

CH 1998 H. No. 4568

IN THE HIGH COURT OF JUSTICE

CHANCERY DIVISION

PATENTS COURT

Before: **THE HON. MR. JUSTICE LADDIE**

B E T W E E N

(1) MANDY NICOLA HABERMAN

(2) V & A MARKETING LIMITED

Plaintiffs

- and -

JACKEL INTERNATIONAL LIMITED

Defendant

*Mr. Michael Fysh QC and Mr. Adrian Speck instructed by
Paisner & Co. for the Plaintiffs
Mr. Mark Platts-Mills and Miss Charlotte May instructed by
Freshfields for the Defendant*

Hearing dates: 1 - 4 December, 1998

JUDGMENT

This is the official judgment of the court and I direct that no further note or transcript be made

DATED: 15/1/99

Mr. Justice Laddie:

1. This is the judgment in a patent action concerning the design of feeding devices which are used in the process of weaning young babies off the mother's nipple or away from a feeding bottle. The patent is UK Patent G.B. No. 2,266,045. It was applied for on 7 April 1992 by the first plaintiff, Mrs. Mandy Nicola Haberman. The second plaintiff, V & A Marketing Limited ("V & A"), holds an exclusive licence to manufacture training cups in accordance with the patent. The defendant is Jackel International Limited.

Background

2. There is a considerable difference between the way in which a very young baby draws liquids into its throat and the way that it is achieved in older children and adults. In the latter liquid can be sucked up from the open surface of a cup held in the hands. For a very young baby, getting milk into the mouth from the mother's nipple or from a milk bottle involves somewhat different techniques. This process, known as suckling, involves more than just sucking. What happens is that the baby sucks the nipple (or teat in the case of a bottle) into its mouth. The suction pulls it to the back of the mouth and will stretch it. In the meanwhile the lips have sealed round the base of the nipple. The tongue moves forward under and surrounds most of the underside of the nipple. The nipple is trapped between the tongue and the upper palate and is subjected to a wave of compression starting from the tip of the tongue. This peristaltic wave squeezes milk out of the nipple and into the throat. The effect can be likened to squeezing toothpaste out of a tube. The milk therefore leaves the mammary ducts in the nipple by the combined effect of suction in the infant's throat and increased pressure in the ducts caused by the squeezing effect of the tongue. This squeezing process is sometimes called stripping. It can be imitated manually and, of course, it is what a milkmaid does when manually milking a cow or goat.

3. The change in a baby's method of feeding from suckling at and shortly after birth to normal adult feedings is reflected in the type of devices used for feeding children at different ages. When a very young baby is to be fed with a substitute for its mother's milk, for example with cow's milk or infant formula, the substitute is placed in a container to which is attached a soft and malleable teat which is designed to imitate the feel and function of the mother's nipple. This device is well known and is called a feeding or nursing bottle.

4. Older children are able to drink from normal cups. Not only are they able to suck efficiently without recourse to suckling, but their manual

dexterity improves so that they are able to control the position of the cup by use of one or more handles. However, between the time that a baby uses a feeding bottle or feeds from its mother's nipple, and the time it is able to use a normal cup with confidence, there is a transition period during which it has to learn not to rely on stripping milk from the teat or nipple and to hold a cup. During this period it is common to supply the infant with a drinking device consisting of a cup-shaped container, with or without handles, having a lid and a rigid or semi-rigid spout which helps to direct the beverage into the mouth. Such a utensil is called a training cup. They come in many shapes and sizes. A major difference between them and a feeding bottle is that the latter has a synthetic nipple-like teat which allows stripping to occur. The former does not. Although the spout may be made of soft or flexible material so as to be comfortable in the baby's mouth, the lumen in the spout is always open. Delivery of liquid is by means of suction alone.

5. In 1982, when Mrs Haberman became interested in designing and manufacturing new feeding devices for infants, she had no expertise in the field. She held a degree in Graphic Design from St. Martins School of Art and had worked with the Inner London Education Authority on an adult literacy programme. When her third child was born in 1982 it experienced severe feeding problems because it suffered from what is known as Stickler's Syndrome. Mrs. Haberman decided to see if she could develop a specialised feeder for babies with suckling problems. Her solution, known as the "Haberman Feeder" was launched in 1987. It is now marketed world-wide. This product is protected by UK Patent No. 2,169,210 ("Haberman I"). Since this product and the patent relating to it forms not only part of the history leading to the alleged invention in suit but also is one of the pieces of prior art relied on, it is convenient to illustrate its design here. The most important part of the bottle consists of the teat arrangement. It is illustrated as follows:

Figure 1:

6. The bar (23) can be pushed by the mother's finger so as to press in on and deform the synthetic teat (24). This raises the pressure within the teat. This forces the poppet valve (13) down onto its seat so as to cut off the inside of the teat from the bottle on top of which it is located. The air inside the teat is expelled through a slit valve in the teat (8). When the bar (23) is released it tends to take up its original configuration. The poppet valve now lifts off its seat. If this happens while the bottle is inverted, some of the contents of the bottle will flow round the valve and into the cavity

within the teat. When the bar (23) is pushed in again by the mother's finger, the poppet valve (13) will again shut and some of the milk within the teat will be expelled through the slit valve (8) into the baby's mouth. The Haberman Feeder therefore can be used to supply milk to babies whose ability to feed themselves is impaired.

The Patent in suit

7. Mrs. Haberman's evidence was that in the summer of 1990 she had an idea for making a non-drip trainer cup which would seal between sips. She said that the idea came to her while visiting another parent's home. There she saw a child drinking from a conventional trainer cup and watched the child's mother trying to prevent the contents from leaking onto the floor. Mrs. Haberman decided that it should be possible to produce a more effective cup. With the assistance of certain third parties, she made a number of prototype trainer cups. She wanted to make sure that a filled cup when inverted would withstand vigorous shaking for 10 seconds. Furthermore it should not leak when lain prone with the spout downmost and left overnight. Her final prototype could be left for weeks on end in this position without spilling any of its contents. In April 1992 she applied for the patent in suit.

