

PATENTS ACT 1977

IN THE MATTER OF an application under section 72 by Hiraoka & Co (UK) Ltd for the revocation of Patent No 2228820 in the name of Seiko Epson Corp.

24/1/95

DECISION

Revocation of the patent is sought on the grounds that the invention is not new and does not involve an inventive step having regard to Japanese patents JP60-119200 and JP61-133501, and utility models JP62-129898 and JP57-31600, and to the common general knowledge at the priority date of the invention.

The applicant's Statement of Case was filed on 24 May 1993, and a Counter Statement was filed by the patentee on 13 September 1993. The usual rounds of evidence followed and the matter came before me at a hearing on 12 December 1994 when the applicant was represented by Mr J E Bardo of Messrs Abel and Imray, and the patentee was represented by Mr C M Sturt of J Miller & Co.

The patent in suit has a priority date in 1988. It relates to portable karaoke equipment. According to Chambers Dictionary, an extract of which was handed to me by Mr Bardo, karaoke is:

"the practice and entertainment, popular at public venues and parties, of singing personally-selected hit pop songs to accompanying backing music provided (from a large pre-recorded selection similar to a juke-box system) by a karaoke machine, which also enables the singer, using a microphone, to follow the words on a screen."

The patent specification describes the prior art karaoke equipment as being heavy, bulky and non-portable and other known types of equipment such as radio tape cassette recorders and

portable tape cassette recorders as being unsuitable for performing karaoke. The stated object of the invention is to provide a portable recording and reproducing apparatus which is capable of transmitting (amplifying) sounds in a relatively large range by bringing into being an apparatus which is not found in that prior art. The invention comprises a combination of electro-acoustic elements and some topographical features. The electro-acoustic elements include a microphone, a loudspeaker, a built-in recorded sound production means for a recording medium (eg tape cassette, compact disc or memory card, which for brevity I shall refer to as a "tape"), and means for directing input from the microphone and/or the sound production means to the loudspeaker. The topographical features arise from the requirement that the unit must have a grip and that when supported in one hand by the grip, the microphone is "disposed at the upper end". The apparatus must also be suitable "for use in karaoke" and "to be supported in one hand while performing karaoke". The principal matter in contention is whether or not these topographical features in combination impart patentability to the invention.

The single main claim reads as follows:

1. A portable sound reproducing apparatus for use in karaoke comprising accommodating means for accommodating a medium on which sound has been recorded; sound signal production means arranged to produce a signal in response to a recording on said medium; a microphone for receiving an external sound; a speaker for amplifying and reproducing the sound signals produced by the sound signal production means and/or by said microphone; and a grip portion by the sole means of which the whole apparatus is arranged to be supported by one hand only while performing karaoke; the microphone being secured in fixed relationship with the apparatus so as to be disposed at the upper end of the apparatus while the latter is supported solely by the grip portion.

Ten embodiments of the invention are described, all of which have the electro-acoustic elements arranged on a generally vertically extending axis with the microphone at the upper end, and with different arrangements of the speaker, grip and tape housing within this generally vertical arrangement. There are appendant claims 2 to 14 covering these embodiments and an omnibus claim 15.

The applicant contends that JP60-119200 and JP62-129898 both directly anticipate claims 1 to 6, 9, 10, 12 and 14. Each of these prior art documents discloses a loud-hailer and it is common ground that each of these loud hailer incorporates all the electro-acoustic elements set out in claim 1 and is capable of feeding signals from either or both of the microphone and tape to the speaker. What is in dispute is firstly whether, in respect of either loud hailer, the microphone can be said to be "disposed at the upper end" of the apparatus, secondly in respect of 62-129898, whether the microphone is "secured in fixed relationship with the apparatus", and thirdly whether either apparatus is "suitable for use in karaoke".

Regarding the first of these, the claim requires the microphone to be "disposed at the upper end" of the apparatus when the apparatus is supported by the grip. Clearly there is more than one way in which the apparatus may be supported by the grip, but I do not think there is any doubt that this part of the claim must be construed in such a way that the microphone is at the upper end of the apparatus when in normal use. Mr Bardo argued that in the two prior art documents the microphone is above the grip and everything above the grip can be regarded as at the upper end of the apparatus while everything below the grip can be regarded as constituting the lower end. To do this would, as Mr Sturt pointed out, mean that there was no lower end in each prior art apparatus because these are used with their major axis horizontal and the grip underneath. Mr Sturt emphasised the specific meaning of the word "end" and argued that neither of the prior art documents discloses an apparatus with a microphone at the "upper end".

