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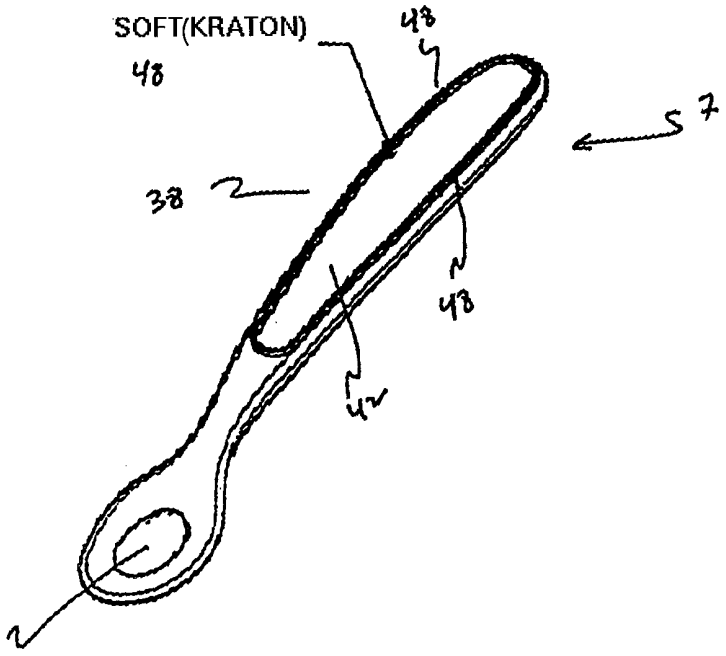
(54) Title: IMPROVED BABY SPOONS AND METHOD OF MANUFACTURE

(57) Abstract

A combination–material food utensile (7) constructed of materials having different relative hardness. The skeleton (42) or backbone of the utensile is constructed of a hard material providing structural integrity and allowing the utensile to easily slide along the bottom of a dish such as bowl or a plate. Outside edges (26) of the utensile and portions of its handle (48) are constructed of a relative soft material such as Kraton or silicon and provide for comfortable contact with the inside of the mouth and gums.



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Improved Baby Spoons and Method of Manufacture

Related Applications

The present application claims the priority of U.S. Provisional Application No. 60/097,571 filed August 24, 1998, and the priority of U.S. Nonprovisional Application No. 09/353,904 filed July 15, 1999, the disclosures of which are fully incorporated herein by reference.

Field of the Invention

The present invention is directed to an improved utensil made of a composite of materials of different hardness. In one embodiment, the present invention relates to a spoon which is made of a hard material forming a skeleton of the spoon and located at the center of its bowl; and a soft material located along the circumference of the spoon's bowl. In addition, the present invention relates to a method of manufacture of the combination-material utensil.

Background of the Invention

Currently, soft baby spoons are commonly used in the art. However, the soft spoons can be difficult to use in some circumstances. Structural parts constructed of soft material usually have higher coefficient of friction and therefore can not slide easily across a dish such as a plate or bowl and, as a result, can occasionally be somewhat uncomfortable to use. In addition, due to the softness of the material used in the spoon, the spoon can often bend unnecessarily. Therefore, there is a substantial use in the art for a new utensil which would combine the comfort of the soft-material utensil with the structural integrity

and slideability of the utensil made of a hard material.

Summary of the Invention

In accordance with the invention, a utensil is provided which is constructed out of a combination of a plurality of materials of different hardness. Preferably, the utensil includes a soft material component which makes the utensil more comfortable in use and a hard component which improves the overall structural integrity of the spoon.

Other objects, advantages and features of this invention will be more apparent in conjunction with the disclosure herein.

Brief Description of the Figures

A full understanding of the invention can be gained from the following description of the preferred embodiment when read in conjunction with the accompanying drawings in which:

Figure 1 is a top view of the combination-material utensil in accordance with the present invention;

Figure 2 is a side view of the utensil of Figure 1;

Figure 3 is a bottom view of the utensil of Figure 1;

Figure 4 is a perspective view of the combination-material utensil in accordance with the present invention;

Figure 5 is a perspective view of the utensil in accordance with the present invention, before application of the soft component thereto; and

Figure 6 is a series of views of the apparatus of the present invention, Figure 6(A) and 6(B) being cross sectional views taken along lines A-A and B-B, respectively, of Fig. 6(C), and Figure 6(C) being a top view.

Detailed Description of the Invention and the Preferred Embodiments

The present invention is directed to an improved utensil constructed of a combination of different materials having different relative hardness. In the preferred embodiment, the invention is directed to a spoon for babies or children which is constructed of a combination of hard and soft materials.

