

0/18/93

IN THE MATTER of Patent Application

No 8811174.5 by David J Instance

DECISION

Application 8811174 was filed on 11 May 1988 and was subsequently published under the number 2218541A on 15 November 1989. During substantive examination the examiner objected that the invention claimed in certain claims did not comply with section 1(1)(b) in that it did not involve an inventive step having regard to the prior art cited in the applicant's specification together with European Patent application number EP 0085418 A2 which was published on 10 August 1983 in the German language. The applicant contested this objection and in the absence of agreement between the applicant and the examiner, the matter came before me at a hearing on 30 November when Mr P D Jenkins of Page White and Farrer represented the applicant. The applicant who is also the inventor, Mr David J Instance, also attended.

The application in suit relates to a method, and an apparatus, for producing a succession of self-adhesive labels attached to a web of release backing material. Labels are extracted from a stack and conveyed to a point at which they are deposited upon the moving web of release backing material which is unwound from a drum and conveyed past an adhesive applicator to the point at which the labels are applied. The backing material, now carrying the labels, is fed to a die cutter which cuts away excess material and the resulting product is wound on a reel. The specification makes it clear that such methods and apparatus are known, for example in two of the applicant's previous British patent applications 2122968A and 2127378A. The present specification then goes on to say that a problem with this prior art is that the web of backing material is prone to stretching with the result that the labels are inaccurately positioned on the web. To solve this problem a control system is employed which detects the positions of indicia on the moving web of backing material and the positions of the moving labels. Pulses are also produced for each increment of movement of

the label conveyor and of the backing web and any mis-registration between the actual and desired positions of the labels relative to the backing material is used to adjust the rate at which labels are delivered to the point at which they are deposited on the backing material.

The present application includes claims both to methods and to apparatus for producing a succession of self-adhesive labels carried on a length of release backing material but it is I think convenient to consider only the method claims on the basis that the equivalent apparatus claims stand or fall with the method claims. As a result of amendments effected during substantive examination, the method claims now read -

1. A method of producing a succession of self-adhesive labels carried on a length of release backing material, the method comprising the steps of :-
 - (a) providing a laminar material which includes a release backing material as a lower layer and an upper layer comprised of a web of self-adhesive backed material or a layer of pressure sensitive adhesive;
 - (b) depositing a succession of individual pre-printed labels from a stack thereof onto the upper layer of the laminar material and adhering the pre-printed labels thereto, the laminar material being conveyed past a label applying station; and
 - (c) cutting through the upper layer of the laminar material as far as the release backing material thereby to form the required self-adhesive labels; wherein the rate of deposition of the pre-printed labels onto the upper layer is controlled by detecting the position of pre-printed labels, comparing the detected position with a desired position of the pre-printed labels and changing the said rate of deposition in response to that comparison.
2. A method according to claim 1 wherein the pre-printed labels are detected before they have been deposited onto the laminar material.
3. A method according to claim 1 wherein the pre-printed labels are detected after they have been deposited onto the laminar material.
4. A method according to any one of claims 1 to 3 wherein the desired position of

each pre-printed label is related to the position of a respective one of a succession of particular locations on the laminar material.

5. A method according to claim 4 wherein the succession of particular locations on the laminar material are detected, and wherein when a pre-printed label is detected a label detection signal is produced, and when one of the particular locations on the laminar material is next detected, a laminar material detection signal is produced, the two detection signals are processed to yield an error signal which is related to the distance by which the detected pre-printed label leads or lags the desired position and the error signal is employed to retard or advance the rate of deposition of the pre-printed labels.

6. A method according to claim 5 wherein the label detection signal is employed to initiate the count of a series of pulses which represent distance travelled by the laminar material, the laminar material detection signal is employed to stop that count, and the counted number of pulses is compared to a particular number of pulses to yield a difference signal which comprises the error signal.

7. A method according to any foregoing claim wherein the cutting is carried out by a die-cutting roller which is continuously driven, and the rotational position of the die-cutting roller is periodically advanced or retarded by means of a servo motor, the servo motor being controlled in response to a die error signal which is produced by comparing the actual rotational position of the die-cutting roller with a desired position.

8. A method of producing a succession of self-adhesive labels carried on a length of release backing material substantially as hereinbefore described with reference to Figures 1 and 2, Figures 3 and 4, Figure 5 or Figure 6.