8. The way in which Mrs Haberman's trainer cup works can be illustrated by reference to one of the drawings in the patent:

Figure 2:

9. As the patent explains, save for the addition of a special valve, the cup is of a conventional design consisting of a cup-shaped container (2) with a bottom (3) and upstanding walls (4). The lid (5) includes a spout (6) with an opening (8). As liquid is sucked out of the cup through the spout a partial vacuum will be created inside. To counter this an air inlet port (16) is provided. In this embodiment a valve assembly (10) is used which is connected to the lid by means of a boss (11) which is squeezed through a hole in the lid. The assembly is made of a flexible plastics material and contains two valves. One is formed by a slit (18) in the plastics material which lies underneath the spout. The other is a similar slit (17) underneath the air inlet port. The slit valves are so designed that liquid inside the cup cannot flow out of the spout unless the child applies suction to it and similarly liquid is prevented from flowing out of the air inlet port. The

specification states that cups to the patented design are cheap and simple to manufacture and adapted for ready use by ordinary members of the public. It says that they can be used in children's homes and in old people's homes Specification p. 12.. The specification also states that the spout shaped mouthpiece can be replaced by a tube or straw Specification p. 7.. The patent goes on to describe other possible embodiments including one which Mrs Haberman now wishes to delete by amendment. The design of that embodiment and her application to amend, which is opposed by Jackel, will be considered later in this judgment.

10. In fact the cups made and sold by the plaintiffs were simpler than those illustrated in the patent. The slit valve used to control outflow of liquid takes the form of a small insert at the very end of the spout. No air inlet is provided. The spout valve operates to allow air in between sucks and liquid out only when suction is applied. The arrangement looks like this:

Figure 3:

11. Once she had made prototypes, Mrs Haberman set about trying to exploit her development. There are many companies which are engaged in making feeding products for children. She approached under conditions of secrecy 18 of them. Most were British. A few were from the Continent. A number expressed considerable interest. Among those approached were H.J. Heinz Company Ltd. (which sells under the "Heinz" trade mark), Addis Ltd (which sells under the "Maws" trade mark), Laughton & Sons Limited (which was developing a range of products now sold by another company under the "Bébelles" trade mark), MAPA GmbH, Cow & Gate Nutricia Ltd, and Jackel International Limited, the defendant in this action (which sells under the "Tommee Tippee" trade mark). As the evidence in this action demonstrates, there are many other companies involved in this trade both here and abroad. In the end no licensing agreement was reached with any of the companies. Instead Mrs Haberman approached and entered into a licence agreement with V & A. In August 1996, an American company, The First Years Incorporated, which sells drinking devices in the United States under the trade mark "Tumble Mates", approached Mrs. Haberman for a licence under her patents. They are now her exclusive licensee in that country. Cups made in accordance with the patent in suit are made by V & A and sold under the trade mark "The Anywayup Cup". MAPA GmbH now purchase from V & A and are the biggest overseas customer for the Anywayup Cup. Cow & Gate have also purchased from V & A.

Construction.

12. Although independent validity was asserted in respect of a number of claims, during the trial all the arguments of validity concentrated on Claim 1. It reads as follows:

"A drinking vessel suitable for use as a trainer cup or the like, comprising: an open-mouthed generally cup-shaped container; and a lid for the open mouth of said cup-shaped container, the lid having a mouthpiece associated therewith; the vessel being provided with valve means comprising a self-closing slit valve adapted to prevent flow of liquid from the interior of the container through the mouthpiece unless a predetermined level of suction is applied to the mouthpiece, and to enable a user to draw liquid through the mouthpiece by the sole application of suction thereto; the configuration of the valve means being such that said slit valve is adapted to open upon no more than a predetermined difference of pressure, greater within the vessel than outside, being present across the said valve."

13. By the time of the closing speeches the dispute between the parties on construction centered on the words "an open-mouthed generally cup-shaped container", "suitable for use as a trainer cup or the like" and "a mouthpiece associated therewith". Mr. Platts-Mills for Jackel argued that any container of any shape would fall within the claim, that because of the words "or the like" after "trainer cup", the claim was not limited to devices designed to suit teething children and, most importantly, that anything which would fit in the mouth constituted a mouthpiece. As Mr. Platts-Mills put it, a mouthpiece indistinguishable in shape and material from a traditional teat was covered. Therefore the claim had a wide scope and, for example, an ordinary baby's feeding bottle with a flexible teat on the end would fall within it if the teat incorporated a slit valve. Since teats with slit valves for use on feeding bottles were well known well before the priority date, the result was that the claim was inevitably invalid. In support of these submissions Mr. Platts Mills referred to Claim 15 which expressly refers to the mouthpiece being formed of flexible material.

14. Mr. Fysh, who appeared for the plaintiffs, said that this was not the correct construction at all. The claims had to be read in the context of the specification as a whole. It was important to bear in mind that the claim was directed at trainer cups. The reference to "the like" really did no more than to make clear that the claims covered the same cups when not used for training infants, for example when used by the old and infirm. Mr. Fysh said that training cups are quite distinct from feeding bottles. A container for liquid equipped with a teat is a feeding bottle but a container fitted with a rigid or semi-rigid spout is a trainer cup. He said it is the mouthpiece

which denominates the product, not the container. In support of this, the plaintiffs relied on evidence given by Mr. Peter Weiss. Mr. Weiss has been associated with the baby product industry since 1983 and was the Production Director and subsequently the Deputy Managing Director of Lewis Woolf Griptight, one of the largest manufacturers of such products in the United Kingdom, and thereafter the Managing Director of MAM (UK) Ltd. He is the Vice-President, and was formerly the President, of the World Association of Manufacturers of Bottles and Teats. He is also a member of the European Committee for Baby Product Standards which is currently drafting standards for soothers, bottles, teats and cups. His evidence was that any container that utilises a flexible feeding teat or nipple would be known and referred to in the industry as a feeding bottle, whether it is long, thin or squat and whether or not it has handles. All other containers capable of holding a fluid and intended for feeding a child are either trainer cups or drinking cups. He points out that this is consistent with the draft European Standard which draws a distinction between two types of vessel:

"Children's drinking products fall into two broad categories:-

- (a) Those fitted with feeding teats; and
- (b) Those fitted with drinking accessories, e.g. spouts, spoons or straws."

This draft definition goes hand in hand with the draft definition of teats and drinking accessories:

- "(a) Feeding teat - a substitute nipple that when attached to a container, permits a child to obtain fluid by suckling;
- (b) Drinking accessory - any device other than a feeding teat, e.g. spoon, straw or spout permitting a child to obtain fluid from a container."