Accordingly, pursuant to the present invention, a composite or combination-material utensil is provided having at least two materials of different hardness incorporated therein. In the preferred embodiment, the invention is a baby spoon. The spoon preferably includes a soft material component and a hard material component. In the preferred embodiment, the spoon includes Kraton as the soft material component. The soft material component is a comfortable material which is preferably used on portions of the spoon which are in close contact with the baby's gums, mouth and skin.

The spoon also preferably includes a hard material component. In the preferred embodiment, the spoon includes polypropylene as the hard material component. The hard material component preferably provides the backbone of the spoon and preferably provides structural rigidity. The hard material can also be incorporated into other specific portions of the spoon, including, for example, the underside of the spoon's bowl. In one

such embodiment, the hard material can make it relatively easy to slide the spoon across a bowl or other dish. This facilitates scooping food into the bowl of the spoon and portion control. In addition, use of the the hard material as the backbone prevents the undesirable bending of the spoon which is often found in soft spoons of the prior art. Accordingly, incorporation of the harder material into the spoon can add structural rigidity to the handle and/or to the bowl.

Further description of the invention is apparent with reference to the figures. As shown therein, spoon 7 is a composite of two separate materials, a first, harder, material and a second, softer, material. In the preferred embodiment, the harder material is polypropylene, although in accordance with the invention, other materials such as other plastics or metals can be used, as well. Also in accordance with the invention, the softer material is Kraton, although silicone or other elastomers or flexible materials can also be used consistent with the invention.

Figure 1 is a top view and Figure 3 is a bottom view of the preferred embodiment of the spoon or utensil of the present invention. In accordance with the invention, spoon 7 includes a bowl or dish 18 having a center 24, which is composed of a hard material such as polypropylene or so forth, as discussed above. The construction of the bowl from this hard material allows the spoon to be easily slid across a dish such as a bowl or a plate and prevents undue bending of the spoon during use.

Bowl or dish 18 further includes a circumferential section 26. The circumferential

section 26 is preferably constructed from a relative soft material such as Kraton or silicone. The soft material is molded around the center 24 of the bowl 18 to protect the child's teeth and gums, and provides greater comfort to the baby's mouth than a spoon entirely constructed out of the hard material. Thus, as shown in the figures, in one preferred embodiment, in the bowl or dish section 18 the hard component of the spoon protrudes through and is surrounded by the soft component of the spoon.

Consistent with the invention, the hard component of the spoon preferably forms the backbone, or skeleton and infrastructure of the entire spoon, as shown in Figures 1, 3, 4 and 5. This hard material provides the entire spoon with a rigid structural component and prevents the spoon from bending during use.

Thus, handle 38 of spoon 7 includes an upper inner section 42 made of the hard material described above. Handle 38 is preferably provided for gripping comfort with the soft material covering the bottom of the spoon. The hard material forms the edges of the spoon. Handle 38 further includes ribs 48 made of a soft material. Ribs 48 are preferably located on the inside edge of handle 38 and are applied to grooves 52 of the spoon, shown in Figure 5. The ribs extend through the entire handle to protrude through its top and bottom surfaces and provide for easy gripping.

Figure 6 further shows the spoon of the present invention in cross-sectional views. Figure 6(A) is a cross-sectional view of the bowl or dish portion 18 and Figure 6(B) is a cross-sectional view of the handle 28 of the spoon of the present invention, both showing

the preferred juxtaposition of the hard and soft materials of the present invention.

In a preferred embodiment of the invention, the utensil or spoon is constructed using insert molding. In the preferred embodiment, the hard polypropylene component of the spoon is molded first to form the skeleton or backbone of the spoon. Following molding of the hard component, this backbone is taken out either mechanically or by hand. The hard component backbone is then placed into a mold where the Kraton, or relatively softer component, is injected onto and through the hard plastic to form the finished spoon.

Although a preferred embodiment of the combination spoon has been disclosed herein in accordance with the invention, other embodiments can be constructed as well. Thus, any desired modifications can be made to the bowl or to the handle of the spoon consistent with the invention, including modification of the relative positions of the hard and soft components and/or the number of different sections and types of hard and soft components and/or the specific identities of the hard and soft components utilized. Likewise, other composite hard/soft utensils can be constructed consistent with the invention, such as knives or forks. Or, other manufacturing processes can be used, if desired, to construct the products disclosed herein.

Having described this invention with regard to specific embodiments, it is to be understood that the description is not meant as a limitation since further variations or modifications may be apparent or may suggest themselves to those skilled in the art. It is

intended that the present application cover such variations and modifications as fall within the scope of the appended claims.