It was agreed at the hearing that, down as far as the semicolon in head (c) of claim 1, the invention claimed in that claim was the prior art exemplified in the applicant's prior specifications 2122968A and 2127378A. It was also agreed that the law which I must apply

in deciding whether the claims of the present application do or do not comply with section 1(1)(b) is that stated by Oliver LJ in Windsurfing International Inc v Tabur Marine (Great Britain) Ltd [1985] RPC page 59. In his judgment Oliver LJ indicated that :

"the question of whether the alleged invention was obvious has to be answered objectively by reference to whether, at the material time (that is, immediately prior to the priority date), the allegedly inventive step or concept would have been obvious to a skilled addressee,"

He also indicated that it was the view of the Court that there are four steps to be taken in answering the question, namely :

- "i) identifying the inventive concept embodied in the patent;
- ii) imputing to a normally skilled but unimaginative addressee what was common general knowledge in the art at the priority date;
- iii) identifying the differences if any between the matter cited and the alleged invention; and
- iv) deciding whether those differences, viewed without any knowledge of the alleged invention, constituted steps which would have been obvious to the skilled man or whether they required any degree of invention."

In relation to step i) above, Mr Jenkins submitted, and I agree, that the inventive concept in claim 1 is the use, in a known method of depositing individual labels from a stack onto a backing material, of steps to ensure the accurate positioning of the labels in the face of possible stretch in the web, and in particular controlling the rate of deposition of the labels onto the backing material by detecting the position of the labels, comparing the detected position of the labels with a desired position and changing the rate of deposition in response to that comparison. On this basis, the examiner's argument is that given that the underlying method and apparatus for attaching labels to a backing web are admittedly known, and given the problem that the backing web is prone to stretching with the result that labels are inaccurately positioned on the backing web, it would have been obvious to a person skilled in the art to solve that problem in the way set out in claim 1 of the application because this

amounted to no more than using the control system from the cited European specification which the notional skilled person would have been aware of because it related to the art of applying self-adhesive labels to objects, an art very closely related to, if not the same as, the art of depositing a succession of self-adhesive labels onto a web of release backing material. The examiner further particularised the objection by relating it to the methods claimed in claims 2, 4, 5 and 6, and to the equivalent apparatus claims which he argued were all obvious in the light of the cited art. No objection was raised against claims 3, 7 and 8 and the equivalent apparatus claims.

At the hearing Mr Jenkins sought to rebut these arguments on the grounds that the cited specification did not form part of the state of the art because it concerned the art of applying labels from a web carrying a succession of labels onto objects and that this is an entirely different art to that with which the present specification is concerned, namely the art of producing webs carrying a succession of self-adhesive labels. Consequently, he argued, the notional person skilled in the art relating to the present invention would not have considered looking at the cited specification for a solution to his problem. He further argued that even if the notional skilled person had seen the cited specification he would not have considered it to be relevant because it did not have a mechanism for feeding individual labels, nor did it address the same problem of web stretching. Mr Jenkins also argued that even if the notional skilled person would have considered the cited specification to be relevant, that specification did not constitute an enabling disclosure as he argued is necessary in the light of the judgment in Ashai Kasei Kogyo KK's Application [1991] RPC page 485, nor did it disclose the three specific steps set out in claim 1 by which the control of the deposition of labels is effected, *ie* detecting the position of the labels, comparing that position with a desired position and changing the rate of deposition of labels in response to that comparison.

Given that the first step set out by the Court of identifying the inventive concept in the present application is agreed, I must now consider Mr Jenkins' arguments against the framework of the remaining steps set out by the Court. To that end, and dealing initially only with the invention so far as claimed in claim 1, the first issue I must resolve is the knowledge that the notional skilled person is to be taken to have. In this case the question amounts to whether or not the notional person skilled in the art to which the present

invention relates should be taken to have been aware of the disclosure of the cited European patent application EP 0085418 A2. I shall not go into any specific details of the disclosure of the cited specification at this stage since these are more relevant to the Court's third step, and are in any event a matter on which Mr Jenkins disputed the examiner's interpretation. Suffice it to say for the moment however that the present application relates in effect to the manufacture of webs of release backing material carrying a succession of self-adhesive labels, whereas the cited specification relates to applying self-adhesive labels from a web of release backing material onto objects.

