

AUSTRALIA

Patents Act

DECLARATION FOR A PATENT APPLICATION

▼ INSTRUCTIONS

(a) Insert "Convention" if applicable

(b) Insert FULL name(s) of applicant(s)

(c) Insert "of addition" if applicable

(d) Insert TITLE of invention

(e) Insert FULL name(s) AND address(es) of declarant(s) (See headnote\*)

(f) Insert FULL name(s) AND address(es) of actual inventor(s)

(g) Recite how applicant(s) derive(s) title from actual inventor(s) (See headnote\*\*)

(h) Insert country, filing date, and basic applicant(s) for the/or EACH basic application

(k) Insert PLACE of signing

(l) Insert DATE of signing

(m) Signature(s) of declarant(s)

Note: No legalization or other witness required

In support of the (a) convention application made by  
(b) ARCADE INC.

(hereinafter called "applicant(s)" for a patent (c) for an  
invention entitled (d) COSMETIC SAMPLER

I/~~XX~~ (e) Gaines P. Campbell, Jr., Chief Executive Officer  
of ARCADE INC.  
1815 East Main Street  
Chattanooga, Tennessee 37404 U.S.A

do solemnly and sincerely declare as follows:

~~1. I am/We are the applicant(s).~~

(or, in the case of an application by a body corporate)

1. I am/~~XXXX~~ authorized to make this declaration on behalf of the applicant(s).

~~2. I am/We are the actual inventor(s) of the invention.~~

(or, where the applicant(s) is/are not the actual inventor(s))

2. (f) Gaines P. Campbell, Jr.  
227 Fleetwood Drive  
Lookout Mountain, Tennessee 37350  
United States of America

is/~~are~~ the actual inventor(s) of the invention and the facts upon which the applicant(s)  
is/~~are~~ entitled to make the application are as follows:

(g) Applicant is the assignee of the invention from the  
actual inventor

(Note: Paragraphs 3 and 4 apply only to Convention applications)

3. The basic application(s) for patent or similar protection on which the application is based  
is/~~are~~ identified by country, filing date, and basic applicant(s) as follows:

(h) United States, November 13, 1986, Serial No. 929,812  
Gaines P. Campbell, Jr.

4. The basic application(s) referred to in paragraph 3 hereof was/~~were~~ the first application(s)  
made in a Convention country in respect of the invention the subject of the application.

Declared at (k) Chattanooga, Tennessee USA

X Dated (l) June 7 1988

X (m) By Gaines P. Campbell, Jr.  
Chief Executive Officer  
Arcade Inc.

To: The Commissioner of Patents

---

(12) PATENT ABRIDGMENT (11) Document No. AU-B-82765/87  
(19) AUSTRALIAN PATENT OFFICE (10) Acceptance No. 602743

---

(54) Title  
COSMETIC SAMPLER

International Patent Classification(s)  
(51)<sup>4</sup> A45D 034/00 B65B 009/00

(21) Application No. : 82765/87

(22) Application Date : 09.11.87

(87) WIPO Number : WO88/03374

(30) Priority Data

|             |           |                             |
|-------------|-----------|-----------------------------|
| (31) Number | (32) Date | (33) Country                |
| 929812      | 13.11.86  | US UNITED STATES OF AMERICA |

(43) Publication Date : 01.06.88

(44) Publication Date of Accepted Application : 25.10.90

(71) Applicant(s)  
ARCADE INC.

(72) Inventor(s)  
GAINER, P. CAMPBELL JR.

(74) Attorney or Agent  
PHILLIPS ORMONDE & FITZPATRICK, 367 Collins Street, MELBOURNE VIC 3000

(56) Prior Art Documents  
US 3568684  
US 2509631  
FR 805243

(57) Claim

1. A cosmetic sampler, comprising a folded flexible sheet penetrable by an oleaginous substance, said folded flexible sheet comprising a bottom fold and a top fold, said bottom fold and said top fold having at least portions of opposing inner faces adhering to one another, each inner face having disposed thereon an oleaginous barrier, said barrier on said bottom fold having disposed thereon an oleaginous-based cosmetic containing at least 30% of oils, fats and/or waxes opposing the barrier of said top fold and said top fold having perforations for exposing said cosmetic on either side of said oleaginous barrier.

16. A process for producing a cosmetic sampler, which comprises:

(a) applying a first oleaginous barrier strip to a flexible sheet penetrable by an oleaginous substance, said flexible sheet having a top and bottom face, said first.../2

(11) AU-B-82765/87

-2-

(10) 602743

oleaginous barrier strip being applied to a first portion of a top face of the flexible sheet;

(b) applying a second oleaginous barrier strip to a second portion of said top face of said flexible sheet whereby said first and second barrier strips are parallel and separate;

(c) heating said oleaginous barrier strips;

(d) cooling said oleaginous barrier strips;

(e) applying a strip of an oleaginous-based cosmetic to said first oleaginous barrier strip;

(f) applying an adhesive to remaining portions of said top face of said flexible sheet not containing oleaginous barriers;

(g) folding said flexible sheet so that adhesive applied portions adhere to one another; and

(h) selectively scoring the folded bottom face of said second portion of said flexible sheet thereby creating a removable section on the second portion of said bottom face of said sheet to expose said oleaginous-based cosmetic.

PCT

AU-AI-82765/87  
WORLD INTELLECTUAL PROPERTY ORGANIZATION  
International Bureau



602743

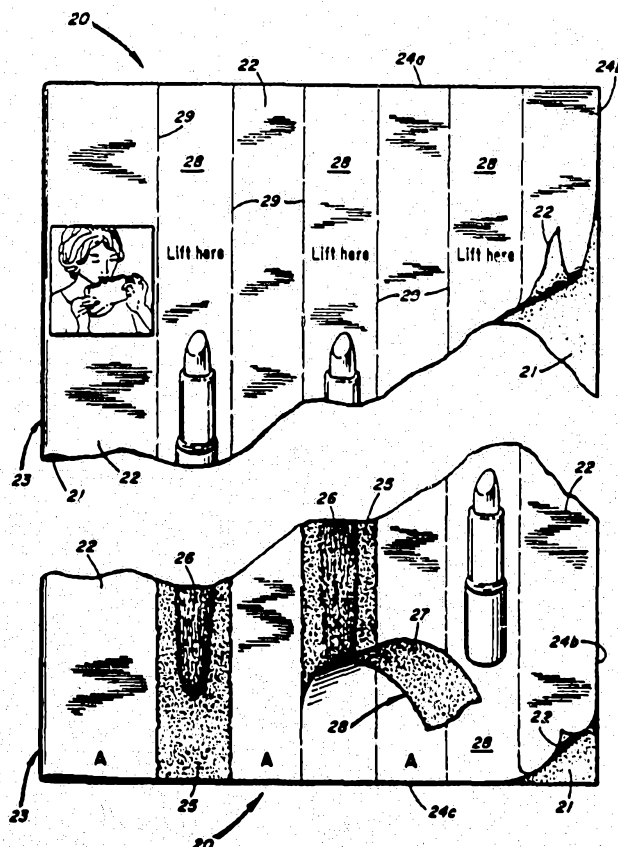
INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

|   |           |  |
|---|-----------|--|
| <p>(51) International Patent Classification 4 :<br/>A45D 34/00, B65B 9/00</p>   | <p>A1</p> | <p>(11) International Publication Number: WO 88/ 03374<br/>(43) International Publication Date: 19 May 1988 (19.05.88)</p>   |
| <p>(21) International Application Number: PCT/US87/02905<br/>(22) International Filing Date: 9 November 1987 (09.11.87)<br/>(31) Priority Application Number: 929,812<br/>(32) Priority Date: 13 November 1986 (13.11.86)<br/>(33) Priority Country: US<br/>(71) Applicant: ARCADE INC. [US/US]; 1815 East Main Street, Chattanooga, TN 37404 (US).<br/>(72) Inventor: CAMPBELL, Gainer, P., Jr. ; 227 Fleetwood Drive, Lookout Mountain, TN 37350 (US).<br/>(74) Agent: HARRIS, Richard, C.; Stevens, Davis, Miller &amp; Mosher, 515 North Washington Street, P.O. Box 1427, Alexandria, VA 22313 (US).</p> |           | <p>(81) Designated States: AT, AU, CH, DE (Utility model), DK, GE, JP (Utility model), KR, LU, MC, NL, NO.<br/><br/>Published<br/>With international search report.<br/><br/><div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;">This document contains the amendments made under Section 49 and is correct for printing.</div><br/><p style="text-align: center;"><b>A.D.J.P. - 7 JUL 1988</b></p><div style="border: 1px solid black; padding: 10px; text-align: center; margin: 10px auto; width: fit-content;">AUSTRALIAN<br/>-1 JUN 1988<br/>PATENT OFFICE</div></p> |

(54) Title: COSMETIC SAMPLER

(57) Abstract

A cosmetic sampler (20) comprising, a folded flexible sheet (21, 22) wherein disposed on the inner faces of the folds are opposing strips of oleaginous barriers (25, 27) and disposed on one of the barriers is a cosmetic (26). The outer top portion (22) of the folded product has means intermittent score lines or slits (29) for exposing the cosmetic layer. The cosmetic can then be applied directly to skin, or removed from the sampler with an applicator and applied to skin.



