

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ceva Santé Animale S.A.,
Egg-Chick Automated Technologies S.A.S, and
Ceva Animal Health, LLC
Petitioners,

v.

Targan, Inc.,
Patent Owner.

Case IPR2024-00595

U.S. Patent No. 10,806,124

PETITIONERS' REPLY

TABLE OF CONTENTS

I.	INTRODUCTION	1
II.	RESPONSE TO POR’S SUMMARY OF ARGUMENT	1
III.	CLAIMS 1-18 OF THE ‘124 PATENT ARE UNPATENTABLE	3
A.	Claim Construction	3
1.	Targan improperly construes an “unrestrained chick”	4
2.	The ‘124 claims do not recite a stimuli to cause an unrestrained chick to open its wings or an imaging device for taking a picture of an <i>unrestrained</i> chick.	6
IV.	THE CITED ART DISCLOSES ALL ‘124 PATENT CLAIM LIMITATIONS.....	8
A.	Gershman discloses a “moving platform to support an unrestrained chick”	8
1.	The Prosecution History Does Not Support Patent Owner	11
2.	Gershman Discloses Claim 3	11
B.	Pierre discloses a database of images.....	12
C.	Yavnai discloses an unrestrained chick.....	14
V.	MOTIVATION TO COMBINE WITH A REASONABLE EXPECTATION OF SUCCESS (RES)	18
A.	It was obvious to combine Gershman with Pierre (Grounds 1 and 7)	18
B.	It was obvious to combine Pierre with Gershman (Grounds 4 and 6)	19
C.	It was obvious to combine Yavnai and Pierre.....	22
D.	Goodwin-Pierre	24
VI.	TARGAN’S ALLEGED SECONDARY CONSIDERATIONS DO NOT SUPPORT NON-OBVIOUSNESS	25
A.	Targan failed to show that the ‘124 patent satisfied an unmet need ...	25
B.	Targan failed to show unexpected results	26
VII.	CONCLUSION.....	27

TABLE OF AUTHORITIES

Cases

<i>Accent Packaging, Inc. v. Leggett & Platt, Inc.</i> , 707 F.3d 1318 (Fed. Cir. 2013)	5
<i>Demaco Corp. v. F. von Langsdorff Licensing, Ltd.</i> , 851 F.2d 1387 (Fed. Cir. 1988)	25
<i>Halozyme, Inc. v. Iancu</i> , 320 F. Supp. 3d 788 (E.D. Va. 2018)	27
<i>Halozyme, Inc. v. Iancu</i> , 789 F. App'x 884 (Fed. Cir. 2020)	27
<i>Henny Penny Corp. v. Frymaster LLC</i> , 938 F.3d 1324 (Fed. Cir. 2019)	25
<i>In re Keller</i> , 642 F.2d 413 (CCPA 1981)	24
<i>KSR Int’l Co. v. Teleflex, Inc.</i> , 550 U.S. 398 (2007)	13

EXHIBIT LIST

1001	U.S. Patent No. 10,806,124 to Karimpour
1002	Prosecution history of Application No. 15/775,706, resulting in U.S. Patent No. 10,806,124
1003	Gershman, Y., “A simple way to determine the sex of one-day poultry chickens”; The Papers of Independent Authors [online]; vol. 28, DNA 2014, [https://vixra.org/pdf/1405.0016v1.pdf] (as cited by Applicant)
1004	FR Patent Publication No. 2909836 to Pierre et al., with Certified English Translation
1005	U.S. Patent Publication No. 2001/0035370 to Yavnai et al.
1006	U.S. Patent No. 6,396,938 to Tao et al.
1007	U.S. Patent No. 3,994,292 to Goodwin
1008	Declaration of Shawn Lecroy
1009	<i>Curriculum Vitae</i> of Shawn Lecroy
1010	Deposition Transcript of Kevin M. Keener, Ph.D., P.E. dated January 28, 2025
2002	Declaration of Kevin Keener, Ph.D., P.E.
2003	Declaration of Lina J. Karam, Ph.D.
2004	Curriculum Vitae of Lina J. Karam, Ph.D.
2005	Excerpts from Merriam Webster Dictionary
2006	Adjanohoun et al., “Chick processing and automation within the hatchery”; International Hatchery Practice, Vol. 22, No. 8, pp. 7-11
2007	Curriculum Vitae of Kevin Keener, Ph.D., P.E.

