Advisory Opinion

Advisory Opinion No. 2015-600008

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The case of the advisory opinion on the technical scope of Japanese Patent No. 5513057 between the parties above is stated and concluded as follows.

Conclusion

The "acoustic protective cover assembly" indicated in the drawings and its explanatory document of Article A does not belong to the technical scope of the inventions disclosed in Japanese Patent No. 5513057.

Reason

1. Gist of the demand

The gist of the subject demand for the advisory opinion is to demand the advisory opinion that the protective cover assembly indicated in the explanatory document of Article A does not belong to the technical scope of the inventions disclosed in Japanese Patent No. 5513057.

2. The Patent invention

The inventions of Japanese Patent No. 5513057 are "a voice-transmissive protective cover assembly" and "a method of using a microporous membrane" as described in the scope of claims for patent (the number of claims is 17), as viewed from the specification, the scope of claims and the drawings attached to the application, and the invention relating to Claim 1 (hereinafter, referred to as "the Patent invention") is as follows.

(for convenience, the constituent components are separately described, and codes A-F are added).

"A. and F. A voice-transmissive protective cover assembly composed of a microporous membrane and at least one adhesion supporting system,

B. wherein the microporous membrane is supported by the at least one adhesion supporting system at its peripheral edge portion, so as to make at least part thereof moves freely in response to acoustic energy;

C. wherein the microporous membrane has a thickness within a range of 3-150 μ m, a mass of 40 g/m² or less, and a Gurley number of one second or more;

D. wherein a sound transmission loss in a frequency band of 300-3000 Hz of the protective cover assembly is 3 dB or less; and

E. wherein a water pressure resistance of 9.8 kPa (one water column meter) is maintained for 30 minutes or more."

3. Article A

Article A is equipped with the following configurations, as viewed from "Explanatory Document A" amended by the amendment dated July 15, 2015.

"i. Assembly A is a voice-transmissive protective cover assembly which is used as an acoustic/inner and outer pressure adjusting filter of a cellular phone, a smart phone, and the like.

ii. As shown in Fig. 1 and Fig. 2, Assembly A is equipped with a sound-transmissive waterproof film 1 which is circular in a plane view, and an acrylic adhesive agent 2 provided on a surface of the film 1. A diameter of the sound-transmissive waterproof film 1 is 21.0 mm.

iii. The acrylic adhesive agent 2 forms a circular shape which has an outer diameter of 21.0 mm, and matches with the sound-transmissive waterproof film 1 at an outer peripheral edge, and has a circular opening with an inner diameter of 16.0 mm at a center portion. Therefore, the acrylic adhesive agent 2 is provided at a peripheral edge portion of the sound-transmissive waterproof film 1, and is not provided at the center portion.

iv. The sound-transmissive waterproof film 1 is a film made from polyurethane resin, and as shown in Fig. 3, forms a porous structure having a large number of pores.

v. The sound-transmissive waterproof film 1 has a thickness of 29 μ m, and a mass of 10.6 g/m² (refer to Evidence A No. 3).

vi. The sound-transmissive waterproof film 1 has a Gurley number of 102 seconds as measured by a Gurley type densometer of Toyo Seiki Seisaku-sho, Ltd. (refer to Evidence A No. 3)

vii. The assembly using the soundtransmissive waterproof film 1 has an acoustic transmission loss of 31.8 dB in a frequency band of 300-3000 Hz as measured by using a transmission loss pipe kit type 4206-T and a PULSE acoustic material testing in a tube type 7758 (analysis software) of Brüel & Kjær Japan Tokyo, in accordance with a method described in the specifications [0042]-[0045] of Japanese Patent No. 5513057 (refer to Evidence A No. 3).

viii. The assembly, using the sound-transmissive waterproof film 1, maintains water pressure resistance corresponding to a water pressure of 1 m in a test using a

water resistance test machine WP-1000K of DAIEI KAGAKU SEIKI MFG. CO., LTD for 30 minutes or more (refer to Evidence A No. 3).

ix. The sound-transmissive waterproof film 1 has a porosity (a ratio of a hole part occupied in the whole of a film cross section) of 67% (refer to Evidence A No. 3).

x. An occupancy rate of holes with a hole diameter exceeding 5 μ m (a ratio of holes having an obviously larger cross sectional area than a true circle with a diameter of 5 μ m, to all the holes existing on the film cross section) of the sound-transmissive waterproof film 1 is 88% (refer to Evidence A No. 3)."

