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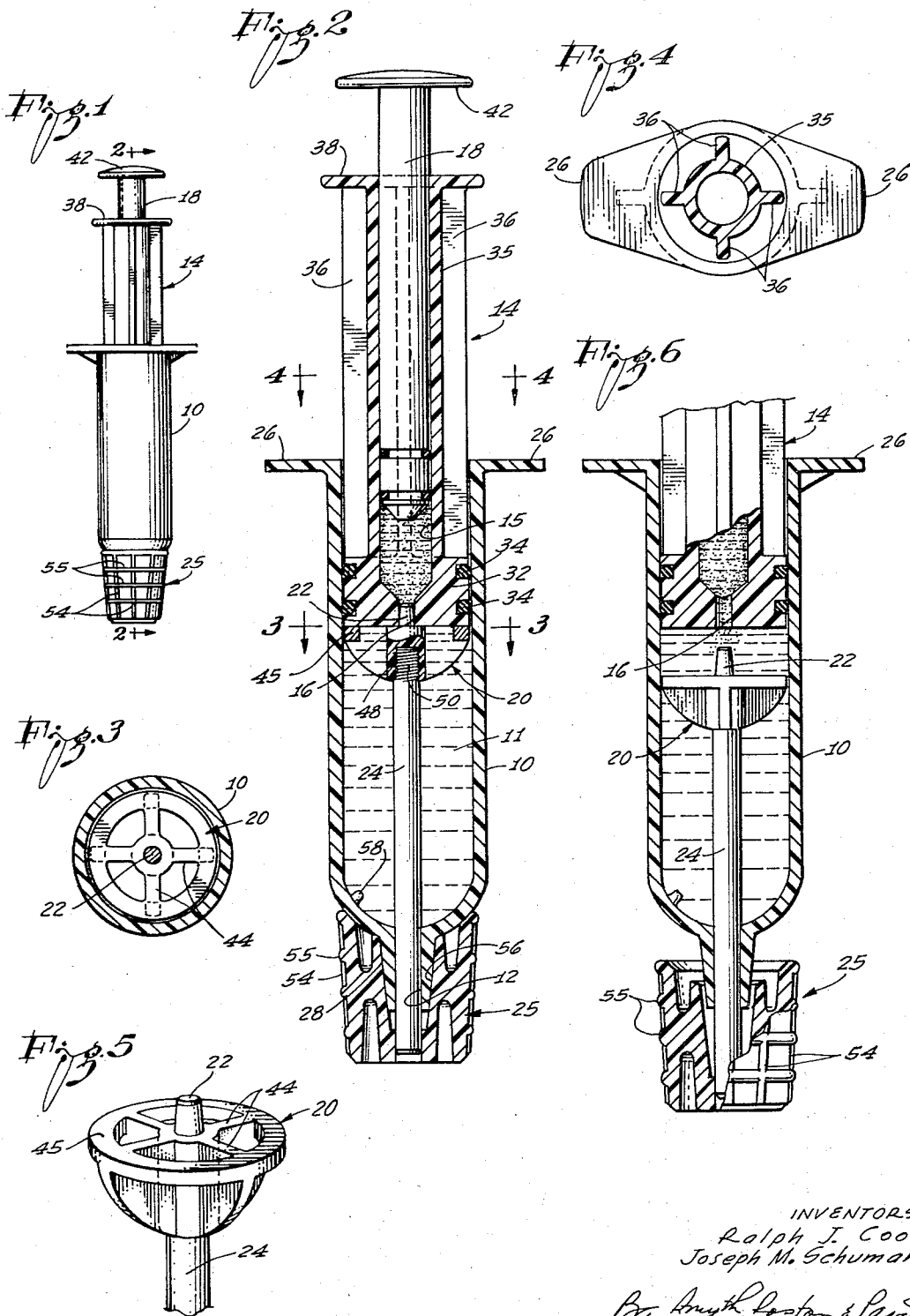
R. J. COOK ET AL