I. INTRODUCTION

The Board correctly instituted inter partes review of claims 1-18 of U.S. Patent 10,806,124 to Targan, Inc. (“Targan” or “Patent Owner” (“PO”)) on eight independent grounds.

Patent Owner's Response (“POR”) improperly grafts multiple limitations onto the claims to avoid the prior art, misreads the prior art itself, relies heavily on a 120-page declaration from an expert with limited expertise with automated processing of live chicks, and attacks arguments Petitioner never made in lieu of addressing Petitioner's asserted prior art combinations. None of this should distract from the conclusions in the Petition and the Initial Determination (“ID”).

II. RESPONSE TO POR'S SUMMARY OF ARGUMENT

The POR asserts that the prior art does not disclose all limitations of the independent claims and that a POSITA would have no motivation to combine references with a reasonable expectation of success. These arguments do not withstand scrutiny.

The POR wrongly asserts that Gershman fails to disclose a moving platform to support a chick. POR, 2-4. In fact, Gershman explicitly states that the chicks

“are placed on a **moving** plate.”¹ EX 1003, 3.² The plate is provided with an “initial acceleration, a little more than g” so that the chick is at most slightly above the plate. *Id.*, 5. The plate is also pushed down onto shock absorbers, and Gershman proposes that the system could be scaled up with “moving plates with corresponding springs.” *Id.*, Fig. 3, 4-5. These facts show that the chick will be supported at least some of the time the plate is moving.

The POR next wrongly argues that Pierre does not disclose the claimed database of images because Pierre only discloses comparing an image of a chick to a single reference image. POR, 4. The POR studiously ignores Pierre's statement that its process “**compare[s] the captured images to reference images** recording a specific state for each animal examined ...”. EX 1004, 3. In other words, Pierre expressly teaches comparing the chick images to reference images (plural).

The POR further argues that Yavnai does not disclose an unrestrained chick at the time of imaging. However, there is no requirement in the claims that the chick be unrestrained at the time of imaging. Further, and as also noted by the Board, Yavnai discloses a chick whose wings are *supported* at the time of imaging

¹ Emphases added unless otherwise noted throughout this Reply.

² Citations to exhibits are to the exhibit page number, not the original document page number.

rather than restrained. ID, 20.

The POR goes on to complain that Petitioner's obviousness arguments fail to address the realities of industrial poultry processing. POR, 7-9. However, the '124 claims cover experimental systems and are not limited to industrial processing systems. In addition, as discussed below, the POR and Dr. Keener greatly overstate the difficulties of transporting chicks in a hatchery and demand a vastly higher commercial processing speed than is claimed, disclosed or made possible by the '124 patent itself.

Finally, the POR attacks Petitioner's motivations to combine references because the Petition was not accompanied by an expert declaration. POR, 6, 9-10. There is no requirement that a motivation to combine or the level of ordinary skill in the art be provided by an expert when these are apparent from the prior art itself.

III. CLAIMS 1-18 OF THE '124 PATENT ARE UNPATENTABLE

A. Claim Construction

Targan discusses the interpretation of three phrases in its POR. Its proposed interpretation of two phrases related to the "moving platform" is consistent with Petitioner's application of the claims. POR, 21-24. The third phrase, "unrestrained," is discussed below. In addition, several other improper but related claim interpretations are embedded within the POR and are addressed separately.

1. Targan improperly construes an “unrestrained chick”

Targan appears to offer a very specific definition of a chick being “unrestrained” when “no part of the chick is being restricted from its natural movement—laterally, forward or backward, up *or down*, or rotationally.” POR, 25. Targan relies heavily on Fig. 3 of the ‘124 patent as support.