Although an acoustic transmission loss of 31.8 dB mentioned above is calculated from the expression of TL_{overall} described in the specification [0045] of Japanese Patent No. 5513057, as pointed out by the Demandant in the response letter dated July 15, 2015, there is an obvious mistake in this expression, and correctly, a numerical value in a round bracket in $10 \log_{10} (...)$ should be divided by a number of samplings to obtain the acoustic transmission loss. If divided by the number of samplings, the acoustic transmission loss becomes 14.44 dB.

4. Comparison/Judgment of Article A and the Patent invention

We will compare Article A with the Patent invention in order to determine whether or not Article A satisfies the above separately described constituent components A-F relating to the Patent invention.

(1) The constituent component A

"The acrylic adhesive agent 2" of Article A is provided on a surface of the sound-transmissive waterproof film 1, so that it can be said that "the acrylic adhesive agent 2" is "the adhesion supporting system" of the Patent invention. Both of Article A and the Patent invention are "voice-transmissive protective cover assemblies."

The meaning of a word "the microporous membrane" of the Patent invention is written in the specifications [0021] of Japanese Patent No. 5513057, and concerning the technical scope of the Patent invention, the meaning of words described in the scope of claims for patent should be interpreted by considering descriptions and drawings of the specifications attached to the application, so that it is interpreted that "the word 'the microporous membrane' in the specification means a successive sheet material which has a porosity of the minimum 50% (namely, a hole capacity of 50% or more), and wherein holes of 50% or more have nominal diameters of about 5 μ m or less." On the other hand, "the sound-transmissive waterproof film 1" of Article A has a porosity (a

ratio of a hole part occupied in the whole of a film cross section) of 67%, but has an 88% occupancy rate of holes with a hole diameter exceeding 5 μ m (a ratio occupied by holes having an obviously larger cross sectional area than a true circle with a diameter of 5 μ m, to the holes existing on the film cross section), so that it cannot be said that holes of 50% or more have a nominal diameter of about 5 μ m or less, and that "the sound-transmissive waterproof film 1" is "the microporous membrane" of the Patent invention.

Therefore, Article A does not satisfy the constituent component A in a point that it cannot be said that the holes of 50% or more in "the sound-transmissive waterproof film 1" have a nominal diameter of 5 μ m or less.

(2) The constituent component B

In Article A, the acrylic adhesive agent 2 is provided at the peripheral edge portion of the sound-transmissive waterproof film 1, and not provided at the center portion, so that it can be said that the sound-transmissive waterproof film 1 is supported by the acrylic adhesive agent 2 at its peripheral edge portion so as to make at least a part of that move freely in response to acoustic energy.

However, as described above, it cannot be said that, in "the sound-transmissive waterproof film 1" of Article A, the holes of 50% or more have a nominal diameter of about 5 μ m or less, and it cannot be said that "the sound-transmissive waterproof film 1" is "the microporous membrane" of the Patent invention.

Therefore, Article A does not satisfy the constituent component B in a point that it cannot be said that the holes of 50% or more in "the sound-transmissive waterproof film 1" have a nominal diameter of 5 μ m or less.

(3) The constituent component C

The sound-transmissive waterproof film 1 of Article A has a thickness of $29\mu m$, a mass of 10.6 g/m², and a Gurley number of 102 seconds as measured by the Gurley type densometer of Toyo Seiki Seisaku-sho, Ltd., so that it can be said that the sound-transmissive waterproof film 1 has a thickness within the range of 3-150 μm , a mass of 40 g/m² or less, and a Gurley number of one second or more.

However, as described above, it cannot be said that, in "the sound-transmissive waterproof film 1" of Article A, the holes of 50% or more have a nominal diameter of about 5 μ m or less, and it cannot be said that "the sound-transmissive waterproof film 1" is "the microporous membrane" of the Patent invention..

Therefore, Article A does not satisfy the constituent component C in a point that

it cannot be said that the holes of 50% or more in "the sound-transmissive waterproof film 1" have a nominal diameter of 5 μ m or less.

(4) The constituent component D

The assembly using the sound-transmissive waterproof film 1 of Article A has an acoustic transmission loss of 14.44 dB (if dividing a numerical value in a round bracket in $10 \log_{10}$ (...) by a number of samplings) in the frequency band of 300-3000 Hz as measured by using the transmission loss pipe kit type 4206-T and the PULSE acoustic material testing in a tube type 7758 (analysis software) of Brüel & Kjær Japan Tokyo in accordance with the method described in the specifications [0042]-[0045], so that it cannot be said that the acoustic transmission loss in the frequency band of 300-3000 Hz is 3 dB or less.