3,370,754

SYRINGE FOR MIXING AND DISPENSING TWO INGREDIENTS

Filed Dec. 21, 1966

3 Sheets-Sheet 1



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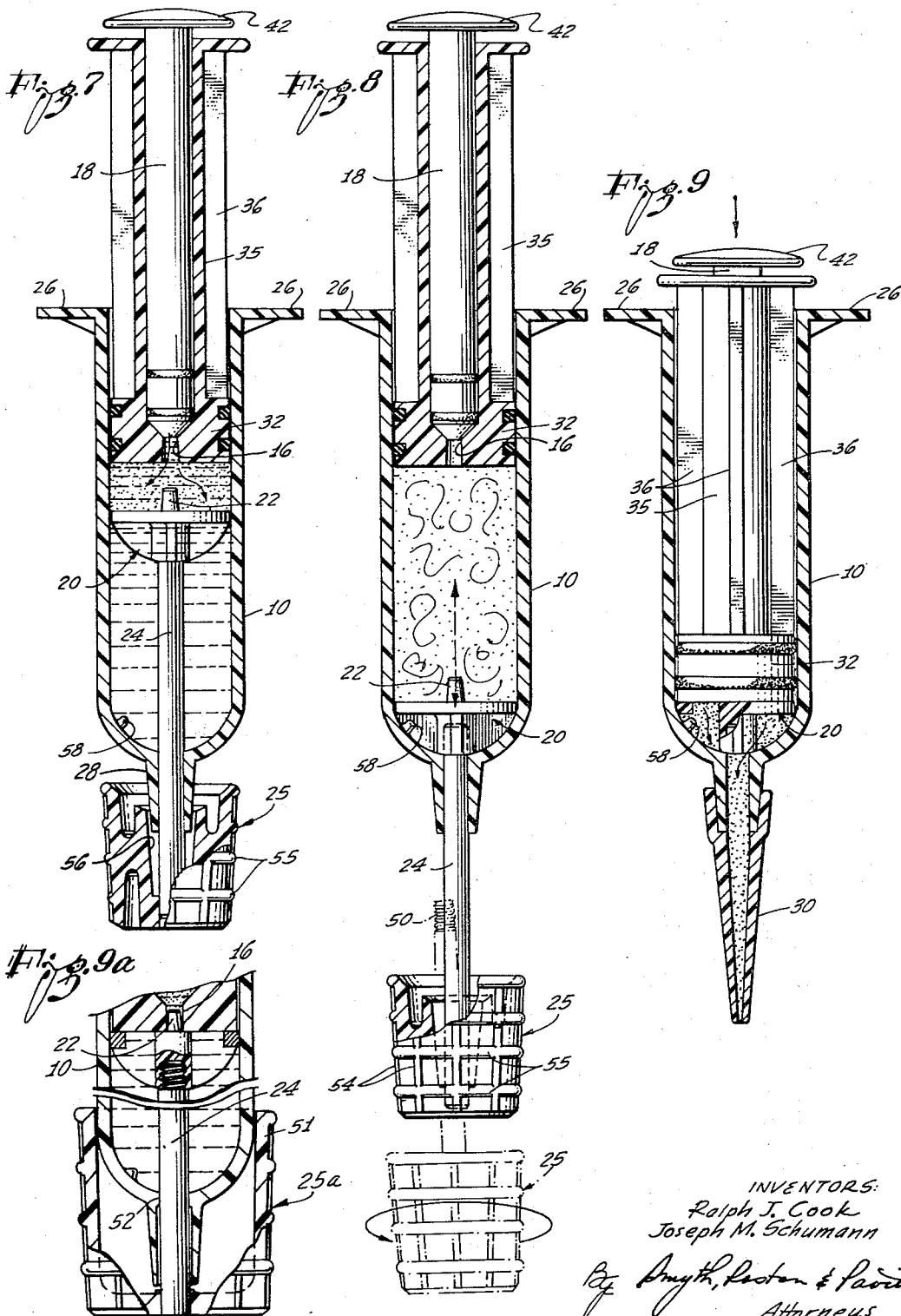
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SYRINGE FOR MIXING AND DISPENSING TWO INGREDIENTS

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3 Sheets-Sheet 2



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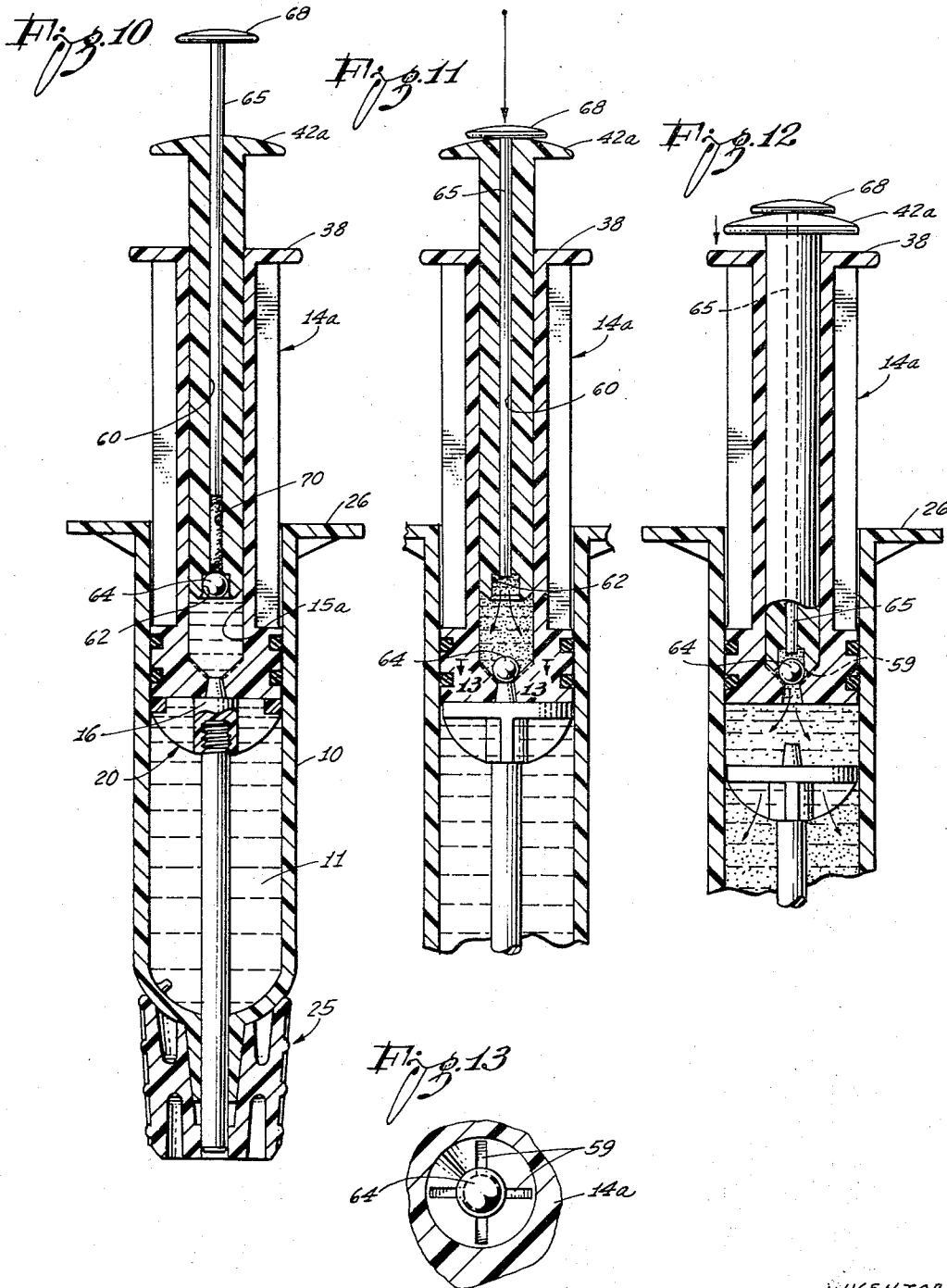
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SYRINGE FOR MIXING AND DISPENSING TWO INGREDIENTS