- 1 -

COSMETIC SAMPLER1                   Background of the InventionField of the Invention

                  This invention relates to a cosmetic sampler  
for use at a cosmetic counter or as an advertisement for  
5 cosmetics which can be placed directly in the mails or  
inserted into magazines, newspapers, catalogs or the  
like.

Description of the Prior Art

                  Brand-named cosmetics can and do become estab-  
10 lished products overnight. Such overnight success is of  
course created by the successful mass marketing of the  
goods. Television, radio and the printed media are all  
means through which millions of dollars are spent to  
"launch" a new product.

15               However, as reported in Forbes, "The Nose  
Knows", January 13, 1986, page 280, market research  
shows that consumers are more likely to buy products  
they have sampled. The perfume industry has taken ad-  
vantage of this knowledge and sends their fragrances to  
20 consumers for a personal trial by enclosing fragrances  
in individual fragrance samplers. The fragrance samp-  
lers are thin paper products that are folded. Between  
the folds are applied a mixture of glue and microcap-  
sules containing scented oils. Pulling the folds apart  
25 ruptures the capsules and releases the volatile oils.  
The product can then be rubbed on the skin to transfer  
the oil from the product to a consumer. Arcade Inc.,  
the Assignee of the present invention, manufactures such  
fragrance samplers under the Trademark SCENTSTRIP.

- 2 -

1           Although perfumes are successfully marketed by  
such simple, cost effective samplers, no such simple  
device exists for the personal sampling of unadulterated  
oleaginous-based colored cosmetics such as eye shadows,  
5   blushes, mascaras, lipglosses, rouges and lipsticks  
which contain at least 30% oils, fats and/or waxes.

The prior art discloses packages which house  
oil-based products, or products containing oil. For  
instance, French Patent 2,422,562 discloses a product  
10 comprising a printed cover of folded leaves having rec-  
tangular pockets, consisting of aluminum coated with  
plastics. A cosmetic sample can be placed within the  
pockets.

U.S. Patent 3,423,232 to Reinhard et al re-  
15 lates to oil resistant polyvinylidene coated paper bags  
which are suitable for packaging cosmetics.

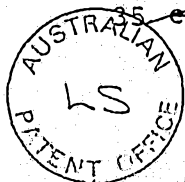
Although the above disclosed devices can be  
used for marketing cosmetics, the devices are containers  
and bulky in comparison to the simple folded products  
20 used by the perfume industry as samplers.

The present invention satisfies the marketing  
needs of the cosmetic industry by making available a  
personal sampler that is inexpensive, easy to make and,  
is capable of holding small amounts of unadulterated  
25 oleaginous-based cosmetics that contain at least 30%  
oils, fats and/or waxes that can be removed and applied  
by the consumer.

---

Summary of the Invention

The device of the instant invention contains a  
30 strip or a small sample of a oleaginous-based cosmetic  
which can be exposed and then applied to a consumer by  
means of a separate applicator or by means of the con-  
sumer's finger. In a particular embodiment the device  
can be used to apply the cosmetic. The oleaginous-based  
35 cosmetic is disposed on a barrier. Such a barrier is an



According to the present invention, there is provided a cosmetic sampler, comprising a folded flexible sheet penetrable by an oleaginous substance, said folded flexible sheet comprising a bottom fold and a top fold, said bottom fold and said top fold having at least portions of opposing inner faces adhering to one another, each inner face having disposed thereon an oleaginous barrier, said barrier on said bottom fold having disposed thereon on oleaginous-based cosmetic containing at least 10 30% of oils, fats and/or waxes opposing the barrier of said top fold and said top fold having perforations for exposing said cosmetic on either side of said oleaginous barrier.

The present invention also provides a cosmetic sampler, comprising:

a flexible flat substrate penetrable by an oleaginous substance, said flat substrate having a top and a bottom face;

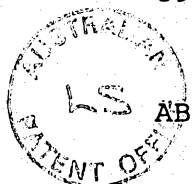
a strip of an oleaginous barrier disposed on said 20 top face of said flat substrate;

a strip of an oleaginous-based cosmetic disposed on said barrier;

a flexible flat cover penetrable by an oleaginous substance having a top and bottom face, said flexible flat cover having a strip of an oleaginous barrier on its bottom face opposing said oleaginous-based cosmetic of said flexible flat substrate, said bottom face of said flexible flat cover having portions thereof surrounding said cosmetic adhering to portions of said top face of said flexible flat substrate and said top face of said 30 flexible flat cover having perforations extending longitudinally and on either side of said oleaginous barrier for exposing said cosmetic.

The present invention further provides a cosmetic sampler, comprising:

a folded sheet, penetrable by an oleaginous substance, comprising a fold line, three edges, a bottom fold and a top fold;



said bottom fold and said top fold having opposing inner faces with each inner face having disposed thereon an array of parallel, separated strips of oleaginous barriers, said arrays opposing one another;

an array off strips of an oleaginous-based cosmetic correspondingly disposed on said bottom array of barrier strips and opposing said top array of barrier strips, said opposing inner faces adhering to one another along said fold line, said edges and between said barrier strips; and

10 said top fold having perforations for exposing said oleaginous-based cosmetic on either side of said oleaginous barrier.

Moreover, the present invention also provides a cosmetic sampler, comprising a folded flexible sheet penetrable by an oleaginous substance, said folded flexible sheet comprising a bottom fold and a top fold, said bottom fold and said top fold having opposing inner faces with each inner face having disposed thereon an oleaginous barrier strip, said barrier strip on said  
20 bottom fold having disposed thereon an oleaginous-based cosmetic strip containing at least 30% oils, fats and/or waxes and a clear plastic strip thereover opposing the barrier of said top fold, said top fold having perforations for exposing said cosmetic on either side of said oleaginous barrier strip.

The present invention still further provides a cosmetic sampling kit comprising the cosmetic sampler of the present invention and an applicator for removing exposed cosmetic from said sampler and for applying said  
30 cosmetic to skin.

According to the present invention, there is further provided a process for producing a cosmetic sampler, which comprises:

(a) applying a first oleaginous barrier strip to a flexible sheet penetrable by an oleaginous substance, said flexible sheet having a top and bottom face, said first oleaginous barrier strip being applied to a first portion of a top face of the flexible sheet;





(b) applying a second oleaginous barrier strip to a second portion of said top face of said flexible sheet whereby said first and second barrier strips are parallel and separate;

(c) heating said oleaginous barrier strips;

(d) cooling said oleaginous barrier strips;

(e) applying a strip of an oleaginous-based cosmetic to said first oleaginous barrier strip;

10 (f) applying an adhesive to remaining portions of said top face of said flexible sheet not containing oleaginous barriers;

(g) folding said flexible sheet so that adhesive applied portions adhere to one another; and

(h) selectively scoring the folded bottom face of said second portion of said flexible sheet thereby creating a removable section on the second portion of said bottom face of said sheet to expose said oleaginous-based cosmetic.

20 The present invention still further provides a process for producing a cosmetic sampler, having a plurality of cosmetic samples, which comprises;

(a) applying a first array of parallel and separated oleaginous barrier strips to a flexible sheet having a top and bottom face, said first array of parallel and separated oleaginous barrier strips being applied to a first portion of said top face of said flexible sheet;

(b) applying a second array of parallel separated oleaginous barrier strips to a second portion of said top face of said flexible sheet;

30 (c) heating said arrays of oleaginous barrier strips;

(d) cooling said arrays of oleaginous barrier strips;

(e) applying a corresponding array of oleaginous-based cosmetic strips to said first array of oleaginous barrier strips;

(f) applying an adhesive to remaining portions of said top face of said flexible sheet;

(g) folding said flexible sheet so that adhesive applied portions adhere to one another; and



(h) selectively scoring the bottom face of said second portion of said flexible sheet thereby creating removable sections on the second portion of said sheet to expose said array of oleaginous-based cosmetic strips.

Moreover, the present invention further provides a continuous process for making cosmetic samplers, comprising:

- 10 (a) applying a first array of parallel and separated oleaginous barrier strips to a first portion of a top face of a moving web of flexible material having a longitudinal center and a bottom face;
- (b) applying a second array of parallel and separated oleaginous barrier strips to a second portion of said top face of said moving web of material, wherein said arrays of strips are applied parallel to said longitudinal center of said moving web and wherein said longitudinal center separates said web into said first and second portions;
- (c) heating said oleaginous barrier strips;
- (d) cooling said oleaginous barrier strips;
- 20 (e) applying a corresponding array of oleaginous-based cosmetic strips onto said first array of oleaginous barrier strips;
- (f) applying an adhesive to remaining portions of said moving web;
- (g) folding said moving web about said longitudinal center so that adhesive applied portions adhere to one another, and said second array of oleaginous barrier strips overlay said array of oleaginous-based cosmetic strips;
- 30 (h) selectively scoring the bottom face of said second portion of said moving web thereby creating removable sections on said second portion to expose said array of cosmetic strips; and
- (i) cutting said moving web transverse to said longitudinal center at fixed intervals, thereby creating individual cosmetic samplers.