Claims

What is claimed is:

1. A combination-material food utensil comprising:

a handle member, and

a food-containing member connected to said handle member;

and wherein said food utensil comprises at least two different structural materials, said two different structural materials comprising a first, relative hard material, and a second, relative softer material.

2. A utensil according to Claim 1, wherein food utensil comprises said two different structural materials in said handle.

3. A utensil according to Claim 1, wherein food utensil comprises said two different structural materials in said food-containing member.

4. A utensil according to Claim 3, wherein said food-containing member is a bowl of a spoon.

5. A utensil according to Claim 4, wherein said first, relative hard material forms the center of said food-containing member of said spoon.

6. A utensil according to Claim 4, wherein said bowl defines a convex side and said

first, relative hard material is located at the center of said convex side.

7. A utensil according to Claim 4, wherein said second, relative soft material is located along a circumferential edge of said bowl of said spoon.

8. A utensil according to Claim 4, wherein said bowl of said spoon defines a convex side and wherein said second, relative soft material is located around a circumferential edge of said convex side.

9. A utensil according to Claim 1, wherein said first, relative hard material forms a structural skeleton for said utensil.

10. A utensil according to Claim 3, wherein said food-containing member has one or more tines of a fork.

11. A utensil according to Claim 1, wherein said food-containing member comprises a cutting section of a knife-like utensil.

12. A process of manufacturing a combination-material utensil comprising the steps of:

molding a relative hard material in a first mold to form a skeleton of said utensil; and

injecting relative soft material onto and through said molded skeleton to form said combination-material utensil.

13. A process of manufacturing a combination-material utensil as claimed in Claim 11 further comprising the step of:

taking said molded skeleton of relative hard material out of said first mold and placing it into a second mold prior to injecting said relative soft material.

