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(73) Owner:

COLGATE PALMOLIVE COMPANY of , 300 Park avenue, New York, New York 10022, U.S.A.

(72) Inventor:

JEAN MARIE DENIS and PATRICK DEVOS

(74) Agent/address for correspondence:

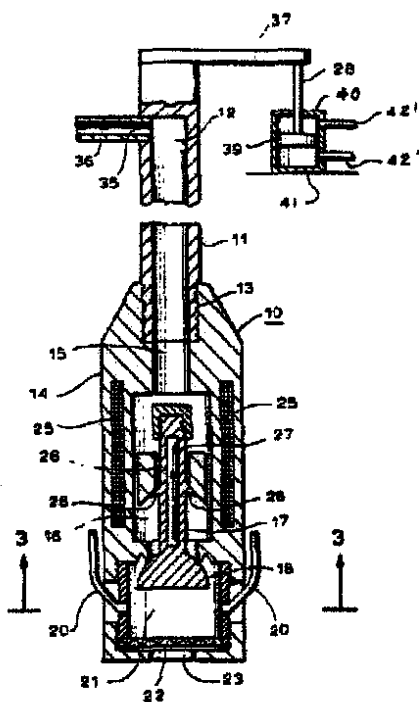
Kaplan & Stratton Advocates, , P.O. Box 40111-00100, Nairobi

(54) Title:

PACKAGE FILLING METHOD AND APPARATUS

(57) Abstract:

A valve is provided for filling containers which eliminates splashing and dripping. As the container is being filled, the valve is moved upwardly so as to be a set distance above the level of the contents of the container during filling. In addition, the liquid passes through an anti-splash screen as it exits the valve. In a further feature, associated with the screen are one or more suction units which operate at the cessation of liquid flow from the valve to remove liquid from the screen and prevent dripping. The combination of the valve moving upwardly during container filling, a screen, and suction units associated with the screen function to prevent splashing during filling and dripping after filling.



As a result of the additional claims presented the election/restriction requirement is withdrawn.

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

This application has been filed with informal drawings which are acceptable for examination purposes only. Formal drawings will be required when the application is allowed.

The drawings are objected to because of the reasons listed on PTO-948. Correction is required.

Applicants are respectfully requested to further review the drawings for other such matters and correct the same.

Applicant is required to submit a proposed drawing correction in response to this Office action. However, correction of the noted defect can be deferred until the application is allowed by the examiner.

INFORMATION ON HOW TO EFFECT DRAWING CHANGES

1. Correction of Informalities -- 37 C.F.R. § 1.85; 1097 OG 36

IN APPLICATIONS FILED BEFORE JANUARY 1, 1989 OPTION (a) OR (b) MAY BE USED IN ORDER TO CORRECT ANY INFORMALITY IN THE DRAWING.
IN APPLICATIONS FILED AFTER JANUARY 1, 1989 ONLY OPTION (a) MAY BE USED.
AFTER JANUARY 1, 1991 ONLY OPTION (a) MAY BE USED REGARDLESS OF FILING DATE.

(a) File new drawings with the changes incorporated therein. The art unit number, serial number and number of drawing sheets should be written on the reverse side of the drawings. Applicant may delay filing of the new drawings

until receipt of the "Notice of Allowability" (PTOL-37). If delayed, the new drawing **MUST** be filed within the **THREE MONTH** shortened statutory period set for response in the "Notice of Allowability" (PTOL-37). Extensions of time may be obtained under the provisions of 37 C.F.R. § 1.136(a). The drawing should be filed as a separate paper with a transmittal letter addressed to the Official Draftsman.

(b) Request a commercial bonded drafting firm to make the necessary corrections. A bonded draftsman must be authorized, the corrections executed and the corrected drawings returned to the Office during the **THREE MONTH** shortened statutory period set for response in the "Notice of Allowability" (PTOL-37). Extensions of time may be obtained under the provisions of 37 C.F.R. § 1.136(a).

Timing of Corrections

Applicant is required to submit acceptable corrected drawings within the three month shortened statutory period set in the "Notice of Allowability" (PTOL-37). Within that three month period, two weeks should be allowed for review by the Office of the correction. If a correction is determined to be unacceptable by the Office, applicant must arrange to have an acceptable correction re-submitted within the original three month period to avoid the necessity of obtaining an extension of time and of paying the extension fee. Therefore, applicant should file corrected drawings as soon as possible.

Failure to take corrective action within the set (or extended) period will result in **ABANDONMENT** of the application.

Corrections other than Informalities Noted by Draftsman on the PTO-948.

All changes to the drawings, other than informalities noted by the Draftsman, **MUST** be made in the same manner as above except that, normally, a red ink sketch of the changes to be incorporated into the new drawings **MUST** be approved by the examiner before the application will be allowed. No changes will be permitted to be made, other than correction of informalities, unless the examiner has approved the proposed changes.

This application does not contain an Abstract of the Disclosure as required by 37 C.F.R. § 1.72(b). An Abstract on a separate sheet is required.