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3 Sheets-Sheet 3



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3,370,754

**SYRINGE FOR MIXING AND DISPENSING  
TWO INGREDIENTS**

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Continuation-in-part of application Ser. No. 464,978,  
June 18, 1965. This application Dec. 21, 1966, Ser.  
No. 613,692

23 Claims. (Cl. 222—132)

**ABSTRACT OF THE DISCLOSURE**

In a dual compartment container comprising three tele-  
scoping hollow members, the outer member forms a main  
compartment with the dispensing port at one end and the  
two remaining members are slidable in the outer mem-  
ber to dispense the contents of the main compartment.  
The two remaining members cooperate to form a second  
compartment having an inner port for communication  
with the main compartment and said two remaining mem-  
bers are slidable relative to each other to contract the  
second compartment to expel its contents through the  
inner port into the main compartment. A rod means nor-  
mally closes the dispensing port and is not only operable  
to open the inner port but is also operable to reciprocate  
a dasher in the main compartment.

This application is a continuation-in-part of our ap-  
plication Serial No. 464,978 entitled "Syringe for Mixing  
and Dispensing Two Ingredients," filed June 18, 1965 now  
abandoned.

This invention relates to a device for packaging two  
separate ingredients and additionally intermixing the two  
ingredients and dispensing the mixture.

While the invention is widely applicable for its basic  
purpose it has been initially embodied as a disposable  
plastic syringe for packaging a composition together with  
a separate catalyst that is capable of causing the composi-  
tion to solidify quickly into an elastomeric mass. Such a  
dual compartment syringe may be used in the medical  
field for molding soft resilient objects in body cavities.  
For example, the invention may be used to mold an  
elastomeric object inside a human ear for use in a hear-  
ing aid or may be used to duplicate the configuration of  
an oral cavity for dental work. The disclosure herein  
of this initial embodiment of the invention will provide  
adequate guidance for those skilled in the art who may  
have occasion to apply the same principles for other  
specific purposes.

One requirement for such a disposable dual compart-  
ment mixing and dispensing syringe is that the construc-  
tion be suitable for mass production at relatively low  
cost. Another requirement is that the device may be relied  
upon to confine the two ingredients effectively in com-  
plete isolation from each other for storage, shipment and  
shelf life prior to actual use. It is also requisite that the  
device be adapted for easy filling by the two ingredients.

A further requirement is that the device not only be  
efficient for its purpose of quickly intermixing the two  
ingredients but also have a simple and more or less ob-  
vious mode of operation.

For diverse applications, it is essential that the device  
be capable of use interchangeably with various nozzles  
or needles of specialized configurations. Finally, the de-  
vice should be versatile in the sense of being adaptable  
for packaging a wide range of accurately predetermined  
proportions of the two ingredients. The range should be  
sufficient, for example, to include a ratio as high as 50:1,

since a highly useful silicone composition requires a cata-  
lyst of a quantity that is equal to only 1/50 of the quantity  
of the base composition.