Therefore, Article A does not satisfy the constituent component D.

(5) The constituent component E

The assembly using the sound-transmissive waterproof film 1 of Article A maintains the water pressure resistance corresponding to a water pressure of 1 m in the test using the water resistance test machine WP-1000K of DAIEI KAGAKU SEIKI MFG. CO., LTD for 30 minutes or more, so that it can be said that the assembly maintains a water pressure resistance of 9.8 kPa (one water column meter) for 30 minutes or more.

Therefore, Article A satisfies the constituent component E.

(6) The constituent component F

Both of Article A and the Patent invention are "voice- transmissive protective cover assemblies."

Therefore, Article A satisfies the constituent component F.

(7) Equivalency of the constituent component D

The constituent component D was added to Claim 1 by an amendment made with the demand of appeal against the examiner's decision of refusal, with the constituent component E.

In regard to the addition, in "[Reasons for the demand] [Reasons for which the Invention should be patented] 4. Reasons for which the Invention should be patented (2) Reason A (a support requirement)" in a written appeal amended by the amendment dated April 17, 2013, the Patentee of the Patent invention mentioned "Furthermore, in the scope of claims for patent after the amendment, an effect that "the protective cover assembly has an acoustic transmission loss of 3 dB or less in a frequency band of 300-3000 Hz, and maintains a water resistance pressure of 9.8 kPa (one water column) for 30 minutes or more" is described, so that even if being within a limited range of numerical values of the three parameters above, an article which does not take the above effect is out of a scope of right.

As mentioned above, the scope of claims for patent after the amendment certainly stipulates the scope supported by data of examples, and does not especially expand the scope of right. Therefore, it is no need to say that it is as described in the detailed description of the invention."

In other words, the Patentee of the Patent invention mentioned that the constituent components D and E were added to eliminate a doubt that the claims did not satisfy the so-called support requirements, and that an article which was not equipped with the constituent components D and E was out of the scope of right.

Therefore, Article A which does not satisfy the constituent component D refers to be consciously excluded from the scope of claims for patent in the application procedure of the Patent invention, and cannot be said to be equivalent to the Patent invention.

5. Conclusion

As described above, Article A, at least, does not satisfy the constituent components A-D of the Patent invention separately described, and cannot be said to be equivalent, so that Article A does not belong to the technical scope of the Patent invention.

Claims 2-15 of the scope of claims for patent directly or indirectly cite Claim 1, so that Article A does not belong to the technical scope of the Patent inventions of Claims 2-15.

Claim 16 of the scope of claims for patent expresses the invention of Claim 1 as an invention of a method, so that Article A does not belong to the technical scope of the Patent invention of Claim 16.

Claim 17 of the scope of claims for patent cites Claim 16, so that Article A does not belong to the technical scope of the Patent invention of Claim 17.

Therefore, the advisory opinion shall be made as described in the conclusion.

August 28, 2015

Chief administrative judge:	MIZUNO, Yoshio
Administrative judge:	SEKIYA, Ryuichi
Administrative judge:	INOUE, Shinichi



- #1 Evidence A No. 1
- #2 Explanatory document of Article A (after the amendment)

#3 A protective cover assembly of Article A (Assembly A) has a plane shape shown in

Fig. 1 and a cross-sectional shape shown in Fig. 2 (an X-X line cross-sectional view in Fig. 1), and a cross-sectional photograph of a sound-transmissive waterproof film ("Product number: S3K30" of SEIREN CO. ,LTD.) which is a component thereof is as shown in Fig. 3.

- #4 [Fig. 1]
- #5 [Fig. 2]
- #6 [Fig. 3]
- #7 Sound-transmissive waterproof film 1
- #8 Acrylic adhesive agent 2

イ号アセンブリについて、図1~3に基づいて説明すると、次の通りの構成を有している。

#1

i. イ号アセンブリは、携帯電話やスマートフォンなどの音響・内外圧調整フィルタと して用いられる音声伝送性の保護カバーアセンブリである。

 ii. 図1及び図2に示すように、平面視円形の通音防水フィルム1と、その一方面に設けられたアクリル系粘着剤2とを備えている。通音防水フィルム1の直径は21.0 mmである。