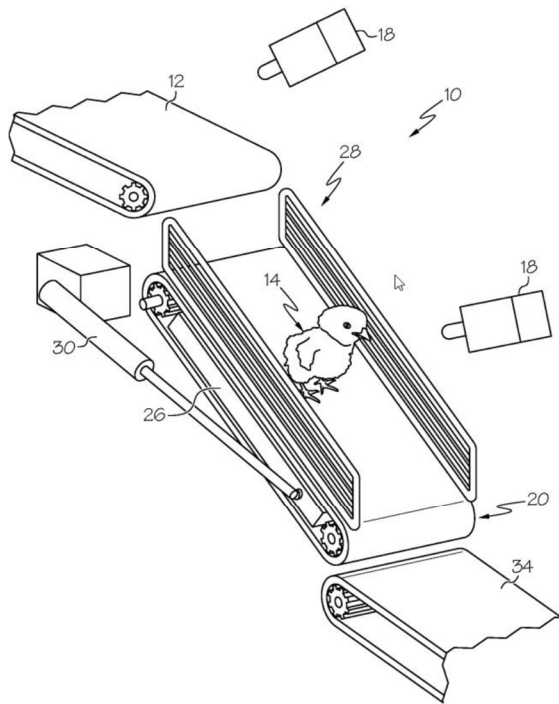


FIG. 3

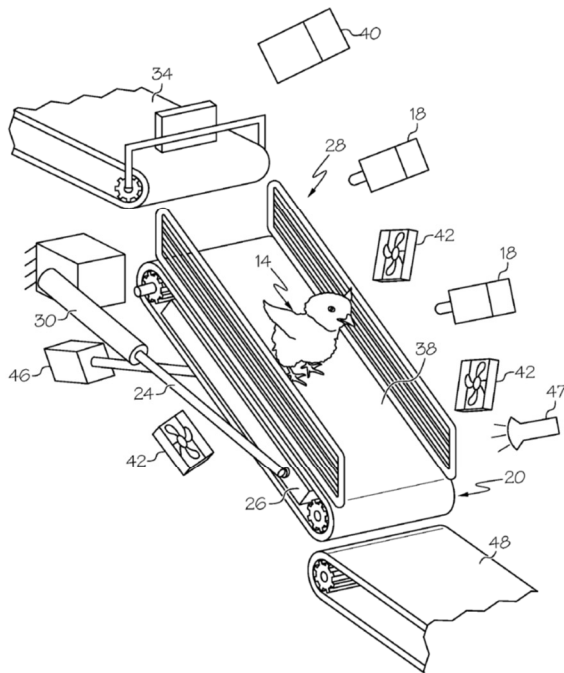


FIG. 6

EX 1001, Figs. 3, 6.

Targan’s definition is inconsistent with two aspects of ‘124 patent Fig. 3. It requires the chick to move freely “up *or down*” when the moving platform itself prevents the chick from moving freely downwards, and it requires free lateral movement when the sidewalls prevent the chick from moving laterally when close to the walls.

In discussing Yavnai, Patent Owner further attempts to construe “unrestrained” by providing a definition of the opposite term, “restrain,” as “to ***prevent*** from doing.” POR, 43. In the same discussion, Patent Owner also insists that the sidewalls shown on the platform in Fig. 3 of the ‘124 patent somehow do not restrain the chick even though the walls clearly restrain an adjacent chick’s lateral movement. POR, 46, fn. 6. Indeed, the ‘124 patent itself states that the sidewalls (or rails) “***prevent*** the chick from falling off of the angled conveyor,” directly contradicting PO’s definition of unrestrained. EX 1001, col. 4, lines 20-21. In other words, Patent Owner’s definitions of “unrestrained” and “restrain” exclude the ‘124 patent’s preferred embodiments (the angled conveyors of Figs. 3 and 6). This simple observation highlights the problem with the POR’s constructions. See, e.g., *Accent Packaging, Inc. v. Leggett & Platt, Inc.*, 707 F.3d 1318, 1326 (Fed. Cir. 2013) (“a claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct”) (citation omitted).

As a further possible claim construction, Petitioner notes that a person in the art of hatchery automation would have understood that a “restrained” chick is one that is physically held in place. EX 1008, ¶ 44. This construction appears to be consistent with the understanding implicit in the ID. ID, 6, 12, 20-21. Petitioner submits its original construction of “unrestrained” is consistent with the

prosecution history. But if the Board finds the prosecution history unclear, Petitioner also supports the alternative understanding of an unrestrained chick noted in the LeCroy Declaration ¶ 44.

2. The ‘124 claims do not recite a stimuli to cause an unrestrained chick to open its wings or an imaging device for taking a picture of an *unrestrained* chick.

Claim 1 of the ‘124 patent recites:

1. A system for determining the sex of a chick comprising:
a moving platform to support an unrestrained chick of a particular breed;
at least one stimuli to cause the chick to open its wings;
an image capture device to capture at least one image of the chick; and ...

Targan drafted claim 1 (with similar language in independent claim 9) to separately recite “a chick” (without mention of restraint) and “an unrestrained chick” as two different objects. The claimed image capture device only captures an image of “the chick.” The antecedent basis for “the chick” that is imaged is clearly “a chick” in the preamble whose sex is determined and not “an unrestrained chick” as recited elsewhere in the claim.