Also, the present invention provides a process for producing a cosmetic sampler, which comprises:



(a) applying a first oleaginous barrier strip to a flexible sheet having a top and bottom face, said first oleaginous barrier strip being applied to a first portion of a top face of the flexible sheet;

(b) applying a second oleaginous barrier strip to a second portion of said top face of said flexible sheet whereby said first and second barrier strips are parallel and separate;

(c) heating said oleaginous barrier strips;

10 (d) cooling said oleaginous barrier strips;

(e) applying a strip of an oleaginous-based cosmetic to said first oleaginous barrier strip;

(f) applying a clear plastic strip over the oleaginous-based cosmetic and said first oleaginous barrier strip; and

(g) folding said flexible sheet so that said clear plastic strip and second barrier strip face each other.

20 The device of the instant invention contains a strip or a small sample of a oleaginous-based cosmetic which can be exposed and then applied to a consumer by means of a separate applicator or by means of the consumer's finger. In a particular embodiment the device can be used to apply the cosmetic. The oleaginous-based cosmetic is disposed on a barrier. Such a barrier is an

30

39

-2e-



- 3 -

- 1 organic polymer which has an affinity for the cosmetic but also prevents the oleaginous-based cosmetic from bleeding through the substrate supporting the barrier.

The term oleaginous-based cosmetic is defined  
5 as a cosmetic containing at least 30% of an oil, a fat and/or a wax. An oleaginous barrier is defined as a substance which will retain an oleaginous-based cosmetic without allowing the cosmetic to penetrate or seep through the barrier to a substrate.

- 10 One embodiment of the invention relates to a cosmetic sampler, comprising, a folded flexible sheet comprising a bottom fold and a top fold, the bottom fold and the top fold having opposing inner faces adhering to one another, each inner face having disposed thereon a  
15 oleaginous barrier, the barrier on the bottom fold having disposed thereon a oleaginous-based cosmetic as defined above opposing the barrier of the top fold and, the top fold having means for exposing said cosmetic.

Another embodiment of the invention relates to  
20 a cosmetic sampler comprising a folded flexible sheet comprising a bottom fold and a top fold, the bottom fold and the top fold having opposing inner faces, each inner face having disposed thereon an oleaginous barrier, the barrier on the bottom fold having disposed thereon an  
25 oleaginous-based cosmetic as defined above and a clear plastic removable strip such as of CELLOPHANE or SARAN. To expose the oleaginous-based cosmetic it is necessary only to remove the clear plastic strip.

- Still another embodiment of the invention  
30 relates to a process for producing a cosmetic sampler, which comprises: a) applying a first oleaginous barrier strip to a flexible sheet having a top and bottom face, the first oleaginous barrier strip being applied to a first portion of a top face of the flexible sheet; b)  
35 applying a second oleaginous barrier strip to a second portion of the top face of the flexible sheet whereby

- 4 -

1 the first and second barrier strips are parallel and  
separate; c) heating the oleaginous barrier strips; d)  
cooling the oleaginous barrier strips; e) applying a  
strip of a oleaginous-based cosmetic to the first  
5 oleaginous barrier strip; f) applying an adhesive to re-  
maining portions of the top face of said flexible sheet  
not containing oleaginous barriers; g) folding the flex-  
ible sheet so that adhesive applied portions adhere to  
one another; and h) selectively scoring the folded bot-  
10 tom face of the second portion of the flexible sheet  
thereby creating a removable section on the second por-  
tion of the bottom face of the sheet to expose the  
oleaginous-based cosmetic.

#### Brief Description of the Drawings

15 Fig. 1 shows a cosmetic sampler of the inven-  
tion;

Fig. 2 shows the cosmetic sampler of Fig. 1  
wherein the oleaginous-based cosmetic is exposed;

Fig. 3 shows a second embodiment of the inven-  
20 tion wherein the oleaginous-based cosmetic is exposed;

Fig. 4 is a diagrammatic elevational view of  
an apparatus for making the samplers of the invention;

Fig. 5 shows a device for applying a  
oleaginous barrier to a flexible web; and

25 Fig. 6 shows a third embodiment of the inven-  
tion.

#### Description of the Invention

Figs. 1 and 2 show the cosmetic sampler of the  
invention. The sampler 20 is a folded flexible sheet  
30 having a bottom fold 21 and a top fold 22 a fold line 23  
and edges 24a, b and c. Each of the folds 21 and 22  
have an inner face and portions of the inner faces are  
adhered to one another by an adhesive not shown. The  
flexible sheet is preferably paper but equivalents in-  
35 clude aluminum sheets, cellophane sheets, cardboard,

- 5 -

1 polyethylene, and polypropylene sheets and the like. In addition to being flexible the sheet must be able to retain adhesives and the oleaginous barrier disclosed below.

5           Disposed on the inner face of bottom fold 21 is oleaginous barrier 25. The barrier is preferably polyvinylidene chloride but may be any organic polymer which can function as an oleaginous barrier. Suitable equivalents include polyvinyl chloride, cellophane, 10 polypropylene, and polyethylene. In addition to being an oleaginous barrier the polymer must have a slight affinity for the oleaginous-based product. That is, the barrier must not only prevent the oleaginous-based cosmetic from bleeding through to the sheet material but 15 also must prevent the oleaginous-based cosmetic from migrating off the barrier or dispersing along the barrier. At the same time the barrier must allow for the easy removal of the hydrocarbon-based cosmetic so that the cosmetic can be sampled by a consumer. Poly- 20 vinylidene chloride meets all of the above requirements.

          Disposed on the oleaginous barrier is an oleaginous-based cosmetic 26.

          The inner face of the top fold 22 of the sheet also has disposed thereon an oleaginous barrier 27 and 25 the oleaginous barrier 27 opposes the oleaginous-based cosmetic 26 disposed on the oleaginous barrier 25 of the bottom fold 21. The two folds 21 and 22 are adhered to one another by an adhesive or glue applied to the inner face of the portions of fold 22 labeled A. These por- 30 tions of the inner face of fold 22 do not have oleaginous barriers. Of course, the inner face of fold 21 may alternatively have glue or adhesive applied thereto on portions of its inner face not having barrier 25.

          The top fold 22 includes means 28 for exposing 35 the underlying cosmetic layer. The means 28 includes intermittent score lines or intermittent slits 29.

- 6 -

1           On the top face of the top fold 22 the score  
lines 29 border the underlying oleaginous barrier. That  
is the intermittent score lines 29 are made on either  
side of the underlying barrier and run relatively  
5 parallel to the oleaginous barrier strips. Pulling on  
or lifting means 28 between the scored area removes  
means 28 and exposes the oleaginous-based cosmetic layer  
as shown in Fig. 2.

          The oleaginous barrier 25 may be applied to  
10 the inner face of fold 21 in strips as shown in Fig. 2  
or in a circular pattern as shown in Fig. 3. The ele-  
ments of Fig. 3 are similar to those of Figs. 1 and 2.  
As shown in Fig. 3, two samples of cosmetic 126 are  
exposed, see samples Y and Z while sample X is shown  
15 with a pull tab 128 and score lines 129 intact.

          The geometric configuration of the oleaginous-  
barrier can be any shape. The shape of the oleaginous-  
based cosmetic 126 disposed upon the oleaginous barrier  
125 is dictated by the shape of the oleaginous barrier.  
20 That is, where the oleaginous barrier 25 is laid down as  
a strip the oleaginous-based cosmetic 26 is disposed as  
a somewhat smaller dimensional strip upon the oleaginous  
barrier as shown in Fig. 2. Where the oleaginous  
barrier layer 125 is circular, the oleaginous-based  
25 cosmetic 126 disposed thereon will have a slightly  
smaller circumference as shown in Fig. 3. Of course,  
the oleaginous barrier 127 will be of substantially the  
same dimension and shape as oleaginous barrier 125.  
Barriers 125 and 127 sandwich the oleaginous-based cos-  
30 metic 126. The geometric pattern of oleaginous barrier  
125 also dictates the shape of the means 128 for expos-  
ing the cosmetic 126. In Fig. 2 the means 28 takes on  
the shape of a tear strip; in Fig. 3 the means 128 is a  
circular pull tab.

35           The shape of the oleaginous barrier 25, 125  
may be dictated by the type of oleaginous-based cosmetic

- 7 -

1 applied thereto. For instance, blushes may be disposed  
on circular oleaginous barriers, eyeshadows on square  
barriers and, lipsticks on strip shaped barriers.