The present invention meets these requirements by pro-  
viding a syringe shell to form a first or main compartment  
to contain the base ingredient and by providing a main  
plunger to expel the contents of the main compartment  
through a dispensing port, the main plunger being hollow  
to contain the second smaller ingredient. The second  
smaller compartment formed by the main plunger has  
an inner port in communication with the first compart-  
ment and a secondary plunger mounted in the main  
plunger is operable to transfer the second ingredient  
through the inner port into the first compartment. Manu-  
ally operable means normally closes both the inner port  
and the dispensing port and, finally, a manually operable  
dasher is provided inside the shell to intermix the two  
ingredients in preparation for the dispensing operation.

It will be apparent to those skilled in the art that the  
manually operable means for closing the two ports and  
the manually operable dasher means may take various  
forms in various practices of the invention. In this regard  
a feature of the preferred embodiment of the invention  
is the concept of employing retractable means in the form  
of an operating rod for the multiple purposes of normally  
closing the dispensing port, normally closing the inner  
port and releasably engaging the dasher means for actua-  
tion thereof.

A further feature is the concept of providing the dis-  
pensing port with an external tapered surface for engage-  
ment by a tapered socket of a separate nozzle or needle  
and of further providing the operating rod with a knob  
having a tapered socket to engage the tapered surface to  
hold the operating rod in its normal position. Thus the  
knob which serves as a handle for reciprocating the dasher  
means not only encloses and protects the tapered external  
surface of the syringe until the time of use but also co-  
operates with the tapered surface to keep the two com-  
partments of the syringe tightly closed until the time of  
use.

In some instances, a catalyst may deteriorate with the  
passage of time to shorten the shelf life of the filled con-  
tainer even though the catalyst is effectively isolated from  
the base material. It has been found, however, that in  
some instances, the shelf life of such a catalyst may be  
extended indefinitely if at least one ingredient of the  
catalyst is kept isolated from the remainder of the catalyst.  
Accordingly in another practice of the invention, the tele-  
scoped assembly includes not only the main compartment  
formed by the shell and a second compartment formed  
by the main plunger but also a third compartment formed  
by the auxiliary plunger, the third compartment being  
closed by a third plunger.

With the base material in the main compartment and  
with at least one constituent of the catalyst in the second  
compartment and the remainder of the catalyst in the  
third compartment, the shelf life of the complete package  
is as long as may be desired. At the time of use, first the  
third plunger is advanced to combine the separated con-  
stituents of the catalyst and then the auxiliary plunger is  
advanced to inject the combined catalyst into the main  
compartment for mixing with the base ingredient.

The features and advantages of the invention may be  
understood from the following detailed description and  
the accompanying drawings.

In the drawings, which are to be regarded as merely  
illustrative:

FIG. 1 is a side elevation of the dual compartment  
syringe with the syringe serving as a container for the two  
separate ingredients;

FIG. 2 is a longitudinal sectional view on enlarged  
scale taken as indicated by the line 2—2 of FIG. 1;

FIG. 3 is a transverse section along the line 3—3 of FIG. 2 showing the dasher means in plan;

FIG. 4 is a transverse section along the line 4—4 of FIG. 2 showing the main plunger assembly in cross section;

FIG. 5 is a fragmentary perspective view showing the dasher with an operating rod releasably connected thereto;

FIG. 6 is a fragmentary sectional view similar to FIG. 2 showing the first step in the operation of the device at the time of use, the first step being to retract the operating rod sufficiently to place the small compartment containing the minor ingredient in communication with the larger compartment containing the base ingredient;

FIG. 7 is a similar sectional view illustrating the second step in the operation of the device which consists of employing the secondary plunger to displace the minor ingredient into the main compartment;

FIG. 8 is a similar view illustrating the third step of reciprocating the dasher to intermix the two ingredients and further illustrating the step of disengaging the operating rod from the dasher and withdrawing the operating rod from the dispensing port of the syringe;

FIG. 9 is a similar view illustrating the final step of operating the main plunger to dispense the mixed ingredients through a suitable nozzle or needle;

FIG. 9a is a fragmentary sectional view showing how a cap may be substituted for a knob on the end of the rod member in the first embodiment of the invention;

FIG. 10 is a sectional view similar to FIG. 2 illustrating the second embodiment of the invention wherein a three-compartment syringe serves as a container for three isolated ingredients;

FIG. 11 is a similar fragmentary sectional view illustrating the first step of transferring an ingredient from the third compartment to the second compartment;

FIG. 12 is a similar fragmentary sectional view illustrating the transfer of the two intermixed ingredients from the second compartment to the third compartment; and

FIG. 13 is a fragmentary transverse cross-sectional view on a larger scale taken along the line 13—13 of FIG. 11, the view showing radial grooves at the bottom of the second compartment to permit the material to flow past a ball member.

The principal parts of the device include: a shell 10 forming a first or main compartment 11 for the first larger ingredient, the shell being formed with a dispensing port 12; a main plunger, generally designated 14, slidably mounted in the shell 10 for expelling the contents of the main compartment 11 through the dispensing port, the main plunger being hollow to form a second smaller compartment 15 to contain the second ingredient, the smaller compartment having a restricted inner port 16 in communication with the main compartment 11; a secondary plunger 18 slidably mounted in the main plunger 14 for the purpose of forcing the second ingredient from the smaller compartment 15 into the main compartment; a dasher 20 inside the main compartment for intermixing the two ingredients; a small plug 22 that is unitary with the dasher 20 and normally seats in the inner port 16 to isolate the ingredient in the smaller compartment from the ingredient in the main compartment; a retractable member in the form of an operating rod 24 normally closing the dispensing port 12 and normally releasably engaged with the dasher 20 for operation of the dasher; and a knob 25 serving as a handle for the operating rod 24. All of these parts may be made of any suitable plastic material.