Targan ignores the preamble entirely. It argues that the claims require the chick to be unrestrained (i) when stimulated to open its wings and (ii) when its image is captured. POR, 44-45. These two limitations are found nowhere in the claims. Targan argues that its interpretation is consistent with the specification and

the prosecution history. However, consistency with the specification does not justify importing limitations in the claims. Dependent claims are also consistent with the independent claims, but that does justify importing their limitations.

Targan's interpretation is also inconsistent with the approach taken in other claims. For example, independent claim 9 recites "a moving platform to support an unrestrained chick" and "an image capture device positioned proximate to the moving platform to capture at least one image of the chick *as it passes on the moving platform.*" When Targan wanted to claim a specific relationship between the image capture device and the chick, it knew how to do so.

Finally, and perhaps revealing the source of its error, Targan's arguments appear to be premised on the understanding that the claims are directed to a *process*, stating "[t]he claims required that the chick be unrestrained ***throughout the recited process*** ...". POR, 44. There is no "recited process" in the '124 claims. The claims are directed to a ***system, not a process***. The Board should reject PO's attempt to import process limitations into its system claims to preserve their validity.

IV. THE CITED ART DISCLOSES ALL '124 PATENT CLAIM LIMITATIONS

A. Gershman discloses a “moving platform to support an unrestrained chick”

Patent Owner attempts to create a distinction between a “moving” platform and a “movable” platform by asserting that the independent claims of the '124 patent require a moving platform that is in motion *while* supporting a chick. POR, 27-30. However, Petitioner never argued that the prior art need only show a “movable” platform, and thus the discussion is irrelevant to the Petition.

Patent Owner wrongly insists that Gershman only discloses a chick supported on a stationary platform, and not on a moving platform. POR, 28-29. Patent Owner is mistaken. Gershman discloses a moving platform that supports an unrestrained chick *and* moves from a first location to a second location. ID, 17. Indeed, Gershman states that “Chickens are placed on a *moving* [not movable] plate.” EX 1003, 3. Gershman's exemplary embodiment moves (pushes) a platform downward from a height of 20 centimeters at an acceleration that is “only a little more than free-fall,” e.g., 12-15 m/s². *Id.* at 3, 5. The motion of the platform momentarily destabilizes the chick so that the chick extends its wings and claws for balance. *Id.* at 2-3.

Gershman does not suggest that a chick is able to flap its wings or remain suspended in the air for a prolonged period of time while the moving platform is in

motion. In fact, Gershman specifically proposes control measures to ensure that the image is acquired at “the moment of maximum disclosure of [the] wings,” e.g., when the moving platform accelerates. EX 1003, 5. A POSITA would understand that Gershman is concerned with the *moment* of image acquisition because Gershman only provides a short window during which the chick's wings are exposed. Consequently, one would expect that the chick only falls for a short duration before it is once again supported by the moving platform. EX 1008, ¶¶ 24-25.

A POSITA's understanding of the short duration of the chick's fall is informed by the specific distances and accelerations contemplated by Gershman. A day-old chick stands 3 to 4 inches (7.6 to 10.2 centimeters) tall. EX 1008, ¶ 12. A POSITA would understand that a chick on Gershman's moving platform is transported across a distance that is approximately two times the height of the chick. EX, 1008, ¶ 24. PO's characterization of Gershman as subjecting a chick to a “drop shaft” shown by Dr. Keener as nearly six times the height of the chick is thus inaccurate. POR, 28; EX 1008, ¶ 24.

Patent Owner's characterization of the “drop shaft” also ignores Gershman's teaching to push a moving platform down onto shock absorbers. EX 1003, 5; EX 1008, ¶ 34. The shock absorbers decelerate the moving platform and allow the

chick to more easily re-establish contact with the moving platform if needed.³ And in any event, it is only common sense to design a system that would cushion the chicks by decelerating the plate with the chick on it – i.e., the chick would be supported on a moving plate while the plate decelerates. EX 1008, ¶ 28.