Here, in support of his argument that the two arts concerned were quite different and that the person skilled in the former art would not look to the latter art for a solution to his problem, Mr Jenkins provided a statutory declaration from the applicant and inventor, Mr David J Instance, in which Mr Instance indicates that his company is one of only a "couple of firms" in the UK concerned with the manufacture of extended text label webs (so called because the labels are subsequently used for labelling products where the labelling area of the product container is not large enough to contain all the written textual material that the manufacture or seller wishes to convey). Mr Instance's declaration also indicates that to the best of his knowledge none of the label web manufacturers makes product labelling apparatus of the sort shown in the cited European specification, and that none of the product labelling apparatus manufacturers makes apparatus for producing label webs. Mr Instance further states that while the notional person skilled in the art of label web production would have known of the existence of label applying apparatus, he would not have been aware of the detailed construction of that apparatus and would have considered it to lie in a different and unrelated technical field. In Mr Instance's view there is a fundamental difference between the two fields in that the label web manufacturer is concerned with controlling the feeding of individual labels, eg from a stack, onto a web, whereas the label applying apparatus manufacturer is concerned with controlling the feeding of a web carrying labels in relation to a product line. Mr Instance concludes by indicating that in his view, the differences between the two arts are such that in the real world, the person skilled in the art of manufacturing label webs would be concerned with controlling the feeding of individual labels and would therefore have no reason to research the web control art which is concerned with controlling the feeding of webs.

This evidence from Mr Instance is of course of some significance in as much as Mr Instance is clearly skilled in the art to which the application relates. However, I do not think that his evidence is of itself conclusive. Mr Jenkins accepted that this was so and that the issue of obviousness has to be resolved on the basis of that which the hypothetical, notional skilled person would take into account, and not that which the inventor would, or did, take into account. He argued however, that since Mr Instance's firm is one of only two in the country concerned with manufacturing label webs, Mr Instance is inevitably much nearer to the hypothetical, notional skilled person than would normally be expected to be the case in broader fields where more people are active. Though I am prepared to accept that this may well be true, it is still the case that Mr Instance's evidence is uncorroborated and that there is no independent evidence to the effect that he is in fact the hypothetical skilled person. For my part and with great respect to Mr Instance, while I accept that the notional skilled person in the art of label web manufacture would have considered the art of label feeding, I find it impossible to accept that the notional skilled person would not also seek to research the art of controlling the feeding of webs when confronted with the problem of the stretching of a web which is being fed past a label applying station.

This leads me to conclude that the notional skilled person in the art would have been, or would have made himself, aware of the web feeding art in general, and the cited European specification in particular. I am reinforced in that view by the fact that both the present application and the cited European specification bear the same International Patent Classification concerning label feed control which suggests that in researching the area of the invention, the diligent researcher would indeed have found the cited specification. In this connection Mr Jenkins argued that the present application had been wrongly classified in that it should have been classified, and any research conducted, only in the area concerning the manufacture of label webs which is the area of the International Patent Classification in which the present applicant's two prior patents and the co-pending European application for the present invention have all been classified. I do not accept this argument because, although it is true that the primary International Patent Classification on Mr Instance's prior patents is in the label web manufacturing area, those patents were also classified in the label feed control area which seems to me to underline the link between the two areas.

Having thus decided that the notional skilled person would have been aware of the cited specification, this then brings me to the Court's step iii) which requires any differences between the matter cited and the alleged invention to be identified. It is I think common ground that the cited European specification shows an arrangement where a web bearing self-adhesive labels is fed to a position where it is drawn around a rod which bends the web so sharply that the labels detach themselves from the backing and are rolled onto objects moving past on a conveyor. The label web and the object conveyor are both driven by drive arrangements and both have pulse generators which produce pulses corresponding to small increments of movement of the web and conveyor respectively. There are also detectors arranged to detect the passage of the front edges of successive labels and objects as these are moved along their paths and a computer which receives all the signals and exercises control over the system. To this extent the present and the cited specifications are essentially the same except that in the former, a detector detects the passage of incremental marks on the label web onto which the labels are to be applied rather than the leading edge of the object onto which labels are to be applied. Beyond that however, Mr Jenkins and the examiner did not agree on the construction to be put on the disclosure in the cited specification and I must therefore consider how the present invention compares to the disclosure of the cited specification as this would have been construed by the notional skilled person.

To this end it is necessary first to consider the present invention. As described, this counts pulses from the label backing web drive mechanism starting on the arrival of a pulse from the detector which detects labels being conveyed from the stack of labels. The count is stopped when the appropriate detector detects one of the indicia on the label backing web. Thus, after it is stopped the count represents the distance travelled by the label web between the detection of a label and the detection of a particular point on the backing web. This count is then compared to a desired number representing the desired distance the backing web should have travelled. Any difference between the actual and desired numbers represents the distance that the web leads or lags its desired position and is used to retard or advance the speed of the web drive to correct the difference. This is represented in claim 1 in the following terms :

'the rate of deposition of the pre-printed labels onto the upper layer is controlled by

detecting the position of the pre-printed labels, comparing the position of the pre-printed labels with a desired position of the pre-printed labels and changing the said rate of deposition in response to that comparison.'