As I interpret the claim the words "at the upper end" require the apparatus to have a major axis of length extending in the vertical direction when it is in use and this interpretation appears to me to be entirely consistent with all the described embodiments, including Figure 6 where the microphone is not at the very top of the apparatus. Each of 60-119200 and 62-129898 in contrast has its major axis horizontal and consequently can not be said to have an upper "end" where the microphone is disposed.

Secondly, 62-129898 shows a microphone which is clipped onto the rear face of the apparatus but which is detachable from the body of the loud hailer, apparently so that the microphone can be held close to the mouth when the loud hailer is supported by its carrying

strap. Mr Sturt suggested that the words "...microphone secured in fixed relationship with the apparatus.." in claim 1 should be interpreted to mean that the microphone cannot be detachable from the rest of the apparatus as it is in JP62-129898. The proper construction is to be found by reading the specification as a whole. In each of the embodiments, the microphone is clearly an integral part of the apparatus and the general description on page 3 at line 10 states:

"Thus, since the speaker for amplifying and reproducing the sound from the sound signal reproduction means and/or from the microphone is formed integrally therewith, it is possible to arrange a compact and portable sound reproducing apparatus."

This persuades me that the proper construction of claim 1 leads to an arrangement in which the microphone is an integral part of the apparatus. Consequently, I do not consider that JP62-129898 discloses a microphone secured in fixed relationship with the apparatus as required by claim 1. There is no dispute that the microphone in JP60-119200 is so secured.

Thirdly, there is the question as to whether or not the loud hailer disclosed in JP60-119200 and JP62-129898 can be said to be suitable "for use in karaoke" or rather, and I think it is important to be precise here, can be said to be "portable sound reproducing apparatus for use in karaoke". Each loud hailer has a grip by the sole means of which the loud hailer may be supported in use, but it remains to be determined whether or not they have the portability to required by claim 1 to make them suitable for the performance of karaoke.

The loud hailer of JP60-119200 which is presented as for use in transmitting sound to a large number of people in a large hall or outdoors, is also described as having the facility to broadcast music either on its own or as background or accompaniment to input from the microphone. I do not regard this as constituting a specific disclosure of use in or suitability for performing karaoke. The primary purposes of the tape recorder in the loud hailer seem to me to be to allow the same verbal message to be broadcast repeatedly without having to use the microphone each time, and to allow the broadcast of music onto which verbal messages or instructions may be superimposed, but I shall now consider in more detail the question of whether this loud hailer and the one disclosed in JP62-129898 can be properly

regarded as portable sound reproducing apparatus suitable for use in karaoke.

The applicant's main argument on this is that the topography of the present apparatus does not make any technical contribution to the invention and that karaoke may be performed using either of the loud hailer even though this was not their intended purpose. The patentee's response is that the loud hailer are not suitable because they obscure the user's face, because they are unbalanced (or alternatively are bulky and unwieldy and would inhibit gesticulation and gyration by the performer), and because they would not present a professional appearance, all of which, it was argued by Mr Sturt, are essential to a karaoke performance. Mr Sturt also argued that the karaoke apparatus of the invention is designed for small audiences while the megaphone style loud hailer are for larger venues. None of these attributes appears explicitly in claim 1, and I again look to the specification as a whole to construe the claim further with the aid of the description.

On pages 1 and 2 of the specification there is first a reference to known karaoke apparatus which allows a person to sing a song through a separate microphone to accompaniment from a magnetic tape. This known apparatus is said to be very large and heavy. There is then a reference to a combined radio and cassette tape recorder which also is said to be large and heavy so that it is unsuitable to perform karaoke when held in one hand, and a reference to a well-known type of portable cassette tape recorder which is small enough to fit into a jacket pocket but which does not have a speaker capable of amplifying sounds in a relatively wide range and cannot therefore be used for the purpose of karaoke. From this it seems to me that the notional skilled person would deduce that the invention was concerned with providing a portable sound-producing equipment which was smaller and lighter than a combined radio and cassette recorder and which might be compact enough to fit into a fairly large pocket. Certainly the apparatus of claim 1 must be limited in size to something smaller than the prior art equipment referred to on pages 1 and 2 which is specifically stated to be unsuitable in this respect for performing karaoke.