The shell 10 is formed at its open end with a pair of diametrically opposite flanges 26 and at its opposite end the dispensing port 12 of the shell is provided with a surrounding tapered conical surface 28 for releasable engagement by interchangeable nozzles or needles, for example a nozzle 30 shown in FIG. 9.

The main plunger 14 comprises an elongated body with an axial bore forming the smaller compartment 15. Pref-

erably the main plunger has a piston portion 32 equipped with two O-rings 34 and has a tubular shank portion 35 that is of reduced diameter and is provided with four radial guide vanes 36 for cooperation with the internal surface of the shell 10. The outer end of the main plunger 14 is formed with a flange 38 to facilitate manual operation of the plunger. The secondary plunger 18 may be provided with a pair of O-rings 40 and may be formed with a head or outer knob 42 to facilitate manual operation for displacing the smaller second ingredient into the main compartment 11.

The dasher 20 may have four radial vanes 44 interconnected by an integral ring 45. The previously mentioned small plug 22 is an axial extension of the dasher and is dimensioned to fit tightly in the inner port 16. Preferably both the inner port 16 and the small plug 22 are slightly tapered. As shown in FIG. 2 the dasher 20 has a threaded axial socket 48 that is normally engaged by the inner threaded end of the retractable operating rod 24.

The outer knob 25 may be mounted on the outer end of the retractable rod 24 by a forced fit and may be formed with external longitudinal ribs 54 and circumferential ribs 55 to facilitate manual gripping of the knob. The knob 25 is further formed with a cavity 56 which is tapered for releasable frictional engagement with the external tapered conical surface 28 at the dispensing port of the shell.

The manner in which the device operates to serve its purpose may be readily understood from the foregoing description. FIGS. 1 and 2 show the device as assembled to serve as a package for handling, storing and shipping the two ingredients with the two ingredients completely isolated from each other. The first or base ingredient occupies the shell 10 in the first compartment 11 between the leading end of the main plunger 14 and the dispensing port 12. The main plunger 14 abuts the dasher 20 on the inner end of the operating rod 24 and it is apparent that the effective frictional engagement of the knob 25 with the tapered surface 28 of the shell 10 serves to lock the operating rod 24. Thus the operating rod 24 normally blocks the path of inward movement of the main plunger 14 and in addition closes the dispensing port 12 to provide a hydraulic block to inward movement of the main plunger.

The small plug 22 that is part of the dasher 20 is seated in the inner port 16 to keep the second ingredient in the smaller compartment 15 completely isolated from the first ingredient. At the same time, the presence of the operating rod 24 seals the dispensing port 12 to confine the base ingredient in the main compartment.

The first step in operating the device for intermixing and dispensing the two ingredients is to manipulate the knob 25 to free the knob from the tapered surface 28 and to retract the dasher 20 sufficiently to withdraw the small plug 22 from the inner port 16, the parts then being in the positions shown in FIG. 6.

The next step illustrated by FIG. 7 is to depress the secondary plunger 18 by means of the outer knob 42 to displace the second minor ingredient from the smaller compartment 15 through the inner port 16 into the larger compartment 11. Since the inner port 16 is of restricted cross section and the minor ingredient is usually of low viscosity, the advance of the secondary plunger causes the minor ingredient to be projected as a high velocity stream which effectively penetrates the major ingredient in the main compartment 11. The operating movement of the secondary plunger 18 increases the volume of material in the main compartment 11 and consequently causes the main plunger 14 to retract correspondingly since the operating rod 24 keeps the dispensing port 12 sealed.

The next step is to reciprocate the dasher 20 vigorously by means of the knob 25 for thorough intermixture of the two ingredients, this step being illustrated in FIG. 8. When the two ingredients are thoroughly intermixed, the operating rod 24 is disengaged from the dasher 20 and is

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completely withdrawn from the dispensing port 12. To disengage the operating rod from the dasher it is merely necessary to rotate the operating rod counterclockwise by means of the knob 25 while keeping the dasher from rotating, for example by squeezing the shell 10 against the dasher. In this regard a feature of the illustrated embodiment of the invention is the provision of a small lug or projection 58 inside the shell 10 near its leading end for engagement by a radial vane 44 of the dasher to keep the dasher from rotating when the operating rod is being disengaged from the dasher.

After the operating rod 24 is unscrewed from the dasher 20 the operating rod is completely retracted to open the dispensing port 12. A suitable nozzle or needle 30 may be then mounted on the tapered surface 28 at the leading end of the shell and the main plunger may be depressed to expel the intermixed ingredients as shown in FIG. 9.