In addition to supporting a chick while moving vertically downward, the moving platform of Gershman also supports a chick while moving vertically upward. Gershman contemplates integration of the moving platform into an industrial chick sorting system and proposes that chicks can be transported by moving platforms with *springs*. EX 1003, 4. Integrating Gershman's moving platform with springs means the platform moves both vertically upwards and downwards. The moving platform will necessarily support the chick while the spring pushes the plate upwards to return to its original position. Gershman's reference to "moving plates with corresponding springs" thus suggests a system where the chick is placed on a moving plate, moves vertically down, and then returns to its original elevation and proceeds onwards rather than leaving the plate at a lower elevation. POR 54; EX 2002, ¶ 169; EX 1008 ¶ 34.

³ The "uniformly accelerated" movement described by Gershman refers to the chick's reflexive extension of its legs. EX 1003, 3.

Patent Owner also challenges the Board's finding of a moving plate supporting a chick (based on Figs. 3, 5, and 6) and argues that the figures do not show a chick supported on a moving plate. POR, 32-34. However, Figs. 5 and 6 at best indicate that the chick is not supported by the moving platform at the brief instant the photograph is taken. These static images do not suggest that the plate is not both moving and supporting the chick at other times. Regardless, the claims do not require the platform to support the chick the entire time the platform is moving.

1. The Prosecution History Does Not Support Patent Owner

Patent Owner further argues that the prosecution history supports its position that Gershman does not disclose the claimed moving plate. POR, 31-32. However, the ID correctly noted that nothing in the Examiner's communications support this argument. ID, 12.

2. Gershman Discloses Claim 3

Patent Owner attempts to distinguish Gershman's disclosure of blowing air at the chicks from the stimuli of claim 3. POR, 37-39. Notably, claim 3 states that "the stimuli *may* be one or more of ... a stream of air blowing on the chick." Thus, the limitations of claim 3 are optional (reciting "*may*"). Gershman could disclose none of the claim 3 stimuli and still satisfy the claim.

Regardless, Gershman discloses two stimuli: briefly dropping the chick and blowing air at the chick. Even if the air were used for a different purpose (moving

the chick), there is no dispute that blowing air is a stimulus that will cause a chick to open its wings. In brief, Gershman discloses claim 3.

B. Pierre discloses a database of images

Patent Owner asserts that Pierre does not disclose a database of images. POR, 39-41. In doing so, PO relies solely on select examples of “comparison with a reference image” provided in Pierre. However, Petitioner's Grounds for Challenge included Pierre's explicit teaching of comparing captured *images* with a plurality of reference *images*. Pierre recites using computer processing to:

“... *compare* the captured images to *reference images* recording a specific state for each animal examined, to deduce from this a characteristic to attribute to [the animal].”

EX 1004, 3.

As presented in Petitioner's Grounds for Challenge, Pierre teaches that a digital image is compared with reference images to determine the sex or health of a chick. Petition, 24. It would have been obvious to a POSITA to store the reference images taught by Pierre in a database to organize the collection of reference images. *Id.* at 23.

By ignoring Pierre's explicit teaching to compare captured images to a *plurality* of reference images, PO fails to substantively address any of the Grounds for Challenge relying on Pierre. Furthermore, PO does not offer any definition of a

“database” of images that controverts Pierre’s teaching of a plurality of reference images.

Moreover, PO’s assertion that Pierre does not disclose a database of images simply because Pierre recites a comparison with a *single* reference image is not supported by a complete reading of Pierre. Pierre is directed toward determining a characteristic of a bird by comparing an image of the bird with reference images. Pierre explains the motivation for comparison with a plurality of reference images: each reference image records a specific state that can be used to determine the characteristic. EX 1004, 3. Each characteristic described by Pierre manifests in one of two or more possible states, e.g., sex (male vs. female), health (healthy vs. unhealthy), genetic mutation (present vs. not present). *Id.* As PO notes, a POSITA would understand that more than one reference image is needed to record all of the possible states for each characteristic. POR, 42. It would have been common sense for a POSITA to compare a chick image with each reference image for the characteristic in order to accurately determine whether the characteristic was present. See, e.g., *KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398, 421 (2007) (a combination resulting from common sense and ordinary skill is obvious to try).

Patent Owner also describes Pierre as directed to “comparison with a [single] reference image.” POR, 41-42. However, nowhere does Pierre recite a

“single” reference image, and the insertion of the term “single” significantly modifies Pierre’s actual teaching.