The cosmetic sampler shown in Fig. 1 is an  
5 ideal personal sampler for marketing lipstick. When  
lipstick is the oleaginous-based cosmetic 26 and the  
lipstick is exposed as shown in Fig. 2 the sampler can  
be bowed along the area defined by the removed tear  
strip. In this position the lipstick can be sampled  
10 directly by bringing the bowed sampler up to the lips  
and applying the cosmetic to the lips with gentle force.  
This is shown in the diagram on the sampler of Fig. 1.  
A small applicator 30 shown in Fig. 3, may be included  
with the sampler which can remove the cosmetic from the  
15 sampler and be used to apply the lipstick to the lips.  
Of course, blushes and eye shadows disposed on samplers  
are conveniently applied with such an applicator or  
applied with one's finger. The applicator may be a  
small nylon tipped device, having a plastic handle, a  
20 PVDC tipped device or any type of applicator now used in  
the cosmetic field.

The samplers described above can be used at a  
department store's cosmetic counter. The sampler used  
once may be disposed of. Such a sampler is cheaper and  
25 more sanitary than samplers used today. This is  
especially true of currently used lipstick samplers  
which are merely smaller versions of the actual stick  
dispensers. The lipstick in such dispensers is sampled  
by multiple consumers and no means short of removing the  
30 top layer of the lipstick is available for sanitizing the  
product. The sampler of the instant invention overcomes  
all of these limitations.

Additionally, the sampler can be made in the  
dimensions of a standard mailing envelope and shipped  
35 directly through the mails as a sampler. Alternatively,  
the sampler can be made to have any dimension and can be



- 8 -

1 inserted in newspapers, magazines, catalogs or the like  
so that individual subscribers of such a publication can  
sample a cosmetic.

As shown in Figs. 1 to 3 the sampler can be  
5 constructed so that an array of samples of a single  
cosmetic are available to a consumer. The sampler may  
contain a single color of a type of cosmetic such as a  
blush, eye shadow, lipstick or any other oleaginous-  
based cosmetic. Alternatively, a sampler can be con-  
10 structed of such dimensions to accommodate an entire  
color line of a manufacturer's lipstick or other colored  
cosmetic. Of course, a sampler can contain a mix of  
products such as a blush, eye shadow or lipstick. The  
sampler can also be manufactured so that a single cos-  
15 metic sample can be exposed.

As is evident, and which is more fully de-  
scribed below, the cosmetic samplers described above are  
formed by starting with a flat web or sheet of flexible  
material and applying barrier strips to each half of the  
20 web or sheet. The cosmetic is then applied to the  
barrier strips on one half of the sheet or web and glue  
or adhesive is applied to portions of the web or sheet  
not covered by the barriers. The web or sheet is then  
folded so that the barriers sandwich the cosmetic.  
25 Thereafter, the top folds are scored to create means 28  
for exposing the cosmetic sample.

Although the sampler disclosed above is a  
"folded" type of product, a sampler can be constructed  
so that it is more of a true "sandwich-type" of con-  
30 struction. That is, the cosmetic sampler may be com-  
posed of a flexible substrate having a top and a bottom  
face where an oleaginous barrier strip is disposed on  
the top face of the substrate. An oleaginous-based  
cosmetic having dimensions somewhat smaller than the  
35 barrier is applied to the barrier, and a flexible cover  
having a bottom face and a deposit of an oleaginous

- 9 -

1 barrier disposed thereon is placed over the substrate so  
that the oleaginous barrier disposed on the cover over-  
lays the cosmetic. The bottom face of the top of the  
cover is adhered to the top face of the substrate by  
5 applying an adhesive to the portion of the substrate not  
covered by the oleaginous-barrier thereon. The top face  
of the cover additionally has means for exposing the  
oleaginous-based cosmetic. The means may be in the form  
of a tear strip or similar device corresponding to the  
10 shape of the oleaginous-barriers, or the shape of the  
applied cosmetic.

Figs. 4 and 5 are directed to a continuous  
process and equipment for manufacturing the cosmetic  
samplers of the invention.

15 As seen diagrammatically in Fig. 4 a web of  
flexible material 40, preferably paper, is drawn off  
supply rolls 41 by tension rolls not shown. The web has  
a barrier face 42 and a barrier-free face 43 and a long-  
itudinal center, not shown, which divides the web into  
20 first and second portions. The web is conveyed to a  
four color printing press where a particular cosmetic  
manufacturer's logo, copy, or additional advertising or  
information about the product is applied thereto.  
Printed matter is usually applied to the barrier-free  
25 face 43 of the web 40 but ink may be applied to the  
barrier face. The web 40, on exit from the press is  
passed between drive tension and directional rollers 44a  
and b.

To the web 40 conveyed between rollers 44a and  
30 b separated oleaginous barriers are applied to face 42  
of the web 40 on either side of the longitudinal center  
line by applicator means 45.

The oleaginous barrier layer is preferably  
polyvinylidene chloride (PVDC) or an equivalent product  
35 such as ethylene vinyl alcohol (EVA). The PVDC is ex-  
truded onto first and second portions of the top face of

- 10 -

1 the web, or sprayed onto the web or applied by pressure  
application by means of a kiss roll type apparatus. The  
PVDC barrier is applied as an emulsion. The emulsion  
comprises a terpolymer of vinylidene chloride, methyl  
5 methacrylate and acrylic acid. The terpolymer is con-  
stituted of about 10 ppm of vinylidene chloride, 100 ppm  
of methyl methacrylate and 10 ppm of acrylic acid. The  
emulsion comprises a about 55% of total solids, has a pH  
10 of about 2, a freezing point of 36°F and a flash point  
of 212°F. The latex properties also include excellent  
mechanical stability, a viscosity of 75 cps and a sur-  
face tension of 60 dynes/cm. Particle sizes range from  
0.10-0.14 microns and the latex weighs 10.4 lbs. per  
gallon. A supplier of the PVDC emulsion is W. R. Grace  
15 & Co. or an equivalent product. The product is sold  
under the trade name DARAN 8600. After the barrier is  
applied it is heated to cure, and water is driven off by  
the heat.

The applicator means 45 shown in Fig. 4 and in  
20 greater detail in Fig. 5 is a kiss roll type liquid  
applicator. As seen in Figs. 4 and 5 the applicator  
comprises a housing 46 having a concave open front sur-  
face 47, which conforms to the convex shape of roll  
44a. The apparatus has a well 48 for storing the  
25 polymer emulsion an overflow cavity 49 in the side of  
the housing 46, and a supply line 50 for feeding the  
emulsion to the well 48. A kiss roll 51 is rotatably  
suspended between the sides of the housing 46 so that  
the bottom of the roll 51 is positioned just below the  
30 top of the well 48 and the overflow cavity 49 in the  
side of the applicator is positioned just above the  
bottom of the roll 51. Additionally, the front of the  
roll 51 is positioned across the width of the open face  
of the apparatus. The supply line 50 feeds emulsion to  
35 the well 48 and the emulsion is absorbed onto the kiss  
roll 51. Excess PVDC emulsion fed to the well is

- 11 -

1 drained via overflow cavity 49. The kiss roll 51 con-  
tacts the first and second portions of the top face 42  
of the flexible web and deposits a strip of the PVDC  
oleaginous barrier on each portion of the web. The kiss  
5 roll applicator can be constructed so that more than one  
strip of the PVDC oleaginous barrier is deposited on a  
portion of face 42 of the web 40, the additional second  
strips being deposited simultaneously with the original  
strips. These arrays of strips are deposited parallel  
10 to the longitudinal center of the web. When arrays of  
strips are simultaneously deposited the kiss roll ap-  
plicator means may be as wide as the moving web of flex-  
ible material 40 which may be about 33 cm, wide (13  
inches). (However, the width of the flexible web is not  
15 critical and therefore may vary for a particular pur-  
pose. This is true for all dimensions given. The  
strips are deposited in approximately 1.9 cm widths (3/4  
inch).

After the strips are deposited the web with  
20 strips is conveyed to a forced hot air oven 52 wherein  
the barrier strips are cured. The air temperature is  
approximately 285°F and the web temperature is raised to  
approximately 225°F.

The heated web with strips moves out of the  
25 oven 52 and between chill rolls 53 a and b to set the  
oleaginous PVDC barrier strips. The web can then be  
conveyed to the oleaginous-based cosmetic applicator 57  
or to barrier applicator 54 where barrier strips can be  
applied directly over or superimposed on the already  
30 deposited barrier strips. Where the second application  
of PVDC is applied it can be done by a PVDC kiss roll  
type applicator extruding or spraying. Superimposed  
strips advantageously cover any pin-hole type aberrations  
appearing in the originally deposited strips.  
35 After the second deposition of oleaginous PVDC barrier  
strips the flexible web is conveyed to forced air oven

- 12 -

1 55 similar to oven 52 and through chill rolls 56 a and b  
similar to chill rolls 53 a and b to respectively cure  
and set the oleaginous PVDC barrier strips.