Because of the substantial length of the tapered surface 28 that is engaged by the knob 25 and because of the low angle of taper of the surface, the knob 25 may be depended upon to remain in tenacious engagement with the tapered surface throughout the handling, storing and shipping of the device. Notwithstanding the effectiveness with which the knob engages to tapered surface, however, the knob may be easily maneuvered free from the tapered surface by a slight twist.

It is apparent that the volume of the base composition in the first compartment 11 may be easily fifty times the volume of the second ingredient in the smaller compartment 15. It is to be noted that normally a substantial portion of the plunger 14 is telescoped into the shell 10 to make the plunger rigid relative to the shell and in like manner a substantial portion of the secondary plunger 18 extends into the main plunger to make the secondary plunger rigid relative to the main plunger. It is also apparent that since the parts may be readily molded from plastic material, the two-compartment syringe may be relatively inexpensive to make it practical to discard the device after a single use.

FIG. 9a shows how a cap 25a may be substituted for the knob 25 to avoid the necessity of accurately dimensioning the rod 24 with the knob 25 thereon. The necessity for accurate dimensioning arises from the fact that an accurately predetermined volume of material is placed in the first compartment 11 and from the further fact that the small plug 22 on the end of the rod member 24 must seat in the inner port 16 simultaneously with the seating of the tapered axial surface 28 in the tapered cavity 56 of the plunger 25. If the rod 24 is too short for the quantity of liquid in the first compartment 11, the seating of the tapered surface 28 in the cavity 56 of the knob will occur without the small plug 22 seating in the inner port 16. On the other hand, if the rod member 24 is too long, the small plug 22 will seat in the inner port 16 before the tapered surface 28 seats in the cavity 56 of the knob 25, and if the rod member 24 is then advanced far enough for the tapered surface 28 to seat in the cavity 56, the piston portion 32 of the main plunger 14 will be retracted to result in a void or vacuum in the first compartment 11.

In FIG. 9a a handle means in the form of cap 25a is substituted for the knob 25. The cap has a cylindrical skirt 51, the inside diameter of which is slightly larger than the outside diameter of the shell 10. Normally the cylindrical skirt 51 telescopes over the shell 10 with the cap 25a enclosing and protecting the dispensing port and the tapered conical surface 28. Thus the cap 25a does not limit the axial inward movement of the rod member 24. It is readily apparent that the substitution of the cap 25a for the knob 25 permits substantial tolerance in the length of the rod member 24.

The rod member 24 should extend through dispensing port 12 of the shell 10 in a fluid tight manner. For this purpose the dispensing port is of the configuration shown

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in FIG. 9a wherein the dispensing port is formed with an inner circumferential rib or sealing land 52 to embrace the rod member 24 in a fluid tight manner.

Turning to the second embodiment of the invention shown in FIGS. 10 to 13, which contains three ingredients separated from each other instead of two ingredients, the structure is largely similar to the structure of the first embodiment of the invention as indicated by the use of corresponding numerals to indicate corresponding parts.

In the new construction a slightly modified main plunger 14a is substituted for the previously described primary plunger 14 and a secondary plunger 18a is substituted for the secondary plunger 18. The main plunger 14a is provided with the usual slightly tapered inner port 16 and, as shown in FIG. 13, the interior of the primary plunger at its inner end is formed with radial grooves 59 to facilitate displacement of material from the second compartment 15a into the main compartment 11.

The substituted secondary plunger 18a is hollow to store the third ingredient and for this purpose is formed with an axial bore 60 that extends throughout its length. The inner end of the axial bore 60 is enlarged to form a valve seat 62 for a ball valve member 64 which may be made of a suitable plastic. It is contemplated that the ball member will be wedged into the valve seat under sufficient diametrical compression to form a seal for isolating the material in the axial bore 60 in the secondary plunger 18a from the material inside the main plunger 14a.

The third ingredient is confined in the axial bore 60 between the ball valve member 64 and a third small diameter plunger 65 that is slidingly mounted in the axial bore. The third plunger 65 is formed with a knob 68 on its outer end which, as shown in FIG. 10, is normally retracted from the knob 42a of the secondary plunger 18a. It is apparent that the second embodiment of the invention has the usual first or main compartment 11 formed by the shell 10, the usual second smaller compartment 15a formed by the secondary plunger 18a and, in addition, has a third smaller compartment 70 in the secondary plunger 18a, the third compartment being the portion of the axial bore 60 between the ball valve member 64 and the inner end of the third plunger 65.

In a typical use of the second embodiment of the invention, the main compartment 11 contains a base composition as previously described but the catalyst for activating the base composition is divided with some of its constituents in the second compartment 15a and the remaining constituents in the third compartment 70. With constituents of the catalyst separated in this manner the package has an indefinite shelf life.

Our description in specific detail of the selected embodiment of the invention will suggest various changes, substitutions and other departures from our disclosure within the spirit and scope of the appended claims.