On page 3 line 14, immediately following the other passage from this page which I quoted earlier, there is an indication that the speaker may have a capacity sufficient to make the reproduced sound audible within a range of several meters. That is only to be expected from

the nature of karaoke and helps to further explain why the known portable cassette tape recorder was considered unsuitable. Then on pages 6 and 7 there are indications that a speaker such as used in tape recorders having a powerful magnet and diaphragm, and a microphone of a type used in radio cassette-tape recorders may be suitable for use in implementing the invention.

When the specification is considered as a whole therefore, especially the passages I have quoted above and the numerous specific embodiments all of which appear to be compact enough to at least approximately simulate in size a hand-held microphone of the sort commonly used by popular singers, it seems clear to me that this approximate simulation of a microphone, including a speaker and tape sound reproducing means, is what the patentee intends to cover by claim 1. As a result, it would not be correct to regard the loud hailers of JP60-119200 and JP62-129898 as being "portable sound reproducing apparatus suitable for use in karaoke" when that expression is properly interpreted in relation to this patent. In summary therefore I do not consider that either of the prior art loud hailers disclosed in JP60-119200 and JP62-129898 anticipates claim 1. It follows that I need not consider the novelty of claims 2 to 15.

The applicant argues on three main grounds that the patent does not involve an inventive step: (i) that the common general knowledge at the priority date of the patent included portable karaoke apparatus;

- (ii) that patents have not been granted in other jurisdictions;
- (iii) that there is no inventive step in combining the electro-acoustic elements of the loud hailers disclosed in JP60-119200 and 62-129898 with the topographical features of the apparatus disclosed in JP57-31600 or JP61-133501.

The patentee refutes these arguments and contends that the commercial success of the invention demonstrates that it was not lacking in inventive step.

The assertion that portable karaoke apparatus was common general knowledge at the priority date of the patent is not substantiated by the evidence. It is conceded that certain karaoke equipment purchased before the priority date of the patent by the applicant's witness Mr Leung, a person with many years experience in the electronics industry, was of the non-

portable type. Mr Takeo, the General Manager of the New Product Planning Department of Seiko Epson Ltd, has produced sales figures which he says indicates that prior to March 1989 portable karaoke devices did not exist. Mr Leung takes issue with this but I do not find his evidence persuasive as it seems to be based solely on the proposition that the known loud hailers were karaoke devices which did not differ technically from the apparatus claimed in the patent. I have already decided that these loud hailers were not karaoke devices in the sense required in relation to the patent, and I think it is more appropriate to deal with the question of technical equivalence under ground (iii).

I dismiss (ii) immediately because Mr Takeo lists patents granted in the USA and Taiwan and states that the result of the substantive examination of their Japanese application is not yet known. There has been no challenge to this and the issue was not pursued at the hearing. In any event the mere fact that patents for the same invention had not been granted elsewhere, even if true, would not be conclusive of lack of inventive step.

Turning then to what I regard as the most serious attack on the patent, the applicant says that there is no inventive step since the patentee has simply combined the same set of electro-acoustic elements found in JP60-119200 and JP62-129898 with the topographical features of the devices disclosed in JP57-31600 or JP61-133501. Of the latter it is only JP57-31600 which in my view deserves very serious consideration.

JP61-133501 discloses a combination of elements such as a lamp, radio, microphone and speaker for an entirely different purpose to the invention in suit. It includes an acceleration sensor to trigger an alarm to give warning of an earthquake. The argument presented by the applicant that it was common at the relevant date to combine a radio with a cassette tape recorder and therefore it would be obvious to include a tape cassette sound reproducing element in this particular device seems to me to be quite untenable given the purpose of the device. I can see no apparent reason why anyone should consider adding a tape sound reproducing element to this device or that the act of doing so would turn it into apparatus suitable for performing karaoke as I believe that expression should be interpreted in the present context.

JP 57-31600 relates to a light and handy portable loud hailer which is generally cylindrical in shape with a microphone at one end, a speaker at the other end, and a grip portion in the middle. It would appear to me to be natural to use this device with the microphone at the upper end, and that is the orientation of the device as depicted in the drawing. The main thrust of the disclosure is towards avoiding the problem of howling (caused by positive acoustic feedback between the speaker and the microphone) in such a small device, it being explained that prior art trumpet-shaped loud hailers had been inevitably larger. To my mind this compact loud hailer bears a striking physical resemblance to the illustrated embodiments of the present invention, especially to that shown in figure 10.