After the oleaginous PVDC barrier strips are  
5 cured and set an oleaginous-based cosmetic is applied to  
the barrier strip or array of barrier strips on the  
first portion of face 42 of the moving web 40.

The cosmetic is applied by cosmetic applicator  
57.

10 The cosmetic applicator may consist of a de-  
vice which holds a solid stick of the cosmetic over the  
barrier strips of the first portion of the moving web  
and, when pressed onto the strips of the moving web the  
cosmetic is transferred to the oleaginous barrier  
15 strips. Alternatively and preferably the cosmetic is  
heated to its melting temperature which is approximately  
between 120°F and 170°F and sprayed as a liquid onto the  
moving web. The cosmetic is sprayed so that a strip of  
oleaginous-based cosmetic of about 0.005 to 0.015 inches  
20 thick is deposited onto a barrier of the web. The strip  
of cosmetic is applied approximately on the center of  
the oleaginous barrier strips and its width is smaller  
than the width of the oleaginous barrier strip. The  
oleaginous barrier is about .004 to .006 inches thick.

25 The lipstick sets immediately and needs no  
further treatment.

Thereafter the web is moved to glue applicator  
58 wherein a glue or adhesive is applied to the face 42  
of the remaining portions of the web not covered by the  
30 barrier strips. For convenience and to minimize waste  
the adhesive may be applied to only the first portion of  
face 42 of the web not covered by barrier strips. Not  
only is glue or an adhesive applied between the barriers  
but the edges of the web also receive glue.

35 The web is then conveyed over roller-folder 59  
so that the web is folded on its longitudinal center

- 13 -

1 causing the barrier strips or array of strips on the  
second portion of the web to overlay the oleaginous-  
based cosmetic strip or strips on the barrier strip or  
array of strips on the first portion of face 42 of the  
5 web. This folding causes the face portions to adhere to  
one another and exposes the barrier-free face 43 of the  
web to additional processing.

The folded web is then conveyed to perforator  
60 where score lines are selectively made in the  
10 barrier-free face 43 of the folded second portion of the  
web to create means for exposing the oleaginous-based  
cosmetic layer.

The term "selectively scoring" means scoring  
face 43 of the second portion of the web parallel to and  
15 along the sides of the oleaginous barrier strip or array  
of strips deposited on the face 42 of the second portion  
of the web 40. In this manner the tear strips 28 or  
scored sections similar to those shown in Fig. 1 are  
created. Of course the score or cut made is not con-  
20 tinuous but is intermittant so that a pull force must be  
exerted to remove the section from the strip from the  
web.

After selective scores are made on the web,  
the web is conveyed to separating knife<sup>61</sup> where cuts  
25 are made at fixed intervals transverse to the direction  
of the moving web or transverse to the longitudinal  
center of the web thereby creating individual cosmetic  
samplers as shown in Fig. 1.

As a further folded sampler embodiment, shown  
30 in Fig. 6, the sampler is formed from a flat web folded  
at 223 to form a bottom fold 221 and a top fold 222. On  
the bottom and top folds are barrier strips 225 and 222  
respectively. A cosmetic strip 226 is placed on the  
bottom fold 221 with a clear plastic strip thereover.  
35 The clear plastic strip 70 has a tendency to adhere to  
the cosmetic strip but still permits being stripped from



- 14 -

1 the cosmetic strip while at the same time preventing any  
bleeding of the cosmetic. Selective scores 260 extend  
transversely of the folds 221 and 222 so that individual  
samplers may be separated from the web. With the clear  
5 transparent plastic strip, the consumer can view the  
cosmetic without removing a strip cover.

If reference is made to Fig. 4, the clear  
plastic strip is applied after the cosmetic has been  
applied to the barrier face 42. With use of the clear  
10 plastic strip 70 the application of glue is omitted.  
The resultant product is a printed, folded advertisement  
containing an easily accessible sanitary cosmetic for  
sampling by the consumer.

The samplers created are approximately 16.5  
15 cms wide (6 1/2 inches) one half the width of a moving  
web, and 16.5 cms long. Generally, the web travels  
through the process steps at 500ft/min. and therefore a  
transverse cut made by separating knife 60 is made every  
6.4 x 10<sup>-2</sup> secs. This time represents the fixed inter-  
20 val disclosed above. Of course, the web could be moved  
faster or slower and the lengths of the samplers could  
be increased or decreased. If so, a fixed interval may  
be a function of web speed or product length or a com-  
bination of both and a fixed interval is defined accord-  
25 ingly.

Although a continuous process has been de-  
scribed for producing the samplers of the invention, the  
samplers can be made individually with individual sheets  
of a flexible substrate. Such a process for producing a  
30 cosmetic sampler having a plurality of cosmetic samples,  
may comprise fabricating a sampler by a batch process.  
This process includes applying a first array of parallel  
and separated oleaginous barrier strips to a first por-  
tion of a top face of a flexible sheet and applying a  
35 second array of parallel separated oleaginous barrier  
strips to a second portion of the flexible sheet. The

- 15 -

1 barriers are heated and cooled. Thereafter, a corresponding array of oleaginous-based cosmetic strips are superimposed over the first array of oleaginous barrier strips. Next an adhesive is applied to the remaining  
5 portions of the top face of said flexible sheet; and the flexible sheet is folded so that the adhesive applied to the remaining portions causes the portions of the flexible sheet to adhere to one another and exposes the bottom face to further processing. The folded second  
10 portion of the flexible sheet is scored thereby enabling the bottom face of the portions of the bottom face to be removed to expose the array of cosmetic strips. As disclosed in the first embodiment a sandwich structure can also be fabricated in this manner. In such an embodiment  
15 the barriers if deposited in strips need not be parallel to the longitudinal center of the flexible sheet.

Although the invention has been described in detail with respect to its construction, operation and  
20 usefulness, the present disclosure of the invention is presented as an example and changes in the cosmetic sampler and the process for making the cosmetic sampler may be resorted to without departing from the spirit and scope of the invention as claimed below.



The claims defining the invention are as follows:

1. A cosmetic sampler, comprising a folded flexible sheet penetrable by an oleaginous substance, said folded flexible sheet comprising a bottom fold and a top fold, said bottom fold and said top fold having at least portions of opposing inner faces adhering to one another, each inner face having disposed thereon an oleaginous barrier, said barrier on said bottom fold having disposed thereon an oleaginous-based cosmetic containing at least 30% of oils, fats and/or waxes opposing the barrier of said top fold and said top fold having perforations for exposing said cosmetic on either side of said oleaginous barrier.
2. The cosmetic sampler of claim 1, wherein said folded sheet is paper.
3. The cosmetic sampler of claim 1 or claim 2, wherein said oleaginous barriers are polyvinylidene chloride.
4. The cosmetic sampler of claim 1 or claim 2, wherein said oleaginous barriers are ethylene vinyl alcohol copolymer.
5. A cosmetic sampling kit comprising the cosmetic sampler of claim 1 and an applicator for removing exposed cosmetic from said sampler and for applying said cosmetic to skin.
6. The cosmetic sampler of any one of claims 1 to 4, wherein said oleaginous barriers are strips.
7. A cosmetic sampler, comprising:
  - a flexible flat substrate penetrable by an oleaginous substance, said flat substrate having a top and a bottom face;
  - a strip of an oleaginous barrier disposed on said top face of said flat substrate;
  - a strip of an oleaginous-based cosmetic disposed on said barrier;
  - a flexible flat cover penetrable by an oleaginous substance having a top and bottom face, said flexible flat cover having a strip of an oleaginous barrier on its bottom face opposing said oleaginous-based cosmetic of



said flexible flat substrate, said bottom face of said flexible flat cover having portions thereof surrounding said cosmetic adhering to portions of said top face of said flexible flat substrate and said top face of said flexible flat cover having perforations extending longitudinally and on either side of said oleaginous barrier for exposing said cosmetic.

8. A cosmetic sampler, comprising:

10 a folded sheet, penetrable by an oleaginous substance, comprising a fold line, three edges, a bottom fold and a top fold;

said bottom fold and said top fold having opposing inner faces with each inner face having disposed thereon an array of parallel, separated strips of oleaginous barriers, said arrays opposing one another;

20 an array of strips of an oleaginous-based cosmetic correspondingly disposed on said bottom array of barrier strips and opposing said top array of barrier strips, said opposing inner faces adhering to one another along said fold line, said edges and between said barrier strips; and

said top fold having perforations for exposing said oleaginous-based cosmetic on either side of said oleaginous barrier.

9. A cosmetic sampling kit, comprising the cosmetic sampler of claim 8 and an applicator for removing exposed oleaginous-based cosmetic from said sampler and for applying said cosmetic to skin.