We claim:

1. A dual compartment container for separately storing two ingredients, subsequently mixing the two ingredients and later dispensing the mixture, comprising:

a plurality of members of progressively different diameters telescoped together,

the outermost member being a cylindrical member forming a main compartment to contain a main ingredient, said main compartment being open at one end and having a dispensing port at the other end,

the remaining members closing said one end of the main compartment and being manually movable relative to the outermost member towards said dispensing port to dispense the contents of the main compartment;

means normally closing said dispensing port, said closing means being manually operable to open the dispensing port,

two of said remaining members cooperating to form a second compartment to contain a second ingredient, said second compartment having an inner port for communication with the main compartment, said two members being movable relative to each other to contract the second compartment to transfer the second ingredient therefrom into the first compartment;

rod means normally extending through said dispensing port to close the dispensing port; and means operable by said rod means to open and close said inner port.

2. A combination as set forth in claim 1 in which the dasher means in the main compartment is releasably connected to said extending means.

3. Means for separately storing two ingredients, subsequently intermixing the two ingredients and then dispensing the mixture, comprising:

a main container to hold a first ingredient, said main container being open at one end and having a dispensing port at the other end;

plunger means mounted in the open end of said container and spanning the interior of the container, said plunger means being movable towards said port to expel the contents of the main container through the port,

said plunger means having a passage therethrough to serve as an auxiliary container for a second ingredient, the inner end of said passage communicating with the interior of the main container;

an auxiliary plunger slidingly mounted in said passage and closing the outer end of the passage, said plunger being movable towards the inner end of the passage to transfer the second ingredient to the main container;

manually releasable means normally closing the inner end of said passage to isolate the two ingredients from each other;

dasher means in said main container to mix the two ingredients together; and

operating means extending from the exterior of the main container through said dispensing port to reciprocate said dasher, said operating means normally closing said dispensing port and being retractable to open the dispensing port.

4. A combination as set forth in claim 3 which includes means to releasably connect said operating means to the main container to maintain the operating means at an inner position until the time arrives for intermixing the two ingredients.

5. A combination as set forth in claim 4 in which said connecting means is a knob on the outer end of the operating means having a cavity for releasably embracing a portion of the shell.

6. Means for separately storing two ingredients, subsequently intermixing the two ingredients and then dispensing the mixture, comprising:

a main container for one ingredient open at one end and formed with a dispensing port at the other end;

plunger means closing the other end of the container and movable towards said dispensing port to dispense the contents of the main container,

said plunger means being hollow to contain a second ingredient and having an inner port for communication with the main container;

means normally closing said inner port to isolate the second ingredient from the first ingredient, said closing means being manually operable to open the inner port;

means to displace the second ingredient from the interior of the plunger means through said inner port into the main container;

dasher means in the main container to mix the two ingredients together; and

means retractably extending into the main container through the dispensing port to normally close the dispensing port, said retractable means being releasably connected to the dasher means for operation thereof.

7. A combination as set forth in claim 6 in which the retractable means normally screwthreadedly engages the dasher means; and

in which a projection on the inner wall of the main container is positioned to engage the dasher means to prevent rotation thereof to permit the retractable means to be rotated out of engagement with the dasher means.

8. A combination as set forth in claim 6 in which the means that normally closes the inner port is unitary with the dasher means for operation by the retractable means.

9. Means for separately storing two ingredients, subsequently intermixing the two ingredients and then dispensing the mixture, comprising:

a shell to confine the first ingredient, said shell having at one end a dispensing port with an exterior tapered surface;

a main plunger closing the other end of the shell with the outer end of the main plunger protruding from the shell, said outer end portion having radially positioned longitudinal guide fins in sliding engagement with the interior of the shell, said main plunger being movable towards the dispensing port to dispense the content of the shell through the dispensing port,

said main plunger being hollow to contain the second ingredient and having an inner port for transferring the first ingredient into the shell;

an auxiliary plunger extending into the outer end of the main plunger for manual displacement of the first ingredient through the inner port into the shell; dasher means inside the shell to mix the two ingredients together;

rod means retractably extending into the interior of the shell through said dispensing port and normally closing the dispensing port,

said rod means being releasably connected to the dasher means for manual operation thereof;

a plug unitary with the dasher means and normally seated in the inner port to isolate the first ingredient from the second ingredient whereby retraction of the dasher means by the rod means opens the inner port; and

means at the outer end of the rod means normally frictionally engaging said tapered surface of the dispensing outlet to releasably immobilize the rod means at a position with said plug closing the transfer port.

10. A combination as set forth in claim 9 which includes a separate nozzle for mounting on the dispensing port in frictional engagement with the tapered surface thereof.

11. Means for separately storing two ingredients, subsequently intermixing the two ingredients and then dispensing the mixture, comprising:

a shell to confine the first ingredient, said shell having a dispensing port at one end;

a main plunger closing the other end of the shell and movable to expel the contents of the shell through the dispensing port,

said main plunger being hollow to contain the second ingredient and having an inner port for transferring the first ingredient into the shell;

an auxiliary plunger extending into the outer end of the main plunger for manual displacement of the first ingredient through the inner port into the shell; dasher means inside the shell to mix the two ingredients together;

rod means retractably extending into the interior of the shell through the dispensing port and normally closing the dispensing port,

said rod means being releasably connected to the dasher means for manual operation thereof; and means normally closing said inner port, said closing means being operable by the rod means to open the inner port.