C. Yavnai discloses an unrestrained chick

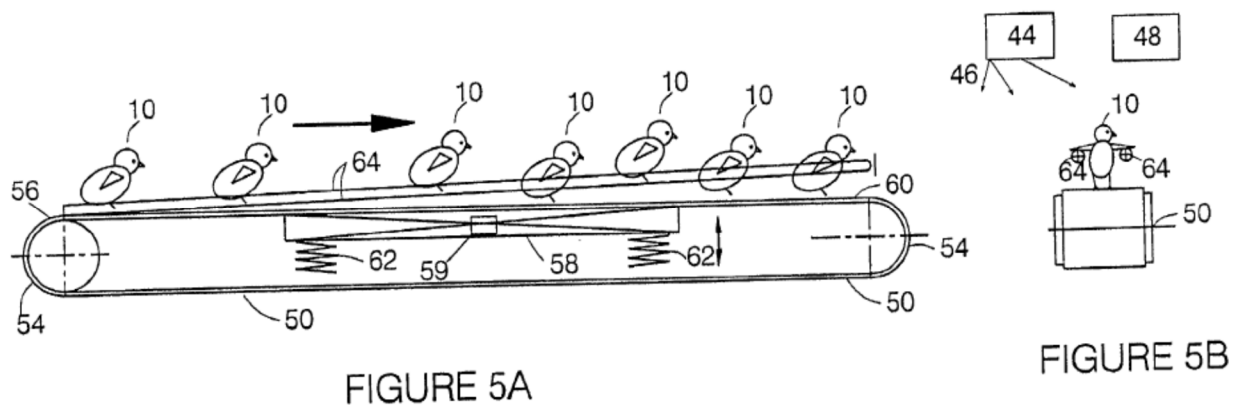
PO’s arguments distinguishing Yavnai depend entirely on improperly importing limitations into the claims.

Initially, the POR relies on an implied deletion of existing antecedent basis for “the chick” to assert that the claims require a chick be unrestrained *during* stimulation and imaging. POR, 44-45. This interpretation is incorrect as explained above because “the chick” and the “unrestrained chick” are two separate objects in the independent claims.

Patent Owner then challenges the Board’s observation that Yavnai’s poles *support* the chick rather than *restrain* the chick during stimulation and imaging by alleging two different forms of restraint. POR, 43-44. The first form of alleged restraint is found only at the right end of Yavnai’s platform and conforms to Petitioner’s original construction of “unrestrained,” which, based on the intrinsic record, is at most limited to restricting the wings of the chick. POR, 44-45; Petition, 18-19. The second form of alleged restraint refers to the chick’s lateral movement. POR, 45-46.

This first argument is only relevant if claim 1 is limited to a chick that is unrestrained at the moment of imaging – which it is not.

Nevertheless, the poles of Yavnai do not restrain the wings of the chick. The purpose of the poles is to provide momentary support to the chick's wings at least at the instant of imaging at the camera station. ID, 20. Even after being startled, the chick still appears to be free to jump up again so that its wings are no longer in contact with the poles and could be retracted.



EX 1005, Figs. 5A, 5B.

The chick is therefore unrestrained as it traverses the system of Yavnai.

Patent Owner's argument also demonstrates a misunderstanding of patent drawings and automated chick processing. The POR asserts that in the absence of illustrated sidewalls, the poles of Yavnai "**must** ... restrain the chick from lateral movement ... or they would potentially fall off". POR, 46. This argument first ignores the fact that a side view in a patent drawing often prioritizes showing features of interest and routinely does not include other elements that would

obscure or detract from these features. See, e.g., '124 patent Fig. 1 showing a chick on a platform with no sidewalls.

