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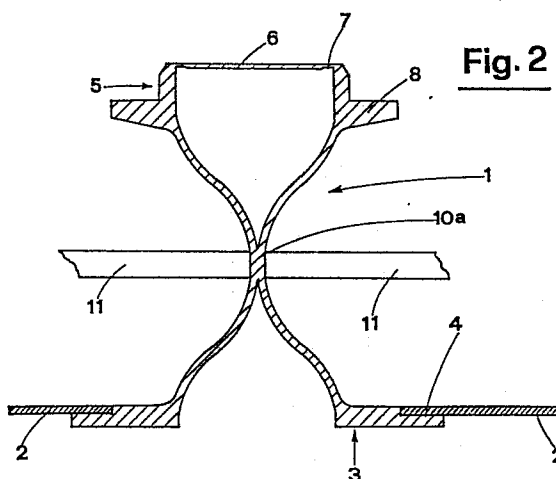
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54 **A filler nozzle for aseptic containers.**

57 The nozzle ensures both hygiene and cost-effective production in the art field of filling and sealing aseptic foodstuffs containers utilizing batching equipment designed to operate in aseptic conditions; it features an annular base (3), and an annular mouth (5) with a breakable web type seal (6), which are interconnected by a tube (10) in such a way that the entire item can be moulded in one piece from the same material.



Description

The invention relates to a filler nozzle for aseptic foodstuffs containers.

Persons skilled in the art of processing foodstuffs, such as fresh fruit, tomatoes etc., will be aware that the end-product can be packed in bags fashioned from polythene or similar material, which are filled by equipment designed for operation under aseptic conditions. A bag of this type is provided with a nozzle for filling purpose, by means of which it can be attached to the equipment. Any one of a variety of techniques may be adopted for sealing the nozzle, including fitment of a bung, or of a heat-sealable web; in either instance, a fully aseptic seal cannot be ensured inasmuch as the inside of the bag becomes exposed to the surrounding atmosphere when the bung is fitted, or the web sealed in place.

The applicant has already developed a nozzle aimed at overcoming the abovementioned drawback, embodied with a ring to which a given area of the wall of the bag is welded direct, on completion of the filling operation. With this technique, one can obtain 100% aseptic conditions internally of the bag, inasmuch as the nozzle is welded in position without the bag being removed from the aseptic filler outlet.

Clearly, a given area of the bag must be brought into contact with the nozzle in order to effect the weld, and this gives rise to the drawback that the full capacity of the bag cannot be exploited; it has been found in practice, for instance, that welded nozzles are not cost-effective for larger containers (say, up to 1000 litres) for this very reason.

The same applies for small sizes (e.g. less than 10 litres), as too great a proportion of the overall capacity of the bag remains unused.

Accordingly, the object of the invention disclosed is to overcome the drawbacks described above, and more exactly, to embody a filler nozzle that will ensure 100% aseptic conditions during batching and sealing operations, and at the same time, permit of exploiting the capacity of the bag to the full. The stated object is realized with a filler nozzle according to the invention, which is characterized in that it comprises an annular base, affording a skirt to which a circular opening in the container is offered and heat-sealed, an annular mouth blanked off by a breakable web and exhibiting a collar by way of which the nozzle engages the filler outlet of a batching machine; and a heat-sealable, thin-walled tube that interconnects the base and mouth and will flatten readily to the end of effecting a complete seal of the nozzle.

The invention will now be described in detail, by way of example, with the aid of the accompanying drawings, in which:

fig 1 is a longitudinal section through the nozzle, seen attached to an aseptic bag;

fig 2 is a similar view of the nozzle, illustrating the sealing operation.

With reference to fig 1 of the drawings, 1 denotes a filler nozzle, in its entirety, and 2 denotes the part of an aseptic container, or bag, to which it is

attached. The nozzle 1 comprises an annular base 3, affording an annular skirt 4 to which a circular opening in the relative bag 2 is offered and heat-sealed.

5 denotes an annular mouth which is blanked off by a temporary web 6; the web is joined to the mouth by way of a thin peripheral seal 7, which can be forced with ease in order to achieve separation.

The mouth 5 exhibits a collar 8 designed to locate against the gripping mechanism of a filling machine outlet (not illustrated) to which the nozzle 1 is offered.

The base 3 and the mouth 5 of the nozzle are interconnected by a tube 10 in heat-sealable material, the thickness of which is noticeably less than that of the base and mouth themselves. The thin wall of the tube 10 is easily flattened, as shown in fig 2, by two heated plates 11 forming part of the filling machine; accordingly, with the foodstuff batched into the bag beneath, the machine seals the nozzle by pinching the tube 10 and fusing a rectangular area of the wall, denoted 10a.