Turning to the cited specification, Mr Jenkins argued that the description was not clear to the point that it could not be regarded as an enabling disclosure which he submitted was necessary in the light of the judgment in Ashai Kasei Kogyo KK's Application. He further argued that, in so far as the cited specification could be understood, it seemed to relate to an arrangement which controlled the average speed of the label web so as to keep this moving and thus avoid having to stop and start the drive with the problems that that would entail given the inertia in the system. Mr Jenkins argued that the arrangement described in the cited specification was in reality an average speed control system which attempted merely to lock the speeds of the various elements together so that the labels met the objects, but without controlling or varying the speed of the label web. Moreover, he did not accept that the cited specification showed the control steps required by claim 1 of the present application, namely detecting the position of a label, comparing the detected position with the desired position and then changing the rate of deposition in response to that comparison. On this last point in particular, Mr Jenkins argued that while the label web speed in the cited specification may be varied, this variation only occurs in correspondence with variation in the speed of the objects so that the 'rate of deposition', in the sense required in claim 1 of the present application, does not change. As I understood Mr Jenkins, in large measure this view derived from his belief that although it could be set at different values, once set, the spacing between successive objects on the conveyor was constant.

Having considered the cited specification carefully, I accept that it is not as clear as it might be. However, given that I believe that I must assess how the notional skilled person would have perceived the disclosure, and that that person should be expected to bring intelligence, though not of course imagination or invention, to bear on the matter, I am bound to say that in my view the disclosure is clear enough and complete enough. I therefore believe that it does amount to an enabling disclosure assuming, as for present purposes I do, that Mr Jenkins is correct in arguing that this is a requirement. Thus, while I accept that the cited specification does indicate that an important aspect of its disclosure is to avoid rapid fluctu-

ations in label web speed, and that it also discusses optional features such as matching label web speed with the speed of the objects, I believe that the notional skilled person would have clearly understood that an equally important purpose of the system is to vary the speed of the label delivery relative to the speed of the objects to bring labels to the point at which they meet the objects at exactly the right time. In this respect I note the following passage from page 4 of the specification which, in an informal translation provided by Mr Jenkins, states:

"With the afore-mentioned form of embodiment of a method according to the invention, the speed of a band of labels is thus so determined that even when the speed of the objects at the place where the labels are dispensed alters and/or in the case of changing spacing of the said objects from one another, the label speed is altered such that, on the one hand there is the least likelihood of a stoppage in the advancement of the band of labels and, on the other hand, the label becomes freed from the carrying band precisely at that point in time which is necessary for exact positioning of the label."

From this and other parts of the description of the cited specification it seems clear to me that the notional skilled person would have taken the view that the computer receives and counts pulses from the object conveyor, starting on the arrival of a reference pulse from the detector which detects the leading edge of an object. In the same way the computer also counts the pulses from the moving web, starting on the arrival of a reference pulse from the detector which detects the passage of the front edge of a label. The computer is also supplied with the distance between the point at which the labels meet the objects and the position at which the front edges of the objects are detected. From the number of incremental position pulses received from the web and conveyor drive mechanisms since the pulses from the detection respectively of the front edge of a label and an object, the computer calculates the positions of the front edge of the label and the object. By comparison with the distances between the point at which the labels meet the objects and the position of the detector of the front edges of the objects, the computer calculates the distances between the meeting point and the actual moving front edges of the labels and objects and controls the speed of the label strip to ensure that the front edge of each label meets the corresponding object at exactly the right time. Although the specification is not specific as to how certain of these values are

calculated, and although there are clearly some differences between the arrangement and the arrangement described in the present application, at this stage I am concerned only to compare the cited specification with the invention as it is claimed in claim 1 of the present application. On that basis, I believe that the cited specification does show an arrangement as set out in head c) of claim 1 of the present application and which is designed to cope with variable spacing between objects where the position of a label is detected and compared with what is required, and where the rate of deposition of labels is changed in response to the comparison so that the labels are deposited at the right place.

That being so, it follows that in my view, the arrangements which are used in the two control systems are essentially the same and that the only significant difference between the matter cited and the alleged invention, at least so far as this is broadly claimed in claim 1 of the present application, is that in the cited specification labels are being supplied from a web onto objects whereas in the present application, labels are being supplied from a stack onto a web.