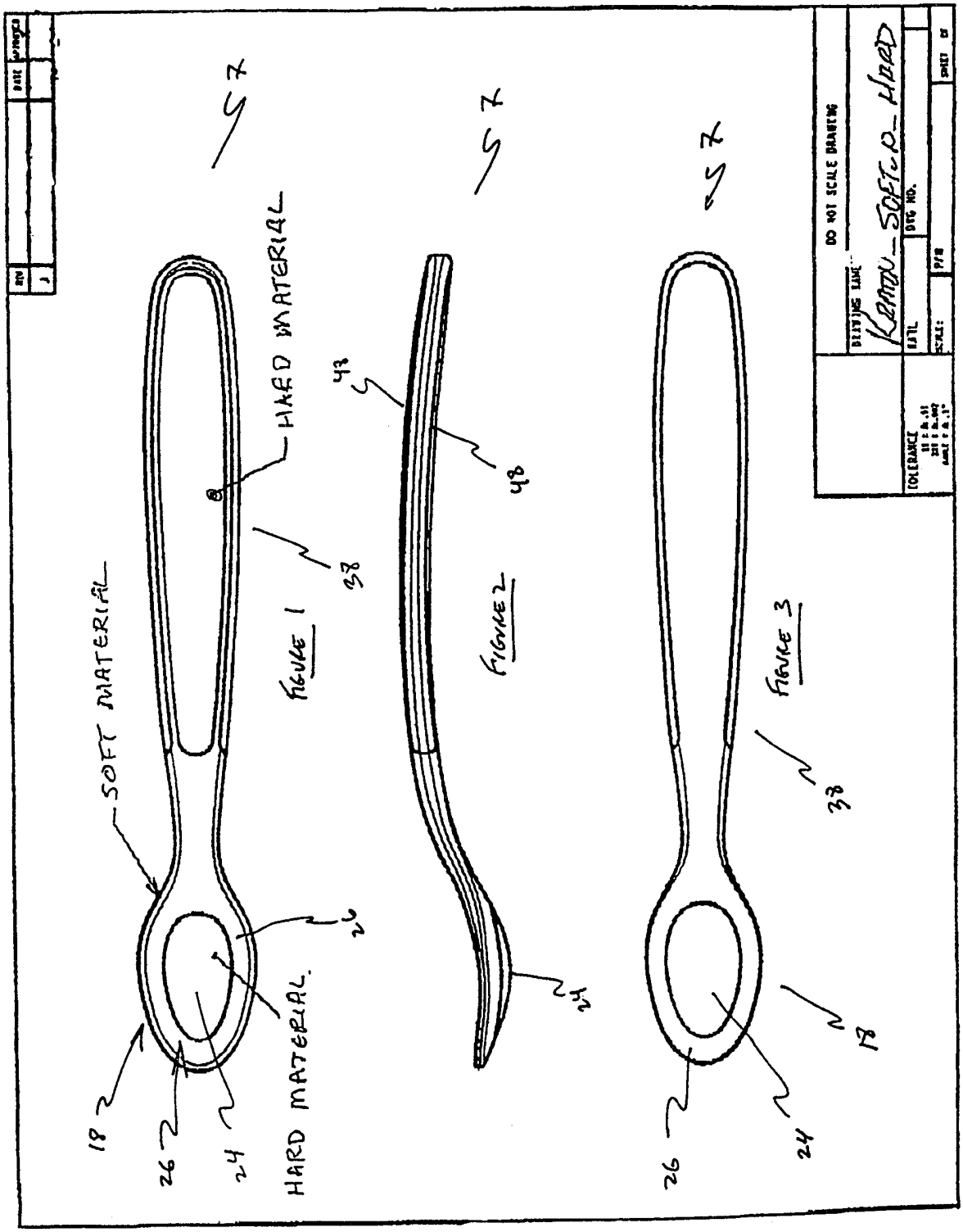

FIGURE 1

FIGURE 2

FIGURE 3

REV		DATE

NOTE: 982AU001C - FILES 001CW AND 001CS
WILL BE USED FOR MACHINING

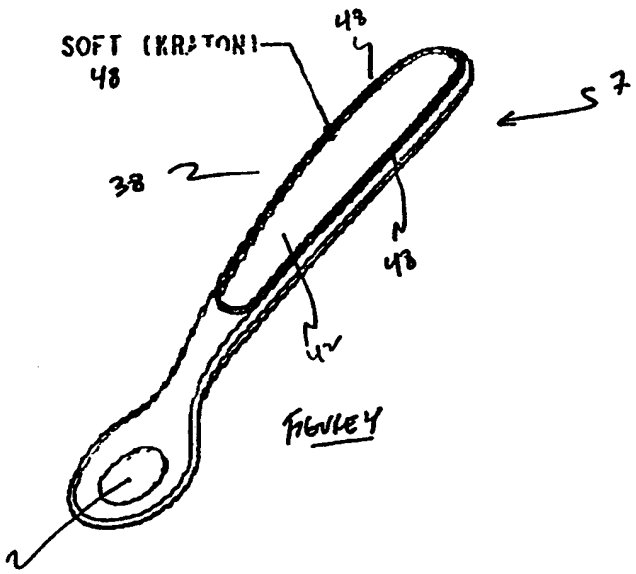

FIGURE 4

NOTE: 982AU002 - FILES 002W AND 002S
WILL BE USED FOR MACHINING

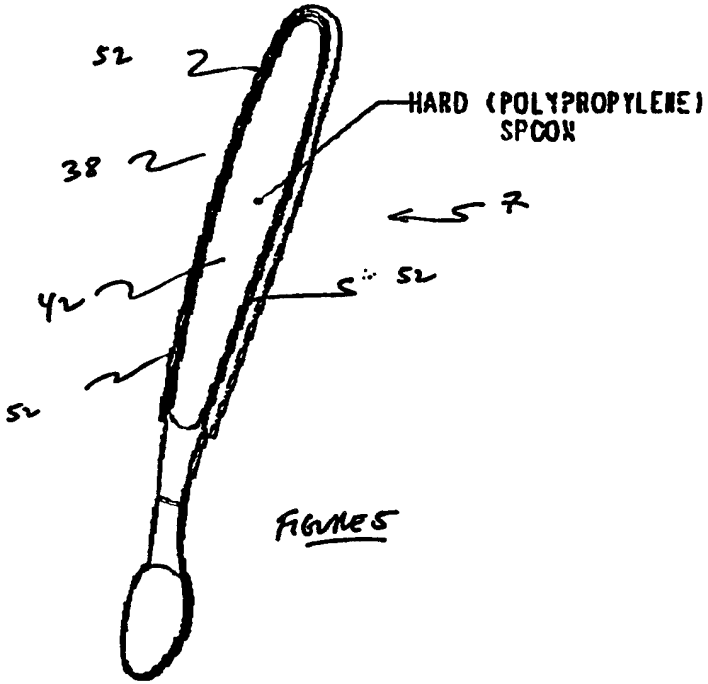

FIGURE 5

NOTE: THESE SPOONS AND FILES REPRESENT THE NECESSARY INFORMATION FOR THE TOOLING OF A SOFT MTRL. AND HARD MTRL. UTENSIL..

NOTE: POLYPROPYLENE SPOON (982AU002) WILL BE INSERTION MOLDED WITH KRATON SPOON (982AU001C)..