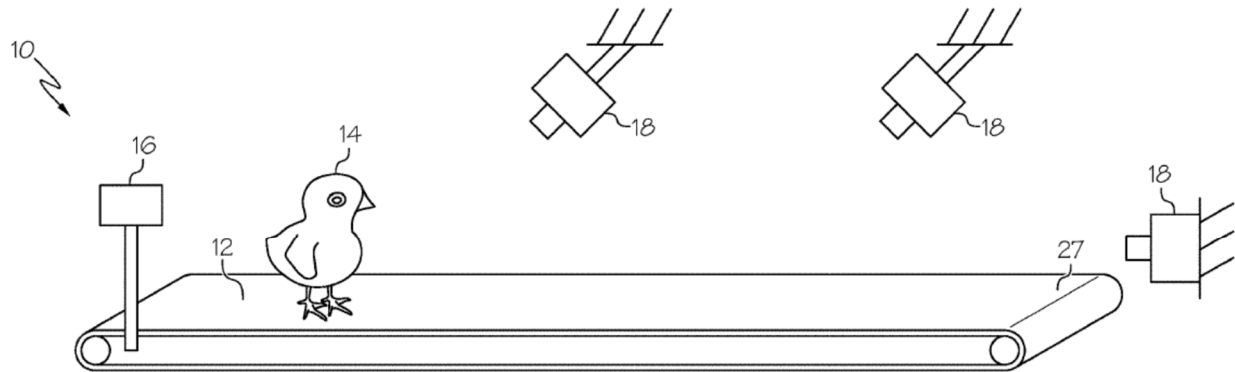


FIG. 1

By PO's own logic, the absence of sidewalls in Fig. 1 would mean that its system lacks any structures that prevent the chick from falling off of the platform despite PO's assertion that structures are *necessary* to keep the chick on the moving platform in its own system. POR, 49. Obviously, the absence of sidewalls in Fig. 1 does not mean the sidewalls are not present. Similarly, it is wrong to conclude that the absence of illustrated sidewalls in Fig. 5A of Yavnai means that the poles must perform the function of sidewalls.

Regardless, the poles of Yavnai do not restrain a chick's lateral movement for the duration that the chicks are on the platform. EX 1008, ¶¶ 39-40.

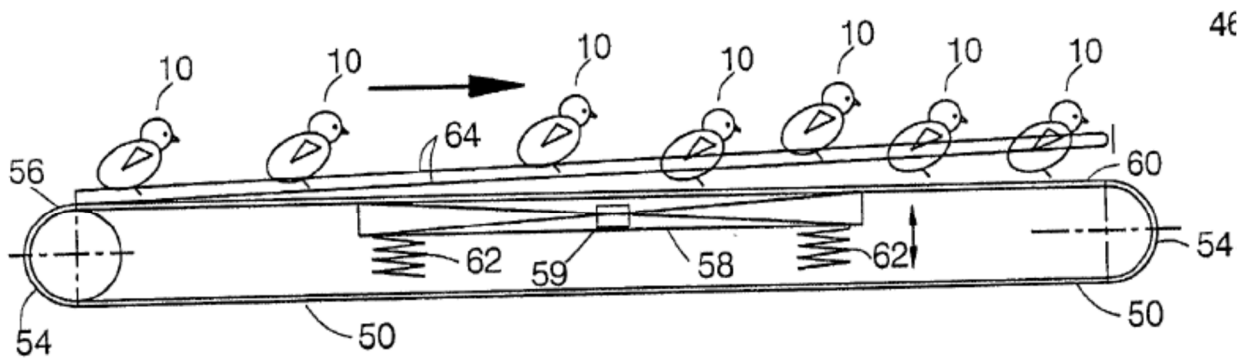


FIGURE 5A

EX 1005, Figure 5A.

Figure 5A of Yavnai shows that a chick is initially free to step or jump laterally over the poles. Yavnai teaches that a chick is able to spread its wings when it jumps in between the poles. EX 1005, ¶ 42. A person in the hatchery automation art would understand that side walls would need to also be present to ensure the chicks did not fall off the platform. EX 1008, ¶ 40.

Patent Owner further argues that “unrestrained” should be understood based on its argument during patent prosecution, i.e., to cover the ‘124 embodiments but not Yavnai’s poles. POR, 49-51. However, those arguments characterized the claims in a manner that is not commensurate with the actual claim scope. Specifically, PO argued that the claims “allow[s] a chick to be moved unrestrained *through the system.*” *Id.* at 50. Nothing in the claims speaks to whether the chicks could move unrestrained “through the system.” At best, PO’s arguments appear to have confused the Examiner.

V. MOTIVATION TO COMBINE WITH A REASONABLE EXPECTATION OF SUCCESS (RES)

Patent Owner confusingly responds to Grounds 1, 4, 6, 7 in a single undifferentiated section as if they covered the same combination of prior art. POR, 53-58. They do not. PO's arguments fail to distinguish between Grounds 1 and 7 (which rely on Gershman as the base reference and add the database of Pierre) and Grounds 4 and 6 (which rely on Pierre as the base reference and add the moving platform of Gershman). Because the combinations are very different, and the Petition offered different motivations to combine, this reply addresses these rejections separately.