15. None of this was seriously challenged. The purpose of using a teat on a feeding vessel is to allow the baby to feed as if it is at its mother's breast. The teat is capable of being sucked and stripped just as a nipple is. It is designed to mimic the nipple. Drinking accessories on other types of products are not designed to be susceptible to stripping in the same way. They are not designed to collapse in normal use. It appears to me that Mr. Weiss' evidence on this point was consistent with the way in which all the

witnesses talked of feeding bottles and training cups. That there was a difference between the two and that one would have no difficulty normally in telling them apart ran through all the evidence. It was also consistent with the way in which the words are used in practice. I was supplied with a considerable number of products available on the market which had been referred to by the parties at one stage or another during the proceedings. A number of them illustrate Mr. Weiss' evidence. They include the following:

(1) MAM Baby Nurser System Item 15 on display board 3.. This consists of a jar like container with a number of interchangeable attachments. The packaging and the leaflet within it draw a distinction between the use of a teat and a spout. When the former is being used, the device is referred to as a "MAM Baby Nurser". When the teat is removed and replaced by a spout it is referred to as a "MAM Soft Spout Trainer". The spout is called a training spout. The front of the packaging states: "Drinking spout converts bottle into training cup."

(2) AVENT Soft Spout Training Cup Item 18 on display board 3.. This contains a jar or cup for use with or without handles. It is said to be for use by babies from 4 months old onwards. The packaging states "The Soft Spout Training Cup provides easy transition from teat to training cup. This cup may also be used as a feeding bottle by substituting the spout for an AVENT teat (available separately)".

(3) TOMMEE TIPPEE first stage drinking cup Item 9 on display board 2.. This is one of the defendant's products. It is a multi-use drinking device. The package includes interchangeable teat and spout. The outer packaging says "Helps baby learn to hold a cup while still using a teat, then develop self feeding through a spout". The leaflet supplied with the product says "Two handled drinking cup with special teat lid and trainer spout attachment. Set includes cup, lid, ... medium flow teat, trainer spout and protective teat cover."

16. I accept Mr. Fysh's approach to construction. Mrs. Haberman's patent does not cover drinking devices with teats. It covers devices with spouts or similar drinking accessories, i.e. mouthpieces which in normal use have an open lumen. The word mouthpiece has to be read in the context of the specification and words in the claim "suitable for use as a trainer cup or the like". When the mouthpiece is a teat the container is not suitable for that use. For the purpose of claim 1 it does not matter whether the spout or similar mouthpiece is rigid or flexible. It can be either. Once again, there is no difficulty in distinguishing a flexible spout from a teat. For example one product made available during the trial, the Heinz Baby Basics "FLEXISOFT" tumbler Item 1 on display board 2., clearly uses a spout

but the packaging and the trade mark used with it emphasises its softness and flexibility. I do not agree with Mr. Platts-Mills that a mouthpiece indistinguishable in shape and material from a traditional teat is covered by the claims. A device with a teat is a feeding bottle.

Validity

17. Anticipation and obviousness constituted the major attacks on validity. A large number of pieces of prior art and prior uses are relied on. This is not a surprise because Jackel's case is that there was nothing in the technology used by Mrs Haberman which was outside the normal workshop modifications which were available to those in the art and had been for a very long time. Hers was a simple solution to a known problem using known and readily available expedients. Consistent with this, Mr. Platts-Mills argues that the patent is not only invalid over the specific pieces of prior art relied on but also in the light of common general knowledge alone. It is convenient to consider the arguments of anticipation first and then to turn to obviousness.

(a) Pratt (U.S. Patent No. 4138).

18. This is for improvements in what are called "nursing-bottles". It was published in June, 1845. The patent is for feeding bottles designed for use by babies or infirm adults. It describes and illustrates a bottle fitted with a cork. Over the mouth of the bottle is fitted an "artificial nipple or sheath" of india rubber (see Figure 4(a) below). There are two tubes in the cork (see Figure 4(c)). One passes through the cork and connects the space below the nipple to the contents of the bottle. It is referred to as a sucking tube. The other connects the inside of the bottle to atmosphere. It is referred to as an air tube. When a baby sucks on the nipple, fluid from the bottle passes down the sucking tube. Its space in the bottle is replaced by air which flows in from outside through the air tube. Mr. Pratt acknowledges that bottles involving those components were in use. His contribution to the art was to place a thin india rubber tube with a slit valve at the end over the upper end of the sucking tube and a similar india rubber tube over the lower end of the air tube. These valves close when the baby or patient is not feeding. The purpose of the valves is stated to be to prevent the contents of the bottle from leaking out when the bottle is inclined or inverted.

Figure 4.

19. This does not anticipate claim 1 of the patent in suit. Because it uses a teat, it is not suitable for use as a trainer cup or the like. It is described and illustrated as what we now call a feeding bottle. Furthermore it is not generally cup-shaped and it does not have a lid for the open mouth of the cup-shaped container.

(b) Lougheed (U.S. Patent No. 2223179)

20. This patent was published in 1940. It is for improvements in nursing nipples. The word 'nipple' is used in the United States of America for what we in England call an artificial teat. The opening paragraph of the patent makes it clear that it is directed to teats which imitate the function of the mother's nipple. It is therefore for use in suckling. The invention consists of inserting a variety of valves, including slit valves, in the end of the teat. This is illustrated in Figure 5 below. The purpose of the valves is to cut off the flow of fluid through the teat when the baby is not feeding. Mr. Lougheed acknowledges P. 4 left column, line 27 et seq. that slit valves have been used on teats before, but he claims that his are the first to be designed to open only as a result of the effect of the baby's feeding rather than through biting. There is no description of the container to which the teats are to be fitted, but there is a general reference to them being fitted to bottles e.g. p. 3 right column, line 24.

Figure 5.

21. For all the reasons set out in relation to Pratt, this does not anticipate either.

(c) Miscellaneous prior uses and publications

22. The claims were also said to be anticipated by (1) the widespread use since 1987 of the Haberman Feeder, referred to in paragraph 5 above, (2) the widespread use since 1985 of the Maws Resolve teat for use on a feeding bottle or cup, (3) the publication in 1991 of the Bounty Baby Care Guide with an advertisement containing a picture of the Maws Resolve teat on a chunky bottle, (4) the widespread use since about 1990 of the Púr Drip-less teat in conjunction with cup-shaped drinking vessels, (5) the widespread use since about 1988 of the Púr juice teat in conjunction with cup-shaped drinking vessels and (6) the publication in 1990 of a brochure

relating to the Púr range of products which referred to the Púr Drip-less teat and the Púr juice teat. In each of these, the teat had a slit valve of one form or another at its end to prevent the teat from leaking. Once again in my view none of these anticipate the claims of the patent in suit. They are all for use as part of a feeding bottle system. None of them are for training cups. The real issue in this case is obviousness.

23. All of the prior art referred to above was pleaded in relation to obviousness together with the following additional material.