30 10. The cosmetic sampler of claim 8, wherein said oleaginous barrier strips and said oleaginous-based cosmetic strips are parallel to said fold line of said folded sheet.

11. A cosmetic sampler, comprising a folded flexible sheet penetrable by an oleaginous substance, said folded flexible sheet comprising a bottom fold and a top fold, said bottom fold and said top fold having opposing inner faces with each inner face having disposed thereon an oleaginous barrier strip, said barrier strip on said bottom fold having disposed thereon an oleaginous-based



cosmetic strip containing at least 30% oils, fats and/or waxes and a clear plastic strip thereover opposing the barrier of said top fold, said top fold having perforations for exposing said cosmetic on either side of said oleaginous barrier strip.

12. The cosmetic sampler of claim 11, wherein said folded sheet is paper.

10 13. The cosmetic sampler of claim 11 or claim 12, wherein said oleaginous barriers are polyvinylidene chloride.

14. The cosmetic sampler of claim 11 or claim 12, wherein said oleaginous barriers are ethylene vinyl alcohol copolymer.

15. A cosmetic sampling kit comprising the cosmetic sampler of any one of claims 11 to 14, and an applicator for removing exposed cosmetic from said sampler and for applying said cosmetic to skin.

16. A process for producing a cosmetic sampler, which comprises:

20 (a) applying a first oleaginous barrier strip to a flexible sheet penetrable by an oleaginous substance, said flexible sheet having a top and bottom face, said first oleaginous barrier strip being applied to a first portion of a top face of the flexible sheet;

(b) applying a second oleaginous barrier strip to a second portion of said top face of said flexible sheet whereby said first and second barrier strips are parallel and separate;

30 (c) heating said oleaginous barrier strips;

(d) cooling said oleaginous barrier strips;

(e) applying a strip of an oleaginous-based cosmetic to said first oleaginous barrier strip;

(f) applying an adhesive to remaining portions of said top face of said flexible sheet not containing oleaginous barriers;

(g) folding said flexible sheet so that adhesive applied portions adhere to one another; and

(h) selectively scoring the folded bottom face of said



second portion of said flexible sheet thereby creating a removable section on the second portion of said bottom face of said sheet to expose said oleaginous-based cosmetic.

17. The process of claim 16, wherein said oleaginous-based cosmetic is solid and applied by pressure to said first oleaginous barrier strip.

10 18. The process of claim 16, further comprising heating said oleaginous-based cosmetic to a liquid form and spraying it onto said first oleaginous barrier strip.

19. The process of any one of claims 16 to 18, wherein said oleaginous barrier strips are formed on said sheet by spraying oleaginous barrier liquid onto said flexible sheet.

20. The process of any one of claims 16 to 18, wherein said oleaginous barrier strips are formed on said sheet by extruding oleaginous barrier liquid onto said flexible sheet.

20 21. The process of any one of claims 16 to 18, wherein said oleaginous barrier strips are applied to said flexible sheet by contacting said top face of said flexible sheet with a kiss roll soaked with said oleaginous barrier liquid.

22. The process of any one of claims 16 to 21, further comprising superimposing oleaginous barrier strips on said first and second oleaginous barrier strips after step (d) and heating and then cooling superimposed strips.

23. A process for producing a cosmetic sampler, having a plurality of cosmetic samples, which comprises;

- 30 (a) applying a first array of parallel and separated oleaginous barrier strips to a flexible sheet having a top and bottom face, said first array of parallel and separated oleaginous barrier strips being applied to a first portion of said top face of said flexible sheet;
- (b) applying a second array of parallel separated oleaginous barrier strips to a second portion of said top face of said flexible sheet;
- (c) heating said arrays of oleaginous barrier strips;



- (d) cooling said arrays of oleaginous barrier strips;  
(e) applying a corresponding array of oleaginous-based cosmetic strips to said first array of oleaginous barrier strips;  
(f) applying an adhesive to remaining portions of said top face of said flexible sheet;  
(g) folding said flexible sheet so that adhesive applied portions adhere to one another; and  
(h) selectively scoring the bottom face of said second portion of said flexible sheet thereby creating removable sections on the second portion of said sheet to expose said array of oleaginous-based cosmetic strips.

24. The process of claim 23, further comprising superimposing third and fourth arrays of oleaginous barrier strips respectively onto said first and second arrays of oleaginous barrier strips after step (d) and then heating and cooling said superimposed array of strips.

25. A continuous process for making cosmetic samplers, comprising:

(a) applying a first array of parallel and separated oleaginous barrier strips to a first portion of a top face of a moving web of flexible material having a longitudinal center and a bottom face;

(b) applying a second array of parallel and separated oleaginous barrier strips to a second portion of said top face of said moving web of material, wherein said arrays of strips are applied parallel to said longitudinal center of said moving web and wherein said longitudinal center separates said web into said first and second portions;

(c) heating said oleaginous barrier strips;

(d) cooling said oleaginous barrier strips;

(e) applying a corresponding array of oleaginous-based cosmetic strips onto said first array of oleaginous barrier strips;

(f) applying an adhesive to remaining portions of said moving web;

(g) folding said moving web about said longitudinal center so that adhesive applied portions adhere to one



another, and said second array of oleaginous barrier strips overlay said array of oleaginous-based cosmetic strips;

(h) selectively scoring the bottom face of said second portion of said moving web thereby creating removable sections on said second portion to expose said array of cosmetic strips; and

(i) cutting said moving web transverse to said longitudinal center at fixed intervals, thereby creating individual cosmetic samplers.

26. A process for producing a cosmetic sampler, which comprises:

(a) applying a first oleaginous barrier strip to a flexible sheet having a top and bottom face, said first oleaginous barrier strip being applied to a first portion of a top face of the flexible sheet;

(b) applying a second oleaginous barrier strip to a second portion of said top face of said flexible sheet whereby said first and second barrier strips are parallel and separate;

(c) heating said oleaginous barrier strips;

(d) cooling said oleaginous barrier strips;

(e) applying a strip of an oleaginous-based cosmetic to said first oleaginous barrier strip;

(f) applying a clear plastic strip over the oleaginous-based cosmetic and said first oleaginous barrier strip; and

(g) folding said flexible sheet so that said clear plastic strip and second barrier strip face each other.

27. The process of claim 26, wherein said oleaginous-based cosmetic is solid and applied by pressure to said first oleaginous barrier strip.

28. The process of claim 26, further comprising heating said oleaginous-based cosmetic to a liquid form and spraying it onto said first oleaginous barrier strip.

29. The process of any one of claims 26 to 28 wherein said oleaginous barrier strips are formed on said sheet by spraying oleaginous barrier liquid onto said flexible



sheet.

30. The process of any one of claims 26 to 28, wherein said oleaginous barrier strips are formed on said sheet by extruding oleaginous barrier liquid onto said flexible sheet.

10 31. The process of any one of claims 26 to 28, wherein said oleaginous barrier strips are applied to said flexible sheet by contacting said top face of said flexible sheet with a kiss roll soaked with said oleaginous barrier liquid.

32. The process of any one of claims 26 to 31, further comprising superimposing oleaginous barrier strips on said first and second oleaginous barrier strips after step (d) and heating and then cooling said superimposed strips.

33. The cosmetic sampler of claim 1, substantially as herein described with reference to any one of the embodiments in the accompanying drawings.

34. The process of claim 16, substantially as herein described with reference to Figures 4 and 5.

20

DATED: 23 JULY, 1990

PHILLIPS ORMONDE & FITZPATRICK

Attorneys For:

ARCADE INC.