Applicant is reminded of the proper content of an Abstract of the Disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains.

If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure.

If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement.

In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof.

If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making; (3) if a chemical compound, its identity and use; (4) if a mixture, its ingredients; (5) if a process, the steps. Extensive mechanical and design details of apparatus should not be given.

Applicant is reminded of the proper content of an Abstract of the Disclosure.

In chemical patent abstracts, compounds or compositions, the general nature of the compound or composition should be given as well as its use, *e.g.*, "The compounds are of the class of alkyl benzene sulfonyl ureas, useful as oral anti-diabetics." Exemplification of a species could be illustrative of members of the class. For processes, the type reaction, reagents and process conditions should be stated, generally illustrated by a single example unless variations are necessary. Complete revision of the content of the abstract is required on a separate sheet.

Applicant is reminded of the proper language and format of an Abstract of the Disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 250 words. It is important that the abstract not exceed 250 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said", should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," *etc.*

The disclosure is objected to because of the following informalities: element 18 is not held to be a valve stem.

Applicants are respectfully requested to further review the specification for other such informalities and correct the same. Appropriate correction is required.

Claims 1-21 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant

regards as the invention.

In claim 21, "said valve" lacks proper basis in the claim.

In claims 1, 8, 13, 16, the limitations therein are held to repeat various terms and limitations of their respective independent claims. Thus, the scope and content of these claims appears to be very confusing. The specific instances will not be discussed as they are readily apparent.

Claims 1 and others, "said screen" lacks proper basis in the claims. Note that the term is "at least one screen means". Both "at least one" and "means" should be used when the term is recited so that proper basis is found. Also, note "at least one suction means" and similar limitations.

Claim 7, "film package" lacks proper basis in the claims. Applicants are respectfully requested to further review the claims for other such indefinite matters and correct the same. Given the indefinite nature of the claimed invention, the claims are examined as best understood.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

Claims 1, 2, 5-10, 12, 14, 16, 18, 20-22 are rejected under 35 U.S.C. § 102(b) as being anticipated by Hunter.

Hunter discloses an anti-drip nozzle and its method of use. It includes a tubular member, a screen 82 to induce laminar flow and decrease drip formation upon cessation of flow and two suction means to remove excess liquid. The nozzle is used to fill tubular bags with detergent type fluid. The end of the nozzle remains above the liquid level in the receiver.

Claims 4 and 11 are rejected under 35 U.S.C. § 102(b) as anticipated by or, in the alternative, under 35 U.S.C. § 103 as

CLAIMS

5 1. An anti-drip nozzle for filling flexible film packages,
comprising an elongated tubular member having an aperture
therethrough for the flow of a liquid, means at an upper end for
the introduction of a liquid and an outlet aperture provided with
at least one screen means across the aperture, and suction means
10 adapted to remove liquid from the said screen means, means
adapted to cause the said tubular to raised during the filling of
the container, and means to maintain the outlet aperture of the
said tubular member above the level of the said liquid while the
said flexible film package is being filled.

15 2. A nozzle as claimed in claim 1 in which the screen means
are such as to induce laminar flow and to decrease drip formation
upon cessation of flow of the said liquid.

20 3. A nozzle as claimed in claim 1 or claim 2 in which the
suction means are located in the region adjacent to the said
screen means to remove excess liquid from the said screen
means.

25 4. An anti-drip nozzle as claimed in any one of claims 1 to 3
in which there are a plurality of screen means.

5. An anti-drip nozzle as claimed in any one of claims 1 to 4
in which the said screen means have a thickness of about 0.1 to
10 mm.

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6. An anti-drip nozzle as claimed in any one of claims 1 to 5 in which there are a plurality of suction means to remove excess liquid from the said screen means.
- 5 7. An anti drip nozzle as claimed in any one of the claims 1 to 6 in which the body of the said valve substantially fills the cross-section of the flexible film package or the neck of the container which is being filled.
- 10 8. A nozzle as claimed in claim 1 substantially as specifically described herein with reference to the accompanying drawings.
9. A method of filling a flexible film package or pouch with a liquid comprising:
- 15 (a) providing a nozzle comprising an elongated tubular member having an aperture therethrough for the delivery of liquid to a container including at least one screen means and suction means adapted to remove liquid from the said screen means;
- 20 (b) moving the said nozzle in to the container, which is to be filled, adjacent to the bottom of the said container;
- 25 (c) flowing a liquid through the said nozzle and moving the outlet aperture of the said nozzle to maintain the said nozzle outlet aperture above the level of the liquid in the container;
- 30 (d) ceasing the flow of liquid from the said nozzle; and

(e) activating the said suction means to remove liquid from the region of the said screen means.

5 10. A method as claimed in claim 9 in which the liquid removed by the said suction means is flowed to a recycle tank.

11. A method as claimed in claim 9 or claim 10 in which the said liquid is selected from the group consisting of detergent, bleach, fabric softener and lotions.