(d) Tupper (U.S. Patent No. 2816548)

24. This was published in 1957. It is concerned with what it calls a "sipper seal" for drinking vessels which is designed to make a spill proof closure for various types of drink-containing vessels. The closure consists of detachable spout made of plastics material. It is of the shape shown in elevation and plan in Figure 6 below. The spout ends in a small opening or slot (20). When this closure is put on a bottle or cup, liquid can flow up the spout towards the slot. Mr. Tupper asserts that capillary action and surface tension will prevent the liquid from leaking out.

Figure 6.

The patent also describes and illustrates the closure when fitted to a bottle of cola and to a tumbler of fruit juice. The description of the version of the device fitted to a tumbler refers to a slit valve which allows ingress of air to replace fluid which has been sucked out by the child. This is identified (31) on the drawing.

Figure 7.

(e) Belanger (U.S. Patent No. 5079013)

25. This patent was published in January 1992. It is directed to dripless feeding and training containers. Two types of feeding device are illustrated and described. One is a feeding bottle. It is illustrated in Figure 8 below. The mouth of the bottle is fitted with a standard teat having a hole in it. As the baby withdraws fluid from the bottle, air is allowed in through an air

inlet located at the other end of the bottle. When the baby is not feeding, the inlet is sealed shut by means of a spring loaded ball valve (14).

Figure 8.

26. The other, and more important, embodiment is for a training cup. This is illustrated in Figure 9 below. This has both inlet and outlet valves. Once again the inlet valve (14) uses a spring loaded ball resting on a seat. The outlet valve (26) is incorporated into a spout (16). The valve in this case consists of a spring loaded piston which is urged against a seat inside a piston chamber. When the child sucks on the spout he exerts enough vacuum to override the springs on the inlet and outlet valves so that fluid can pass down the spout into his mouth. The specification also contains the following statement:

"It should also be noted that valves suitable for the embodiments of the present invention, exist in numerous forms and types, such as those shown in the present invention, including, but not limited to, e.g. ball valves, needle valves, flat-handled valves, etc." Column 11 line 9.

Figure 9.

(f) Further miscellaneous prior uses and publications

27. In addition to the above prior art, reliance is placed on (1) widespread use in the early and mid 1980's of a teat sold by Lewis Wolfe Griptight (Mr. Weiss' former employer) and (2) the publication in 1990 by Allegre S.A. of a brochure depicting and describing teats bearing product numbers 1999 and 1949. All these pieces of prior art consist of teats with slit valves in the ends.

Obviousness

28. In considering the attack of obviousness I bear in mind the decision of the Court of Appeal in *Windsurfing International Inc. v. Tabur Marine (Great Britain) Ltd* [1985] RPC 59. That case sets out a structured approach to the question of obviousness which can simplify analysis. Here there is no difficulty in identifying the inventive concept. It is the use of a simple slit valve to prevent leakage of fluid from the outlet of a training cup. There is also no dispute between the parties as to the relevant common general knowledge at the priority date; it was well known that teats from feeding bottles could and had been made drip resistant by incorporating slit valves in the end and it was also well known that training cups existed, were prone to leak and that this was regarded as a problem. Mrs Haberman's step was to take the known simple valve and apply it to a known simple cup. As it was put in *Windsurfer*, the question is whether, viewed without any knowledge of the alleged invention, the difference between what Mrs Haberman did and the prior art would have been obvious to the skilled man or whether it required any degree of invention. Jackel's position is that no invention is involved here. What Mrs Haberman did was blindingly obvious and had been so for some time.

29. In all cases where obviousness is in issue the court is trying to look back to what paths would have been seriously considered by a notional skilled but uninventive person in the relevant art at the priority date. The task is made more difficult because the patentee's development is already known to the parties and the court. Therefore inevitably the court will know not only that a solution is possible but what it is. Many patented inventions operate in accordance with simple principles of physics, chemistry or other sciences. It is normally easy to understand why they work. From this it is but a short step to thinking that a competent technician in the art would have realised, starting from the same simple principles, why the solution proposed by the patentee should have worked. So, working from those principles, the solution must be obvious. In such cases it is also easy to take the relevant expert witnesses under cross-examination through a series of logical steps which lead to the solution. The simpler the solution, the easier it is to explain. The easier it is to explain, the more obvious it can appear. This is not always fair to inventors.

30. In the search for relevant material on the issue of obviousness, needless to say each party relies on the evidence of experts. It is no surprise that the patentee will find and use an expert whose view is that the development is inventive while the defendant finds and uses an expert whose view is that it is not. In the great majority of cases the experts on each side hold their views honestly. I have no doubt that that is the case here. Mr. Weiss was involved in the baby product field for many years. At the relevant date he was involved in trying to think up new designs for,

inter alia, trainer cups. His view was that the Haberman development was not obvious. Jackel relied on Mr. Bernard Sinclair as its expert. He was not involved at the relevant time in the search for new designs for training cups but he is experienced in product design. He was given one of the Jackel cups which is said to infringe and was asked to put forward design concepts which could be used to render it spill proof. Precisely what his instructions were was not examined in court because a claim to privilege had been raised before the trial. In any event, it appears he sat with the defendant's solicitors for about half an hour thinking up designs. Apparently from time to time the solicitors asked him whether there were any additional alternatives which he could think of. Within the half an hour he had come up with a slit valve design. His evidence is that this design is obvious.

31. Here, as in other cases, the experts have explained the technology and try to reconstruct how they believe they, or others, would have analysed the problem had it been put to them at the relevant time. They put the court in a position to understand the thought processes which can lead towards or away from the patented solution. The court then has to decide which approach more closely reflects what would have occurred to the hypothetical uninventive worker in the art at the priority date. Sometimes there will be little difficulty in preferring one approach to the other, but frequently each expert's analysis is logical and credible. A problem with evidence from an expert is that he addresses the prior art and the patented development from his own unique standpoint. An expert with the relevant expertise who thinks the development would have been obvious at the priority date may be right or he may just have a greater insight than the notional uninventive man in the art. Likewise an expert who thinks that the development is inventive may be right or may have a more constricted insight. Here there is no difficulty in understanding what Mrs Haberman has done nor is it difficult to see how anyone in the art could have arrived at the same design from any of the prior art or, as Mr. Platts-Mills argues, from common general knowledge alone. Since dripless teats using slit valves were extremely well known and widely used, surely it was obvious to take the valve system from them and use it in a trainer cup. A simple experiment would have been to cut off the top half of one of the numerous dripless teats on the market and fix it inside the spout of one of the numerous training cups on the market. This analysis is compelling. Does it reflect what an ordinary man in the art, steeped in the folklore, perceptions and prejudices of the trade would have done?