With a nozzle embodied in this fashion, it becomes possible to exploit the entire capacity of the bag and to ensure fully aseptic conditions at one and the same time, by virtue of the fact that the seal can be effected with the bag still connected to the filler outlet. The nozzle itself will be moulded in a single piece from heat-sealable material, such as polythene, for maximum economy of manufacture.

Claims

1) A filler nozzle for aseptic containers, characterized in that it comprises:

-an annular base (3) affording a skirt (4) to which a circular opening in the container is offered and heat-sealed;

-an annular mouth (5), blanked off by a breakable web (6) and exhibiting a collar (8) by way of which the nozzle engages the filler outlet of a batching machine;

-a heat-sealable, thin-walled tube (10) that interconnects the base (3) and mouth (5) and flattens readily to the end of effecting a complete seal of the nozzle.

2) A nozzle as in claim 1, wherein the annular base (3), the annular mouth (5) and the interconnecting tube (10) are embodied integrally, and fashioned in a heat-sealable material.

Fig. 1 0261084

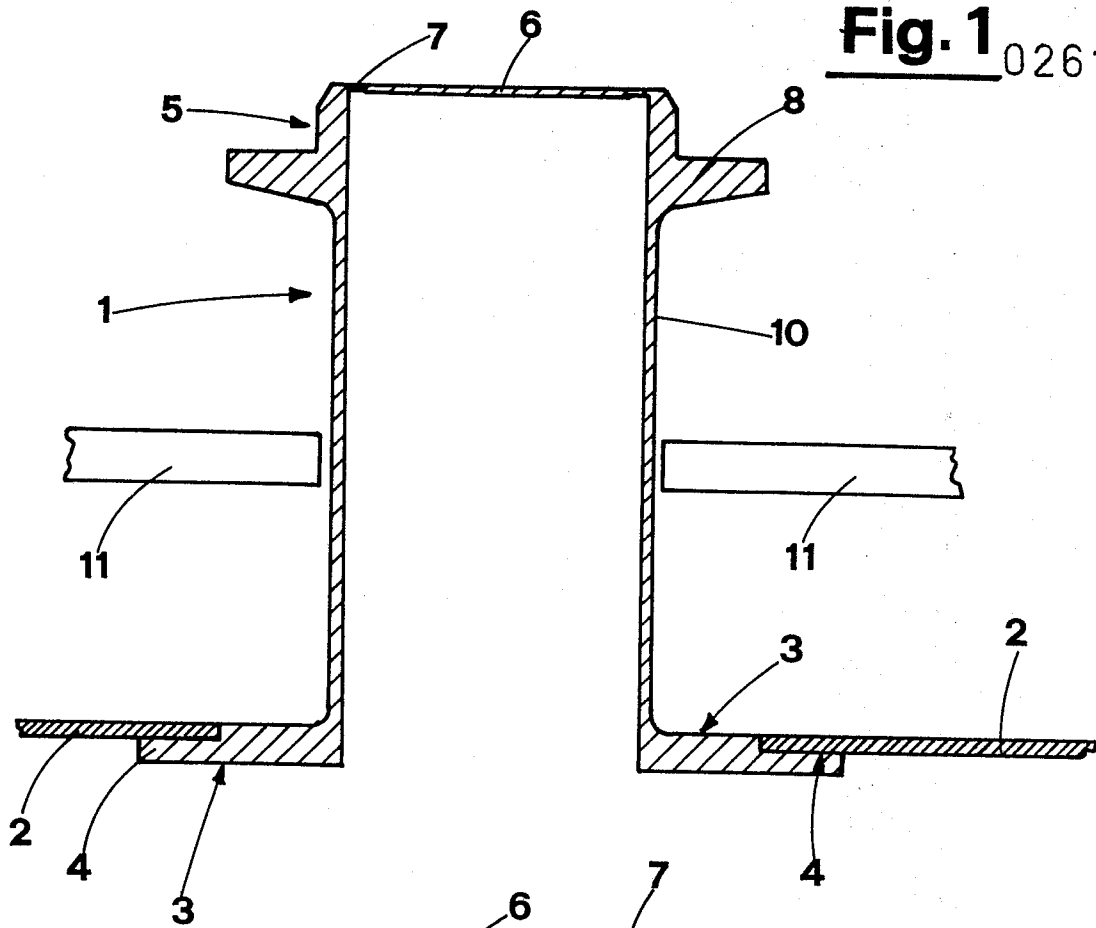


Fig. 2