*David B Fitzpatrick*

30

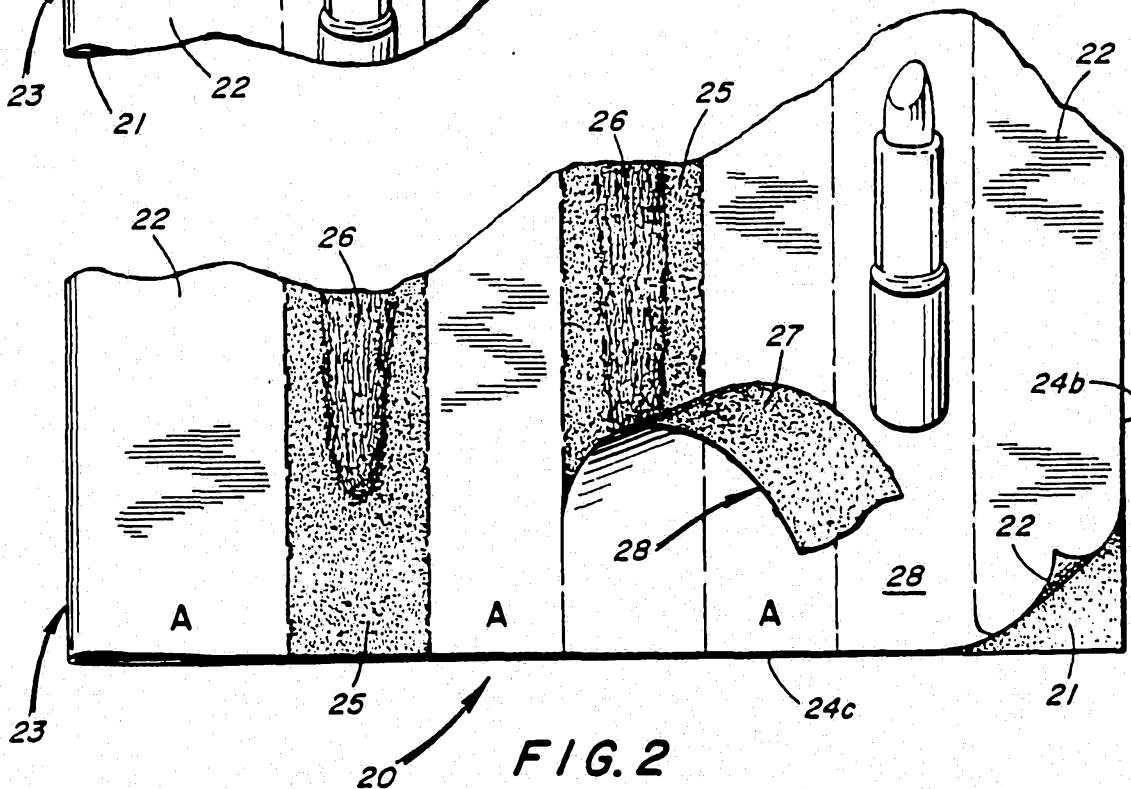
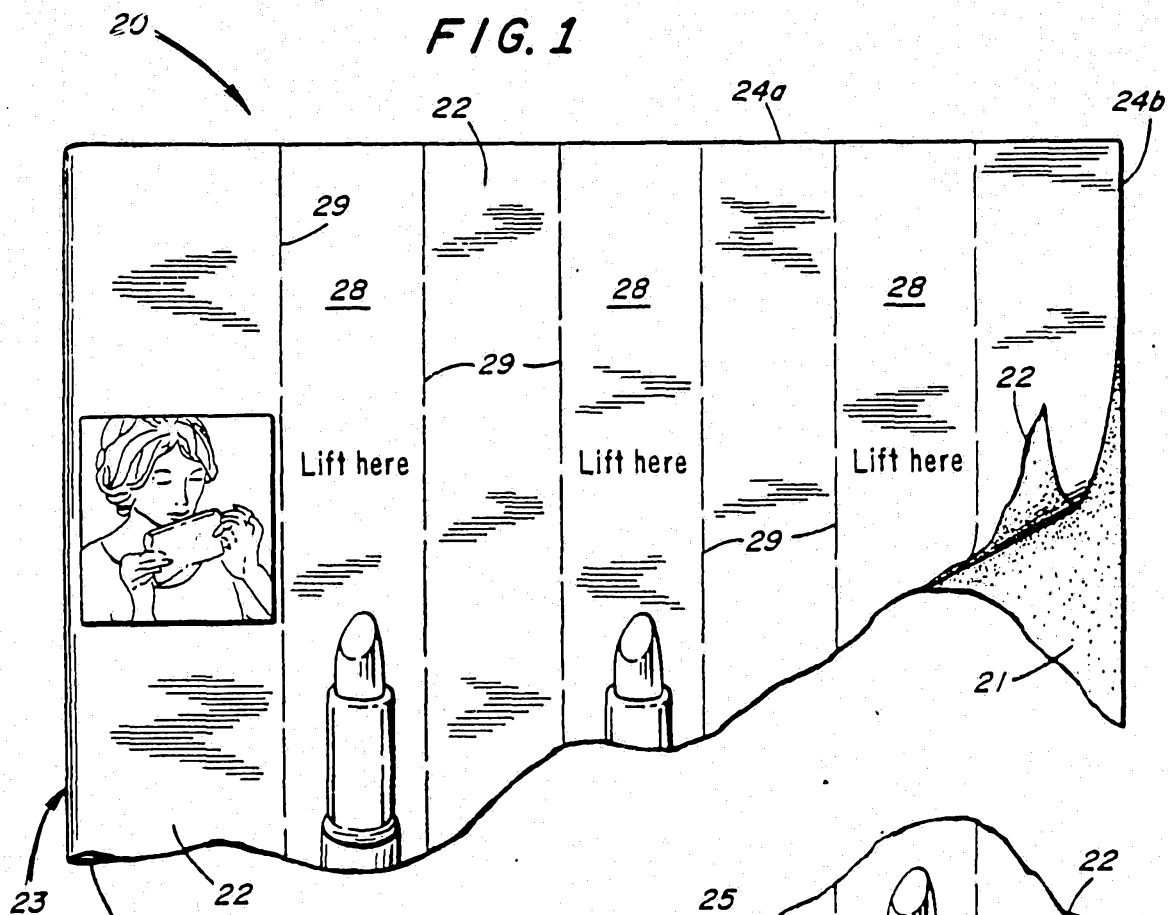
1768Z