It now remains to consider the final step set out by the Court which requires me to decide whether this difference, viewed without any knowledge of the alleged invention, constituted a step which would have been obvious to the skilled person or whether it required any degree of invention. In this connection Mr Jenkins' has argued that the notional skilled person would not have considered the cited specification to be relevant to the present invention because it did not have a mechanism for feeding individual labels, nor did it address the same problem of web stretching. As I understood Mr Jenkins, he was saying that one could only arrive at the conclusion that the present invention was obvious in the light of the cited specification through the use of impermissible ex post facto analysis, and that the transition from the cited specification to the invention could only be achieved by the application of inventive ingenuity. The basis of these arguments must be that the notional skilled person would have viewed the problem with which he was faced as simply how to control the feed of individual labels onto a stretching web and, having seen that the cited specification is concerned with controlling the feeding of a web carrying labels, would automatically have concluded that it was not relevant because it would not be possible to control the supply of individual labels by controlling the feed of a web carrying labels. I do not accept this analysis. It seems clear

to me that the problem faced by the inventor in the present case was not merely a question of feeding labels from a stack onto a stretching web, but rather the need to avoid inaccurate positioning of the labels on the web as a result of web stretching. Consequently, I believe that the skilled person would have been looking for a mechanism to control the positioning of the labels deposited on the web and against that background, it seems to me that he would immediately have seen the relevance of the teaching of the cited specification which concerned controlling the positioning of labels in relation to objects whose spacing may vary. Furthermore, I also believe that it would have been obvious to the notional skilled person how that teaching should be applied to solve his problem of applying labels to a web rather than to objects, and that the result would have been the invention claimed in its broad form in claim 1 of the present application.

This then brings me to the remaining claims where Mr Jenkins accepted that in the event that claim 1 was held to lack an inventive step, then claim 2 would similarly fail. No objection has been raised against claims 3, 7 and 8, which leaves claims 4, 5 and 6 to be considered.

Claim 4 simply adds to claim 1 the requirement that the 'desired position' of the each label referred to in claim 1 is related to a particular position on the laminar material or web onto which the labels are being deposited. Mr Jenkins argued that the applicant's prior British patents contained no express teaching of particular locations on the web so that specifying that the desired position of the labels is in relation to locations on the web was an appropriate distinction. With respect, I do not see that this is relevant. In the context of the problem addressed by the present application, which is the need to position the labels accurately on the web notwithstanding that the web may have stretched, I find it difficult to see how the reference to 'a desired position of the labels' in claim 1 could be construed in any other way than that set out in claim 4. I therefore do not believe that claim 4 adds anything of substance to claim 1 and therefore, that claim 4 also lacks an inventive step.

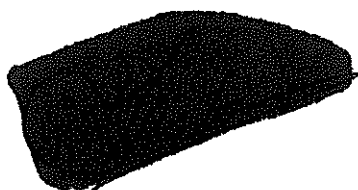
Claim 5 concerns details of the way in which the signals from the detector which detects the front edge of the labels and the signals generated by the label backing web drive mechanism are used to determine whether the label feed is leading or lagging from the desired state and whether the rate of deposition of labels must be retarded or advanced. The examiner took the

view that the arrangements set out in claim 5 were an obvious functional equivalent to the disclosure in the cited specification while Mr Jenkins argued that the general disclosure of the cited specification simply did not point to the use of the details set out in claim 5. It seems to me that in the face of the detail which is present in claim 5, there is nothing in the cited specification which would obviously cause the notional skilled person to proceed in that way, particularly given the differences between the detailed arrangements described in the two specifications. This suggests to me that claim 5 does in fact involve an inventive step.

Claim 6 is dependent on claim 5 and it therefore follows that claim 6 also involves an inventive step.

In summary I have found that claims 1, 2 and 4 do not involve an inventive step contrary to section 1(1)(b) and as indicated above, it follows that the equivalent apparatus claims 9, 10 and 12 also do not involve an inventive step. However, given that there are claims to which no objection has been taken, as well as claims which I have found do involve an inventive step, it follows that before refusing the application under section 18(3) I should give the applicant an opportunity to amend the specification with a view to meeting my findings. Since the period during which an appeal may be filed against this decision is six weeks from the date of the decision as set out below, and that as a result the time allowed for putting the application in order is extended until the end of that period by virtue of section 20(2), it is I think sensible to allow the applicant until the end of that period in which to submit amendments. If no satisfactory amendment is submitted in that period, I shall refuse the application. I would observe in this respect however that the applicant would be well advised to submit amendments at least one week before the end of the period in order to give the examiner time to consider them and to agree any further amendments that may be necessary.

Dated this 23 day of December 1992.



D M HASELDEN

Principal Examiner, acting for the Comptroller