- iii. アクリル系粘着剤2は、<u>外径が21.0mmであって</u>外周縁が通音防水フィルム1 と一致した円形状をなすとともに、中央部に内径16.0mmの円形の開口を持つ。 そのため、アクリル系粘着剤2は、通音防水フィルム1の周縁部に設けられており、 中央部には設けられていない。
- iv. 通音防水フィルム1は、ポリウレタン樹脂からなるフィルムであり、図3に示すように、多数の空孔を有する多孔質構造をなしている。
- ・ 通音防水フィルム1は、厚さが29μmであり、質量が10.6g/m²である(甲 第3号証参照)。
- vi. 通音防水フィルム1は、株式会社東洋精機製作所のガーレー式デンソメーターで測定したガーレー数が102秒である(甲第3号証参照)。
- vii. 通音防水フィルム1を用いたアセンブリは、特許第5513057号の明細書[0042]
 ~ [0045]に記載の方法に準拠して、ブリュエル・ケアー・ジャパン社製の透過損失管キットType 4206-Tと、7758型 PULSE 管内法音響材料試験(解析ソフトウェア)を用いて測定した、300~3000Hzの周波数域における音響伝送損失が31.8dBである(甲第3号証参照)。
- viii. 通音防水フィルム1を用いたアセンブリは、株式会社大栄科学精器製作所製の耐水 度試験機WP-1000Kを用いた試験において水圧1mに相当する耐水圧を30分間以 上保持する(甲第3号証参照)。
- ix. 通音防水フィルム1は、有孔率(フィルム断面全体に占める孔部分の比率)が67% である(甲第3号証参照)。
- x. 通音防水フィルム1は、孔径5µm超の孔の占有率(フィルム断面に存在する孔の うち、直径5µmの真円よりも明らかに大きな断面積を持つ孔が占める割合)が8 8%である(甲第3号証参照)。

2

Assembly A has the following configuration as described based on Fig. 1 to Fig. 3.

i. Assembly A is a voice-transmissive protective cover assembly which is used as an acoustic/inner and outer pressure adjusting filter of a cellular phone, a smart phone, and the like.

ii. As shown in Fig. 1 and Fig. 2, Assembly A is equipped with a sound-transmissive waterproof film 1 which is circular in a plane view, and an acrylic adhesive agent 2 provided on a surface of the film 1. A diameter of the sound-transmissive waterproof film 1 is 21.0 mm.

iii. The acrylic adhesive agent 2 forms a circular shape which has an outer diameter of 21.0 mm, and matches with the sound-transmissive waterproof film 1 at an outer peripheral edge, and has a circular opening with an inner diameter of 16.0 mm at a center portion. Therefore, the acrylic adhesive agent 2 is provided at a peripheral edge portion of the sound-transmissive waterproof film 1, and is not provided at the center portion.

iv. The sound-transmissive waterproof film 1 is a film made from polyurethane resin, and as shown in Fig. 3, forms a porous structure having a large number of pores.

v. The sound-transmissive waterproof film 1 has a thickness of 29 μ m, and a mass of 10.6 g/m² (refer to Evidence A No. 3).

vi. The soundtransmissive waterproof film 1 has a Gurley number of 102 seconds as measured by a Gurley type densometer of Toyo Seiki Seisaku-sho, Ltd. (refer to Evidence A No. 3)

vii. The assembly using the sound-transmissive waterproof film 1 has an acoustic transmission loss of 31.8 dB in a frequency band of 300-3000 Hz as measured by using a transmission loss pipe kit Type 4206-T and a PULSE acoustic material testing in a tube type 7758 (analysis software) of Brüel & Kjær Japan Tokyo, in accordance with a method described in the specification [0042]-[0045] of Japanese Patent No. 5513057 (refer to Evidence A No. 3).

viii. The assembly using the sound-transmissive waterproof film 1 maintains water pressure resistance corresponding to a water pressure of 1 m in a test using a water resistance test machine WP-1000K of DAIEI KAGAKU SEIKI MFG. CO., LTD for 30 minutes or more (refer to Evidence A No. 3).

ix. The soundtransmissive waterproof film 1 has a porosity (a ratio of a hole part

#1

occupied in the whole of a film cross section) of 67% (refer to Evidence A No. 3).

x. An occupancy rate of holes with a hole diameter exceeding 5 μ m (a ratio occupied by holes having an obviously larger cross sectional area than a true circle with a diameter of 5 μ m, of the holes existing on the film cross section) of the sound-transmissive waterproof film 1 is 88% (refer to Evidence A No. 3).