Nevertheless, there appears to be no suggestion in JP57-31600 that it could be used for performing karaoke which was, according to Mr Takeo, emerging as a form of entertainment at about the relevant time ie 1974. No doubt the device could be used for broadcasting a singing voice, but even that is not suggested as a use. More importantly however, there is no suggestion that a sound reproducing means might be included in the device to provide an alternative source of sound. It was not until 10 or so years later that such a sound reproducing means was incorporated into a loud hailer as shown in JP60-119200 and JP62-129898, but both of these were trumpet types of loud hailer the primary purpose of which was for public address. Mr Sturt may not have been entirely correct in submitting that it would have been as large a step to go from the device of JP57-31600 to a portable karaoke device as claimed in the patent as it was to arrive at such a device from a microphone and floor standing equipment, but I think there is sufficient substance in the submission for it to be given reasonable weight.

On the other hand the allegation of lack of inventive step made by the applicants appears to me to be based largely on hindsight with Mr Leung saying that the need to arrange the electro-acoustic elements to avoid interference by one element in the operation of another was well-known at the relevant time, hence there was no invention of a technical nature. Even though it may have been well-known to position the elements relative to one another so as to avoid mutual interference, the question of why anyone should wish to put together such a combination of elements in the particular portable arrangement claimed is still not answered. Furthermore, I do not consider the arrangement arrived at to be merely a matter

of design as alleged by the applicants, because claim 1, as I have construed it, includes implicitly if not explicitly an arrangement of the electro-acoustic elements which enables the apparatus to be used in the manner of a microphone with much the same facility of movement.

The patentee's case for an inventive step being present also relies on commercial success in that, according to Mr Takeo the invention was an immediate and outstanding commercial success which has revolutionised the karaoke industry and led to imitation by infringing copies. Mr Takeo says that within a year of the introduction of the portable karaoke device covered by the patent sales reached 200,000 - as compared to an existing market of 500,000 per annum for the conventional floor-standing type. The sales figures presented by Mr Takeo show sales of 170,000 for the first nine or ten months following the launch of the portable karaoke apparatus in 1989 and 240,000 in 1990, but only 70,000 in 1991. Sales of competing devices rose from 30,000 in 1989 to 400,000 in 1991. Mr Sturt argued that the commercial success of the invention could not have been simply due to successful advertising given the pattern of the patentee's and competitors sales. Mr Bardo for the applicant argued that commercial success and the fact that infringing copies have been sold does not necessarily mean that the invention is patentable. Other matters must be taken into account, for example, apart from the possibility that sales are due to successful promotion, commercial success may be due to features which are not claimed in the patent. In this respect he attempted to persuade me that most, if not all, of the features used by the patentee to argue the case for the patentability of the invention in the Counter Statement and during the prosecution of the patent application to grant were not features of the claims.

The device sold by the patentee, which has been closely imitated, is illustrated in Exhibit HT1 to Mr Takeo's affidavit. It is very similar to the embodiment illustrated in Figure 8 of the patent specification, and as such it falls within the generality of claim 1. That much at least can be said. The evidence and argument linking the commercial success with the patented invention may not be conclusive of the presence of inventive step, but in my view the applicant has not produced any more likely explanation to counter the presumption that the commercial success has been due to the patented invention.

Thus I find that the applicant has not discharged the onus of demonstrating lack of inventive step in the invention claimed in claim 1 and it follows that I do not need to consider the question of inventive step in relation to the other claims.

In conclusion therefore, I find that the applicant has been unsuccessful on all the grounds put forward for revocation of the patent, and as a result I refuse to make any order for the revocation of the patent. Having considered all the relevant circumstances of the case, and in accordance with the normal practice of the Comptroller, I direct that the applicant for revocation, Hiraoka & Co (UK) Ltd, should pay the patentee, Seiko Epson Corp the sum of £500 (five hundred pounds sterling) as a contribution towards their costs.

Dated this 24 day of January 1995



K E PANCHEN
Superintending Examiner, acting for the Comptroller

THE PATENT OFFICE