	DO NOT SCALE DRAWING	
	DRAWING NAME SOFT FEEDING SPOON 982AU001C REF. 982AU01	
TOLERANCE	MATL	SIZE SQ.
	SCALE	P/N

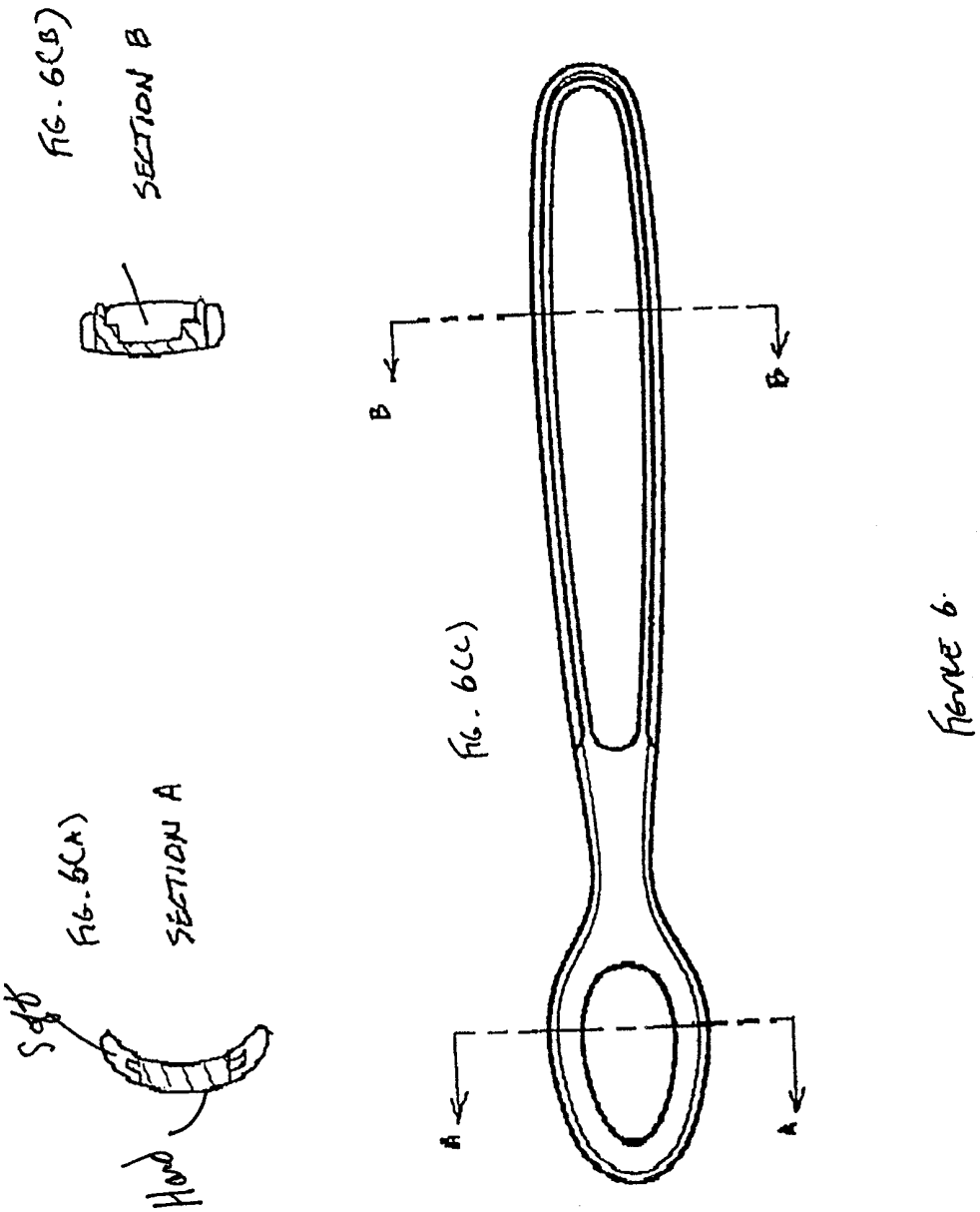

Figure 6.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US99/19299

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :A47J 43/28
US CL :30/324

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 30/322-328, 340

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

NONE

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

NONE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4,106,197 A (RUSSELL) 15 August 1978, see entire document	1-2, 9
X	US 5,920,993 A (WENK) 13 July 1999, see entire document	1-10
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Y		11-13
Y	US 5,376,325 A (ORMSON) 27 December 1994, see entire document	12-13

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

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