32. If skilled workers in the art had looked at the priority date both at the prior art relied on and had turned their minds to solving a known problem their reactions would come closer to showing what would have been the approach of the hypothetical skilled man. Unfortunately evidence in that

form rarely exists. However some insight into the thinking of those in the art at the priority date can be provided by evidence of commercial success. To this end patentees sometimes prove schedules of sales to support their claims to inventiveness. In most cases this type of evidence is of little or no value because it does no more than show that a particular item or process which employs the patented development has sold well. The mere existence of large sales says nothing about what problems were being tackled by those in the art nor, without more, does it demonstrate that success in the market place has anything to do with the patented development nor whether it was or was not the obvious thing to do. After all, it is sometimes possible to make large profits by selling well an obvious product. But in some circumstances commercial success can throw light on the approach and thought processes which pervade the industry as a whole. The plaintiffs rely on commercial success here. To be of value in helping to determine whether a development is obvious or not it seems to me that the following matters are relevant:

(a) What was the problem which the patented development addressed. Although sometimes a development may be the obvious solution to another problem, that is not frequently the case.

(b) How long had that problem existed.

(c) How significant was the problem seen to be. A problem which was viewed in the trade as trivial might not have generated much in the way of efforts to find a solution. So an extended period during which no solution was proposed (or proposed as a commercial proposition) would throw little light on whether, technically, it was obvious. Such an extended period of inactivity may demonstrate no more than that those in the trade did not believe that finding a solution was commercially worth the effort. The fact, if it be one, that they had miscalculated the commercial benefits to be achieved by the solution says little about its technical obviousness and it is only the latter which counts. On the other hand evidence which suggests that those in the art were aware of the problem and had been trying to find a solution will assist the patentee.

(d) How widely known was the problem and how many were likely to be seeking a solution. Where the problem was widely known to many in the relevant art, the greater the prospect of it being solved quickly.

(e) What prior art would have been likely to be known to all or most of those who would have been expected to be involved in finding a solution. A development may be obvious over a piece of esoteric prior art of which most in the trade would have been ignorant. If that is so, commercial

success over other, less relevant, prior art will have much reduced significance.

(f) What other solutions were put forward in the period leading up to the publication of the patentee's development. This overlaps with other factors. For example it illustrates that others in the art were aware of the problem and were seeking a solution. But it also is of relevance in that it may indicate that the patentee's development was not what would have occurred to the relevant workers. This factor must be treated with care. As has been said on more than one occasion, there may be more than one obvious route round a technical problem. The existence of alternatives does not prevent each of them from being obvious. On the other hand where the patentee's development would have been expected to be at the forefront of solutions to be found yet it was not and other, more expensive or complex or less satisfactory, solutions were employed instead, then this may suggest that the ex post facto assessment that the solution was at the forefront of possibilities is wrong.

(g) To what extent were there factors which would have held back the exploitation of the solution even if it was technically obvious. For example it may be that the materials or equipment necessary to exploit the solution were only available belatedly or their cost was so high as to act as a commercial deterrent. On the other hand if the necessary materials and apparatus were readily available at reasonable cost, a lengthy period during which the solution was not proposed is a factor which is consistent with lack of obviousness.

(h) How well has the patentee's development been received. Once the product or process was put into commercial operation, to what extent was it a commercial success. In looking at this, it is legitimate to have regard not only to the success indicated by exploitation by the patentee and his licensees but also to the commercial success achieved by infringers. Furthermore the number of infringers may reflect on some of the other factors set out above. For example if there are a large number of infringers it may be some indication of the number of members of the trade who were likely to be looking for alternative or improved products (see (iv) above).

(i) To what extent can it be shown that the whole or much of the commercial success is due to the technical merits of the development, i.e. because it solves the problem. Success which is largely attributable to other factors, such as the commercial power of the patentee or his licensee, extensive advertising focusing on features which have nothing to do with the development, branding or other technical features of the product or process, says nothing about the value of the invention.

I do not suggest that this list is exhaustive. But it does represent factors which taken together may point towards or away from inventiveness. Most of them have been addressed in this case.

The evidence of commercial success and longfelt want.

33. There is no dispute that the problem which Mrs Haberman's patent seeks to solve, namely the leakage of fluids from feeding containers, has existed for a very long time. Nor is there any doubt that it was seen to be significant. As long ago as Mr. Pratt's invention, concern was being expressed. Mr. Platts-Mills points out that training cups do not go back as far as 1845, so the problem is more recent than that. It has been recognised at least since Mr. Tupper's invention of 1957, 35 years before Mrs Haberman put forward her design. Furthermore there was no dispute that the trainer cup market grew strongly in the decade before the priority date. If one looks at the large number of products which were made available on display boards for the trial, it will be seen that numerous manufacturers made claims that their trainer cups were leakproof or spill proof. In many cases such claims were, at best, optimistic. The industry as a whole appears to have wanted to produce spill proof trainer cups. That there were numerous companies involved in this trade both here and elsewhere is not in doubt. That the market was highly competitive was confirmed during the oral evidence. It is likely that many companies were trying to find a solution. Jackel was just one of them although its evidence was that it was at the forefront in looking for new products and took pride in its ability to keep ahead of its competitors. In this case there is also no dispute that dripless teats were common knowledge and had been for years. In fact Mr. Rees, the Technical Director of Jackel said that in France more slit valve teats are sold than other types of teat and this has been the case since the early 1970's.

34. The variety of solutions put forward to meet the leakage problem is impressive not only in number but because they all appear to suffer from significant disadvantages when compared with Mrs Haberman's design. In relation to this it is worth bearing in mind the evidence of Mr. Sinclair. He said that there were numerous advantages to be obtained by simplifying design and in reducing the number of parts used See for example Transcript p. 375 et seq.. Yet if one looks at what was on the market before April 1992 the multitude of difficult and partially ineffective designs is apparent. Although the objective of making a leak proof cup was known, by and large it had not been achieved. There were numerous designs of products which could be rendered leak proof by parental intervention. But in all these cases the parent turned the cup on or off. Once the cup was turned on and the child was drinking from it, leaks would occur. For example the defendant produced a number of such designs; The Tommee Tippee Straw Top