12. Means for separately storing two ingredients, subsequently intermixing the two ingredients and then dispensing the mixture, comprising:

a shell to confine the first ingredient, said shell having a dispensing port at one end;

a main plunger closing the other end of the shell, said main plunger being hollow to contain the second ingredient and having an inner port for transferring the first ingredient into the shell;

annular sealing means effective between the main plunger and the shell;

an auxiliary plunger extending into the outer end of the main plunger for manual displacement of the first ingredient into the shell;

annular sealing means effective between the auxiliary plunger and the main plunger;

manually retractable plug means normally closing said inner port;

dasher means inside the shell to mix the two ingredients together; and

rod means extending into the interior of the shell through said dispensing outlet and normally closing the dispensing outlet, said rod means being retractable through the dispensing port and being releasably connected to the dasher means for manual operation thereof.

13. In a device of the character described for use with a separate nozzle for dispensing a fluent material, the combination of:

a container having a dispensing port with an external surface shaped for releasable engagement by the nozzle;

dasher means in the container for agitating the fluent material;

a separate operating member extending into said dispensing port and releasably connected to the dasher means for operation thereof, said operating member normally closing the dispensing port and being retractable to open the dispensing port; and

means on the outer end of the operating member to releasably engage said external surface to retain the operating member in the dispensing port.

14. In a device of the character described, the combination of:

a container means having a first compartment to contain a first ingredient and a second compartment to contain a second ingredient,

said first compartment having a first dispensing port, said second compartment having a second port for communication with the first compartment;

means normally extending through said dispensing port into said second port to close both of the ports,

said extending means being partially retractable to open the second port while keeping the first port closed and being completely retractable to open both ports, said second compartment being manually contractible to expel the second ingredient through the second port into the first compartment; and

means to expel the contents of said first compartment through said dispensing port.

15. A combination as set forth in claim 14 which includes means cooperative with said container means to releasably hold said extending means in its normal position.

16. In a device of the character described, the combination of:

a container having a first compartment to contain a first ingredient and a second compartment to contain a second ingredient,

said first compartment having a first dispensing port,

said second compartment having a second port for communication with the first compartment, said dispensing port having an external surface for releasable engagement by a separate dispensing nozzle;

means normally extending through said dispensing port into said second port to close both of the ports,

said extending means being partially retractable from its normal position to open the second port while keeping the first port closed and being completely retractable to open both ports, said second compartment being manually contractible to expel the second ingredient through the second port into the first compartment;

means to releasably engage said external surface of the dispensing port to releasably hold said extending means in its normal position; and

means to expel the contents of said first compartment through said dispensing port.

17. A combination as set forth in claim 16 in which said external surface is a tapered surface and said cooperative means is a knob on the outer end of the extending means, said knob having a tapered cavity for frictional engagement with said tapered surface.

18. A multiple-compartment container for separately storing three ingredients, and later dispensing the three ingredients, comprising:

a plurality of members of progressively different diameters telescoped together,

the outermost member of said plurality of members being a cylindrical member forming a first compartment to contain a first ingredient, said first compartment being open at one end and having a dispensing port at the other end;

means normally closing said dispensing port, said closing means being manually operable to open the dispensing port,

a second member of the plurality of members being slidable in the first compartment to expel the content of the first compartment through the dispensing port, said second member being hollow to form a second compartment to contain a second ingredient,

a third member of the plurality of members being slidable in the second compartment to displace the content of the second compartment into the first compartment,

said third member being hollow to form a third compartment, said third compartment being contractible to displace the contents thereof into the second compartment; and

means normally cutting off communication between the third compartment and the second compartment, said cutting off means being manually operable to place the third compartment in communication with the second compartment.

19. A combination as set forth in claim 18 which includes manually operable means in the first compartment to mix the ingredients together.

20. A combination as set forth in claim 18 in which said means to cut off communication between the third compartment and the second compartment comprises a closure member adapted to be unseated by the pressure created in the third compartment when the third compartment is contracted.

21. In a device of the character described, the combination of:

a container having a first compartment to contain a first ingredient and a second compartment to contain a second ingredient,

said first compartment having a first dispensing port, said second compartment having a second port for communication with the first compartment,

said second compartment being manually contractible to displace its content through said second port into the first compartment and said first compartment



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being manually contractible to extrude its content through said dispensing port;  
 mixing means including a dasher in said first compartment and a rod member connected to the dasher for manual operation thereof, said rod member normally extending through said dispensing port to close the dispensing port, said rod member being releasable from the dasher for retraction of the rod member to open the dispensing port;  
 means carried by said mixing means to normally close said second port and to open the second port in response to retraction of the rod member; and  
 handle means for the outer end of said rod member, said handle means being adapted to telescope over the outer peripheral surface of said container thereby to enclose the portion of the container around the dispensing port.

22. A combination as set forth in claim 21 in which said container is made of plastic material and is formed

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with an inner circumferential rib at said dispensing port to embrace said rod member to seal off the dispensing port and to frictionally retain the rod member.

23. A combination as set forth in claim 21 in which said container is shaped at said dispensing port with an outer tapered surface to permit a dispensing nozzle to be mounted on the container means, said tapered surface being normally enclosed by the telescoping of said handle means over the outer peripheral surface of the container.

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