39

-22-

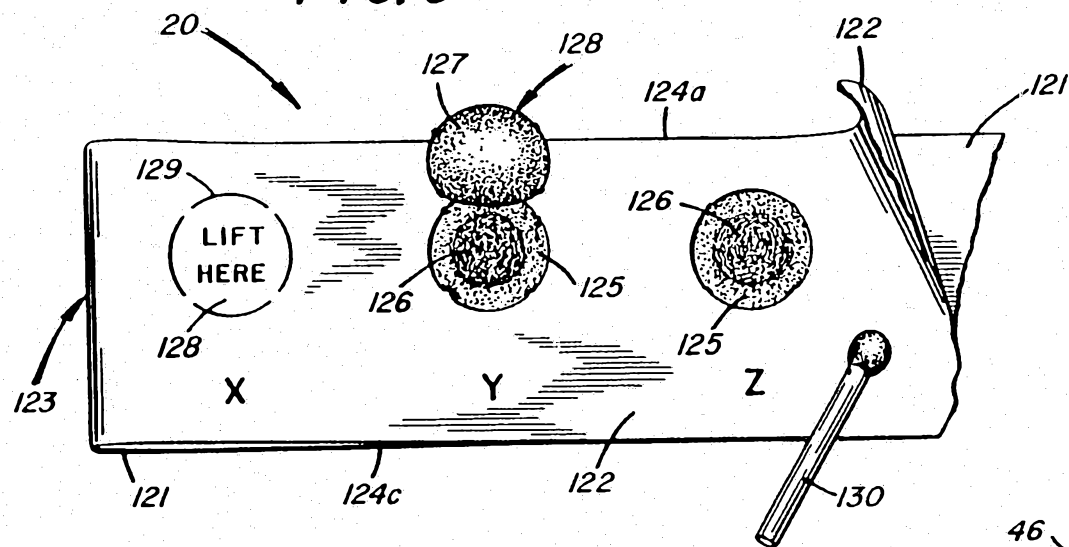


FIG. 1

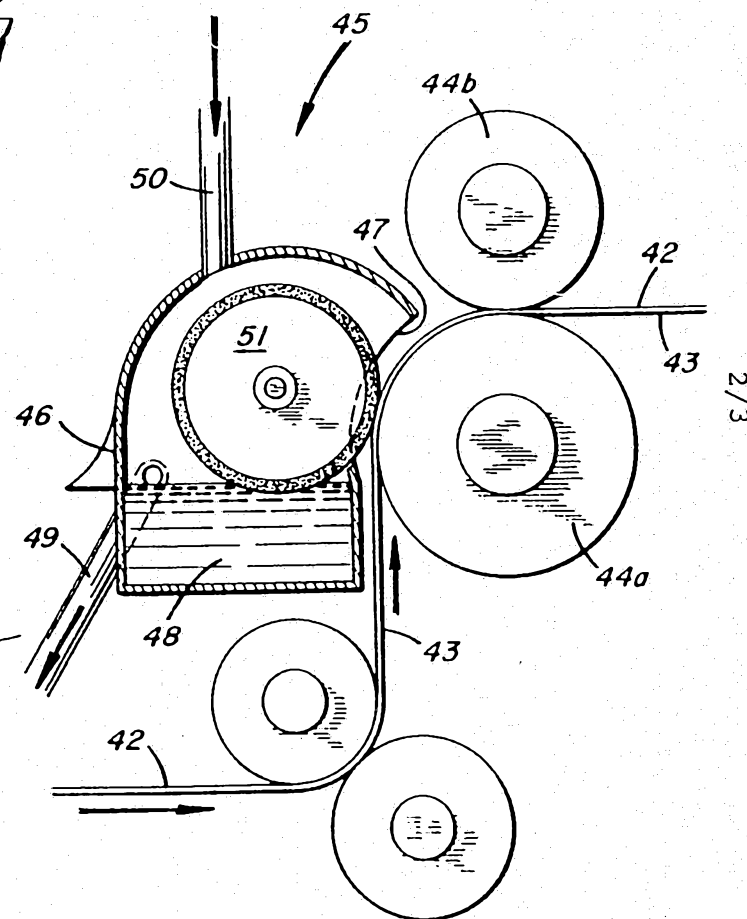




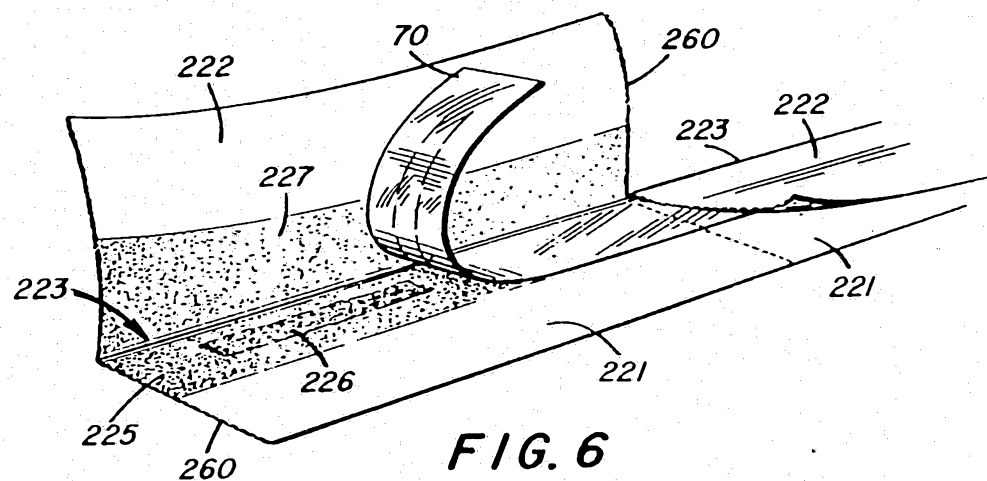
**FIG. 3**



**FIG. 5**



**FIG. 6**



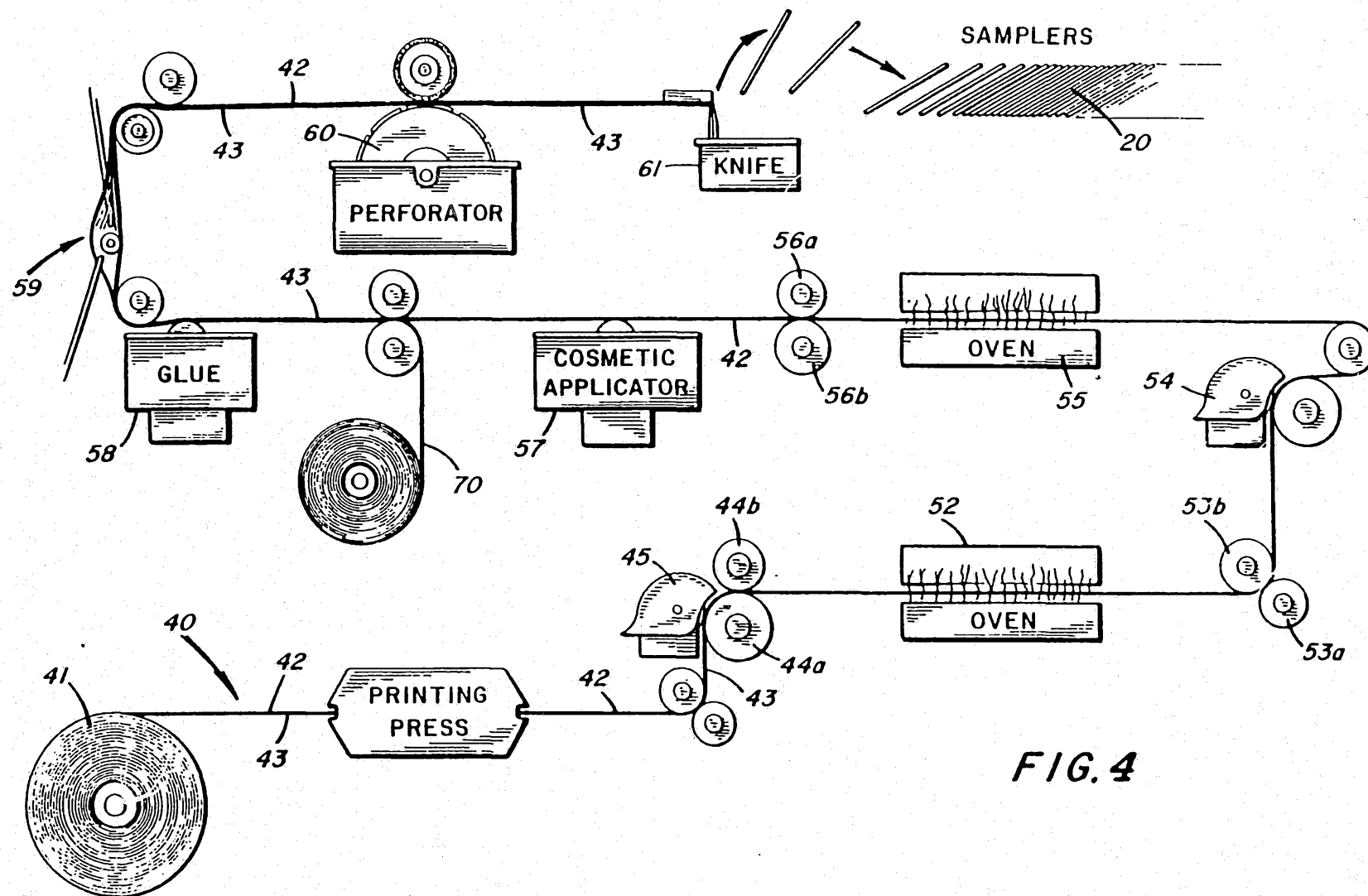
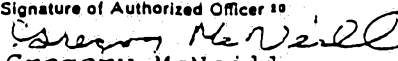


FIG. 4

# INTERNATIONAL SEARCH REPORT

International Application No PCT/US87/02905

|   |  |                                     |
|---|--|-------------------------------------|
| <b>I. CLASSIFICATION OF SUBJECT MATTER</b> (If several classification symbols apply, indicate all) <sup>3</sup>   |  |                                     |
| According to International Patent Classification (IPC) or to both National Classification and IPC   |  |                                     |
| IPC (4): A45D 34/00; B65B 9/00  |  |                                     |
| U.S. Cl. 434/377  |  |                                     |
| <b>II. FIELDS SEARCHED</b>  |  |                                     |
| Minimum Documentation Searched <sup>4</sup>   |  |                                     |
| Classification System   | Classification Symbols   |                                     |
| U.S.  | 434/377; 401/132; 132/1R, 88.5   |                                     |
| Documentation Searched other than Minimum Documentation<br>to the Extent that such Documents are Included in the Fields Searched <sup>4</sup>   |  |                                     |
|   |  |                                     |
| <b>III. DOCUMENTS CONSIDERED TO BE RELEVANT</b> <sup>14</sup>   |  |                                     |
| Category <sup>6</sup>   | Citation of Document, <sup>16</sup> with indication, where appropriate, of the relevant passages <sup>17</sup> | Relevant to Claim No. <sup>18</sup> |
| Y   | US, A, 2,509,631 (DYER) 30 May 1950<br>See column 2, lines 3-37.   | 1-15                                |
| Y   | US, A, 3,568,684 (REECE) 09 March 1971<br>See column 2, lines 44-72.   | 1-15                                |
| Y   | FR, A, 805,243 (AGOSTINI) 17 August 1936<br>See page 2, lines 6-13.  | 1-15                                |
| A   | US, A, 3,759,375 (NAPPI) 18 September 1973<br>See column 4, lines 1-44   | 16-32                               |
| A   | US, A, 4,372,098 (MASON) 08 February 1983<br>See column 4, lines 17-68.  | 16-32                               |
| <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p><sup>9</sup> Special categories of cited documents: <sup>15</sup></p> <p>"A" document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier document but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> </div> <div style="width: 45%;"> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance: the claimed invention cannot be considered novel or cannot be considered to involve an inventive step</p> <p>"Y" document of particular relevance: the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.</p> <p>"Δ" document member of the same patent family</p> </div> </div> |  |                                     |
| <b>IV. CERTIFICATION</b>  |  |                                     |
| Date of the Actual Completion of the International Search <sup>1</sup>  | Date of Mailing of this International Search Report <sup>1</sup>   |                                     |
| 03 February 1988  | 24 FEB 1988  |                                     |
| International Searching Authority <sup>1</sup>  | Signature of Authorized Officer <sup>19</sup>  |                                     |
| ISA/US  | <br>Gregory McNeill        |                                     |