Tumbler Item 7 on display board 3., The Sip 'n' Seal cup Item 6 on display board 2., Leak Proof Travel Beaker Item 8 on display board 2.. These all involved complex moldings and were not leakproof in use. Similarly they produced a Sip 'n' Seal cup Item 2 on display board 2. with a rotatable lid to turn the flow of liquid on or off. Another company, Paul Murray Plc, produced the Junior Macare Drink and Seal Cup Item 5 on display board 2. which also could be rotated to an on or off state. When "on" it would leak. A product known as the Ansacup Item 9 on display board 3. also uses a device which is intended to reduce spills. This consists of a curved plastic pipe in the lid which will reduce the amount of fluid which comes out of the cup when it is lying gently on its side. It does not prevent fluid coming out when the cup is shaken. Mr. Weiss also referred to the MAM "Twist N Seal" cup and Product Technology's "Travel Happy Cup", both of which sealed only on adult intervention. There are also numerous cups which claim to be leak resistant but only because they are sold with snap on top covers. Playtex in the United States produced a trainer cup design based on the Belanger patent. This involves complicated multipart mechanical valves which would have been expensive to make and difficult to clean. In addition to these proposals, one should bear in mind not only the Belanger patent itself but also Mr. Tupper's proposal, which Mr. Sinclair agreed was unlikely to work. Tupper is interesting because he thought of using a slit valve for air inlet purposes but apparently did not think of using it as the valve for stopping leaks. All of these devices show not only that numerous efforts were made to find a solution to the problem but also the complicated nature of the solutions which were suggested or put into production.

35. These efforts should be set against the simplicity of what Mrs. Haberman suggested. All the raw materials were readily available. The simplest of valves, used frequently in the same trade, could be used to make a product which had all the virtues which anyone designing a product would want to achieve. The advantages of the use of such a design would have been immediately apparent, once it was thought of. There was nothing which was holding anyone back.

36. It is against that background that the claim to commercial success has to be gauged. Although I will go through some of the evidence in relation to this, I can summarise my conclusions at the outset. Mrs. Haberman's product was cheap, simple, effective and a remarkable commercial success. Mr. David Jones, the marketing director of the defendant, said that he thought the first version of the plaintiffs' product was not particularly successful but that the second one was and that this success was due to better design and marketing. I do not accept that evidence. I accept that the first version of Mrs Haberman's product was dull. Even Mrs Haberman said it had "unconsidered aesthetics". It had nothing to commend it visually. However it was an enormous success. The

only reason for that success was the incorporation of the simple slit valve. The success of the new models was also, in major part attributable to the use of slit valves.

37. With the exception of Mr. Jones' evidence, to which I have just referred, all the evidence supported the claim to commercial success. Evidence was given of the very first exhibition attended by the plaintiffs. Because they were such novices in this field they booked into the wrong one. This was the Nursery Trade Fair which is for organisers of nursery schools and crèches. It was not an exhibition for trade buyers of baby products. Mrs. Haberman only found out her error a few days before the exhibition was due to be held. Because the costs had already been incurred, she decided not to cancel her stand. The evidence was that the response was overwhelming. The plaintiffs' stand was besieged by would-be customers. The aisles around it were blocked. Advanced orders for £10,000 worth of cups were taken. The plaintiffs also found the correct trade fair to attend, the Baby & Toddler Fair, and took space there. Once again the product was a success. According to Mr. Victor Davies, a director of the Second Plaintiff, the response was very impressive. Although at the time of these two fairs in the Autumn of 1995 the plaintiffs were not in production and therefore had nothing to sell, a total of 8,000 advance orders were taken.

38. Sales commenced in about March 1996. By the end of that year the Plaintiffs were selling at a rate of about 20,000 cups per month. Only 12 months after launch they were selling at the rate of 685,000 p.a. The evidence given by the plaintiffs was that by then orders exceeded their production capacity. They had to produce new tools. They took the opportunity to redesign the product. Both the original design and the new designs are now on the market. In 1997, the plaintiffs achieved total sales of over 3/4 million cups. In the first 9 months of 1998 sales had reached nearly 2 million cups. Sales have fallen somewhat in the face of recent competition from other cups using slit valves. The sales were achieved on the basis of an advertising expenditure of £2,100 (two thousand one hundred pounds), an expenditure on exhibitions of £15,002 and promotional expenditure of £9,000. Mr. Llewellyn-Jones, a director of the second plaintiff, was in charge of selling the Anywayup cup. His evidence was that sales were achieved almost entirely by word of mouth and by recommendation from mother to mother. He said that thousands of laudatory telephone calls from members of the public were received. Letters in the same vein were received and some of them have been exhibited to his witness statement.

39. Furthermore the sales were made to most of the major supermarket chains. Mr. Llewellyn-Jones' evidence was that it is not easy for an

essentially one product company (as the second plaintiff was) to get the attention of the buyers from the larger retailers, let alone obtain a listing. This was not disputed. He said that in order to make their mark the plaintiffs had to resort to novel marketing ideas. He described them as follows:

"At trade exhibitions and stands the cups were energetically thrown and juggled into the air, some were dashed on the ground and on many occasions we shook a cup full of liquid in the face of would-be purchasers to prove that it does not leak." Llewellyn-Jones' Witness Statement para. 11.

The point to be made about this evidence is that the only selling feature relied upon was that the product was leak resistant. I have already noted that its appearance was dull and unexceptional. In other words it was only the effect of Mrs. Haberman's design which was used to promote the Anywayup cup and it was only that which achieved the sales. This is supported by the evidence relating to Tesco's. Mr. Llewellyn-Jones decided to send a cup, filled with a highly coloured fruit drink, Ribena, to the buyer at Tesco's in a box without internal packing so that the cup rolled about inside the box. He sent the box by post. Inside he enclosed a letter in which he said that if the contents had leaked he had shot himself in the foot. Apparently the contents did not leak. This subject also arose in the course of cross-examination:

"Q. What I would suggest is that a very large part of the success of the marketing of the product is attributable to the re-packaging exercise that went on towards the end of 1997?

A. I do not think you can say that at all. I think the figures show an amazing success of the product as it is, when you think that we launched or our first substantial orders were delivered in April 1996. We were fresh to the trade. We are a small company from Cardiff with five employees and I think at that time we had about four desks when Mrs. Haberman approached us, and we took on the big boys of the world. We did not know what we were doing to start with. We just got on the phone and started to sell. To think that we got into Tesco within the third month of our first orders going out is extraordinary. Other people would give their eye teeth to get into Tesco, the leading retailer in this country.

Q. That was achieved by a rather cunning marketing trick?

A. Well, possibly it got me in there to see her, but it only took 10 minutes to persuade her to take it, and she decided within 10 minutes she would take

it. I was out within 15 minutes. Similarly, with Safeway two months later, they decided to take it straightaway, and after an inspection of our factory or, rather, the manufacturing unit that we were using they took it. Anybody else would tell you that to get into major stores that quickly is extraordinary. Tesco promptly started selling 4400 cups a week."

