wholesome appearance for a prolonged period.

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