40. The Anywayup Cup was listed in Tesco's from 9 June 1996. Recently sales have shrunk dramatically. The plaintiffs believe that that is because the defendant's product has displaced them. Mr. Llewellyn-Jones describes speed with which the product was accepted by major retailers as "extraordinary". The extent of sales of the Anywayup cup should be put against the evidence given by Mr. David Jones for the defendant that the total annual market for cups is 6 million. The impact of the product is also reflected by the comments by members of the trade. Hearsay notices have been put in in respect of statements made to Mr. Llewellyn-Jones by Mr. Nic Harley of Tesco Direct, a mail order offshoot of Tesco's, and Janet Delaney of Mothercare. Mr. Harley is reported as saying that the Anywayup cup has consistently been the highest unit volume seller in the Tesco catalogue and out-performs any other baby cup by 100%. Mothercare started stocking the Anywayup cup in April 1998. Ms. Delaney told Mr. Llewellyn-Jones that within one week it had entered the top 25 selling products stocked by the company.

41. Although, as noted above, Mr. David Jones for the defendant said that sales of the Mark I version of the Anywayup cup were not very good - evidence which I do not accept - he did accept that sales of the new cup were "remarkable". Transcript p. 349. I think he was right in this assessment but that the same assessment applies to the Mark I cup as well. On the basis of the evidence before me, I accept that the Anywayup cup has been far more successful than the plaintiffs could reasonably have hoped. I also accept that this was almost entirely due to the inclusion within it of the simple slit valve.

42. The commercial success of the Anywayup cup appears to have provoked the attention of others in the trade. A number of them, including the defendant, have now entered the market with training cups with slit valves. A number of them were companies approached originally by Mrs Haberman and referred to in paragraph 11 above. They include Playtex.

Belanger

43. The entry of Playtex into the slit valve market is relevant to the case of obviousness based on Belanger. Mr. Platts-Mills did not relinquish his argument of obviousness based on the other prior art. His case was that each piece of that prior art and common general knowledge alone made

the Haberman design obvious. This was a reasonable approach to adopt. I accept that if the Haberman design was obvious from any one piece of prior art, it is difficult to see how it could avoid being obvious from all the others as well. However Mr. Platts-Mills did pay particular attention to Belanger. It will be recalled that that depicts a drip proof training cup. The valve shown and described is of a multipart design involving springs. As I have mentioned, the specification states that suitable alternative designs of valves exist in numerous forms and types including, ball valves, needle valves and flat-handled valves. Mr. Platts-Mills said that it must have been obvious to change from the complex valves depicted in Belanger and use the simple slit valve with which everyone in the trade was familiar. There is much force in this. Yet Belanger, like Mr. Tupper before him, did not take this obvious step. Not only does his patent illustrate a complicated valve, all the alternatives he suggests expressly are also complicated. Furthermore it appears that Playtex purchased the Belanger patent or a licence under it. They decided to redesign the product and, in particular, change away from the particular spring loaded valve depicted in the patent. But what they did was to come up with an alternative design using a spring loaded ball valve which is as complex as the one shown in the patent. As Mr. Rees said, the Playtex product would have been much better if it featured a neater, easier to clean valve, such as a moulded slit valve, instead of using springs. Rees Witness Statement para. 18. In my view, once one had seen that possibility, its advantages would have been appreciated immediately. Playtex did not use such a valve, at least at first. However they learned of Mrs Haberman's product and in April 1996 approached Mr. Llewellyn-Jones indicating that they wanted to take a licence. Nothing came of that. Playtex have now put a product which appears to fall within the scope of the claims on the American market. This is consistent with both Belanger and Playtex having missed Mrs Haberman's obviously attractive and simple solution.

44. In addition, I do not think it is fair in this case to get round the impact of long felt want by concentrating only on the prior art which is most close to the priority date of the patent in suit and ignoring the earlier art. The same considerations which should have made the Haberman design obvious over Belanger should also have made it obvious over common general knowledge and, for example, Mr. Tupper's 1957 proposal. As Mr. Sinclair said, and was not disputed, the slot at the end of the mouthpiece in the Tupper device was acting as a valve. If it was obvious to change from the multipart valve in Belanger to the Haberman slit valve, the same thought processes should have made it obvious to change from the Tupper slot to a slit valve. Indeed, since the Tupper slot was likely to be viewed as unsatisfactory, the incentive to change might have been greater.

45. I have not found the decision on validity in this case easy. Mr. Platts-Mills' arguments on obviousness are powerful. At times I could not see how this could be anything but obvious. But in the end I have not been persuaded. Mrs Haberman has taken a very small and simple step but it appears to me to be a step which any one of the many people in this trade could have taken at any time over at least the preceding ten years or more. In view of the obvious benefits which would flow from it, I have come to the conclusion that had it really been obvious to those in the art it would have been found by others earlier, and probably much earlier. It was there under their very noses. As it was it fell to a comparative outsider to see it. It is not obvious. This finding can be expressed in the language used by Hoffmann L.J. as he was in *STEP v. Emson* [1993] RPC 513. Mrs Haberman's patent discloses something sufficiently inventive to deserve the grant of a monopoly.

Did Jackel copy?

46. Before turning to the question of amendment, there is one issue which was canvassed at too great length at the trial, namely whether or not Jackel copied Mrs Haberman's design. Mr. Rees' evidence was that it did not. His evidence was that he was inspired by the presence on the market of Playtex's original trainer cup, i.e. the one with spring-loaded ball valves in it. He says that he was also strongly influenced by Mr. Lougheed's 50 year old patent. It was potential competition from the Playtex cup rather than actual competition from the Anywayup cup, which he said he did not know about, which was the commercial motivation for the new Jackel product. Mr. Rees' honesty was challenged.

47. Mr. Fysh said that evidence of copying was "legitimate prejudice" and could be taken into account. On the other hand evidence that Jackel did not copy but developed their product from Belanger (i.e. Playtex Mark I) or Lougheed would be consistent with the defendant's arguments on obviousness based on these two pieces of prior art. I reject outright Mr. Fysh's point. A trader is entitled to copy a competitor unless there is a valid legal restraint on doing so. The fact of copying does not prove that a patent is valid. At most copying is one very small factor which is relevant to the issue of commercial success. On the other hand, even if Mr. Rees' version of events is true, it does not prove obviousness. Mr. Rees may have had greater insight than the average uninventive man skilled in the art. So it seems to me that this issue is of very little weight at all and I have treated it as such. However, because of the time spent on it and the fact that this case may go further, I will set out as briefly as possible my conclusions.

48. The plaintiffs' say that not only did they try to interest Jackel in the Haberman design and had discussions with them for that purpose, but they

also left one of their prototypes with Jackel which it took them some months to recover. They say that Jackel must have known of their commercial product because it was making such inroads into the major supermarkets here and because samples of it were supplied at an early date to Jackel's continental European distributor. Further they say that Jackel must have known of their licensee's product available on the market in the USA. They say that Jackel even visited their licensee's stall at a trade show in Dallas. Mr. Rees' denied this. I have already indicated what he says happened.

49. I have no doubt that Mr. Rees' version of events is not accurate. It is not credible that he was not aware of the Anywayup cup which was making such dramatic inroads into the market in the United Kingdom, particularly in the light of his evidence that Jackel kept a close eye on what competitors were doing in the market and Mrs Haberman's evidence of the negotiations between her and Jackel. I do not accept that he was not aware of the licensee's product. In fact the licensee uses a double unit, like that described in the Haberman patent, with an inlet valve for air and an outlet valve for fluid. The Jackel valve unit is very similar in overall design and the inlet valve appears to be of identical dimensions so that it fits perfectly inside the lid to the licensee's product. Mr. Rees suggested that this was simply a coincidence. I do not accept that evidence. Furthermore it is likely that many contemporaneous documents relating to this issue, including drawings and budget authorisation forms, have not been produced on discovery. This was a matter canvassed at some length in cross-examination. Such relevant documents as have been produced refer to Jackel trying to meet competition from the Anywayup cup not the Playtex cup. On the other hand Mr. Rees' evidence that he knew of the Playtex Mark I product and that in the late 1980's he knew of the Loughheed patent and also two other British patents, one dated 1924 and the other dated 1933, both of which disclosed designs for teats with slit valves Rees Witness Statement para. 25 and Trial Bundle 9 tab 16. , was not challenged and I accept it. I also accept his evidence that he was aware at all material times that slit valves were commonplace. But I reject the suggestion that it was this knowledge and the Playtex Mark I product in particular which made him think of using a slit valve in a trainer cup. That idea came to him from the Haberman design only.

Insufficiency.

50. Originally four allegations of insufficiency were raised by Jackel. By the time of Mr. Platts-Mills' speech, this had shrunk to one. It is to be found in paragraph 3(d) of the Particulars of Objections. In essence the point is as follows. The claims cover spouts which are made of flexible material. If so they will tend to be squeezed flat by the baby's tongue and lips. This will

make the flexible spout collapse. There are insufficient directions to enable a person skilled in the art to make drinking vessels where it is possible to draw liquid through such mouthpieces by suction alone. There appears to be no relevant evidence on this issue. Furthermore it is apparent even without evidence that it would be quite easy to make a spout of a flexible material such as that used in the Heinz "FLEXISOFT" product. Although flexible, the spout would not collapse during normal use. A device made with such a spout could be fitted with a slit valve, such as that used in the plaintiffs' licensee's product. It would work perfectly well. This point fails.

Added Matter.

51. This point is a short one. Jackel says that the patent application required as an essential element that flow through the mouthpiece was prevented "unless a predetermined level of lip pressure and suction is applied to the mouthpiece". It is said that the disclosure was therefore limited to devices in which fluid flow is dependent on lip pressure. It did not disclose a device where fluid flowed only as a result of the application of suction, which is what the patent is now directed to.

52. The law on this subject is set out in *Bonzel v. Intervention No. 3* [1991] RPC 553. As Aldous J. there pointed out, the purpose of section 72(1)(d) of the Act is to prevent patentees adding new subject matter to their applications. In deciding whether new matter has been added, it is necessary to have regard not only to the specification but also the claims. He said that the documents must be looked at through the eyes of the a skilled addressee and then he defined the task of the court as consisting of the following threefold test:

"(1) To ascertain through the eyes of the skilled addressee what is disclosed, both explicitly and implicitly in the application.

(2) To do the same in respect of the patent as granted.

(3) To compare the two disclosures and decide whether any subject matter relevant to the invention has been added whether by deletion or addition. The comparison is strict in the sense that the subject matter will be added unless such matter is clearly and unambiguously disclosed in the application either explicitly or implicitly."

53. Two types of embodiments are contained in the application. The first one is in two versions. The first of these is described by reference to three drawings:

54. Figure 10.

This shows what is described as a conventional type of cup to which the valve has been applied. The cup has a spout (7). In a normal cup that will be rigid or semi rigid. The valve is incorporated into a flexible sheet which is shown in the middle illustration. It has a slit (18) in it. The sheet is locked in position between the lip of the cup and the lid with the slit valve lying at the base of the spout. In any normal construction of such a training cup, no matter how hard the child presses down on the spout, the slit valve will not be squeezed open. Because of its location at the base of the spout, it is isolated from squeezing pressure applied to the latter. This is consistent with the description in the application of the way in which this embodiment works. It says that "unless suction is applied to the opening of the spout liquid within the container will not pass through the slit". There is no suggestion in the text of any effect that lip pressure could have on this device. The second version of this embodiment is very similar in appearance and again it appears to be operated by suction alone. By contrast the second embodiment involves a spout with the slit valves located in the opening. In relation to this the specification says that it is lip pressure and suction which cause the valve to open. The former achieves that by squeezing the longitudinal axis of the slit valve.

55. The disclosure in relation to the first embodiments in the application are of devices operated by pressure alone. There was no evidence before me that any man in the art could have construed them any other way. They are in substance the same embodiments as are depicted in Figures 1 to 9 of the patent. The attack of added matter fails.

Amendment.

56. Figures 10 to 12 of the patent and the description associated with them are in substance the same as the second embodiment in the application. It could be said that they describe a device which operates by lip pressure and suction together. If that is so, they do not illustrate the invention which covers devices operated by suction alone. Because of this Mrs Haberman has applied to amend the patent by deletion of these figures and the relevant text and to make certain minor consequential

alterations to the remaining text. The defendant objected to the amendment. Mr. Platts-Mills confirmed during argument that the objection was in substance the same added matter complaint and that it would be decided the same way as that.

57. There is nothing which has been brought to my attention which would justify refusing the amendments. Leave is granted.

58. For the reasons set out above, I find the patent valid. Since no live dispute on infringement remained at the end of the trial, the plaintiffs succeed in this action.