A. It was obvious to combine Gershman with Pierre (Grounds 1 and 7)

Patent Owner starts by addressing an argument Petitioner never made. POR, 53. Specifically, PO cites Petitioner's general summary of Gershman, which includes a quotation from Gershman relating to adaptation on a hatchery line, as supporting Petition's reasoning as to why it would have been obvious to add the database of Pierre to Gershman's platform in Ground 1. *Id.* These two sections of the Petition are unrelated, and Petitioner did not rely on the cited quote from Gershman as a motivation to combine. PO's attempt to link them is disingenuous and confusing.

More importantly, the POR completely fails to address Petitioner's reasons for adding the *database* of Pierre to the system of Goodman. Petition, 23-24.

Therefore, the reasons for combining these references are unchallenged in the POR and admitted by the Patent Owner.

Instead, Patent Owner argues extensively that the Gershman system would be unworkable in an industrial setting. See, e.g., POR, 53-54. This is irrelevant to Grounds 1 and 7, which simply require the combination of a database with the system taught in Gershman in any type of setting. Indeed, the '124 claims cover both experimental and industrial systems and everything in between. Any combination that makes even an experimental system obvious to try invalidates the '124 patent claims.

B. It was obvious to combine Pierre with Gershman (Grounds 4 and 6)

The entirety of Patent Owner's attack on the Gershman-Pierre combinations only cites to Ground 1 of the Petition. Patent Owner never once cites to the reasons for combining Pierre with Gershman provided in Grounds 4 and 7. Petition, 35-36.

Nonetheless, PO argues that the "Gershman-Pierre combination would result in "a system that requires putting individual chicks, *one by one*, onto the stationary plate and individually performing the drop plate operation," resulting in traffic jams. POR, 54. Similarly, Dr. Keener criticized Gershman generally for "introducing a full stop in any lateral conveyance system." EX 2002, ¶ 58.

PO's repeated attacks on the Gershman-Pierre combination for having

individual chicks move “one by one” onto the plate is surprising for at least two reasons. First, the ‘124 claims do not require any type of continuous or simultaneous movement of chicks, nor do the claims exclude a system that laterally stops chicks. Second, the ‘124 patent *itself* requires the chicks to move one by one through the system so their picture can be taken on the angled conveyor. Fig. 6 of *the ‘124 patent even shows a gate* which would require a full stop of the conveyor.

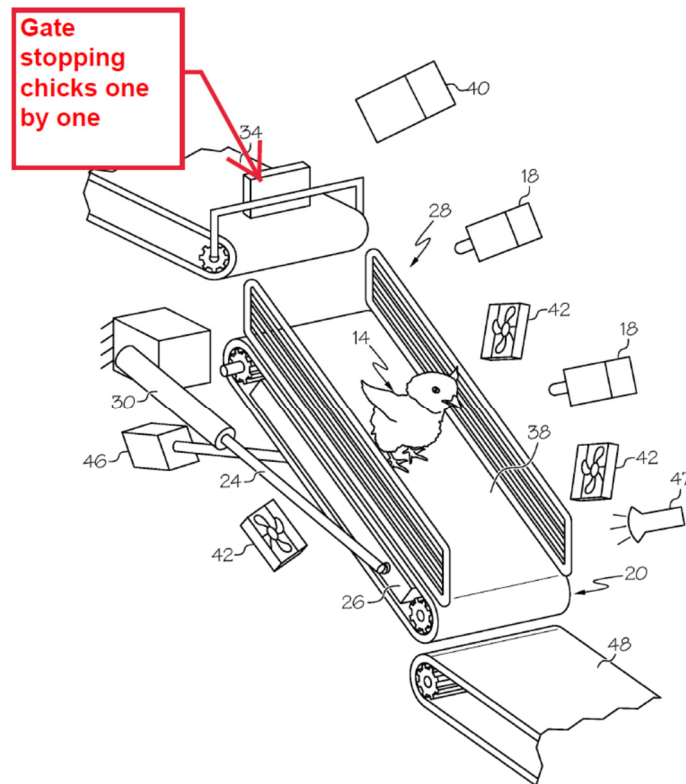


FIG. 6

Criticizing full stops when the ‘124 patent’s preferred embodiment shows a gate on the conveyor imposes a double standard requiring more from the prior art than the ‘124 patent and highlights the unreasonableness of PO’s position. The double standard is further highlighted by the ‘124 patent’s complete lack of concern with

managing chick traffic before reaching the gate in Fig. 6. See, EX 1001, col. 3, lines 50-53, col. 5, lines 22-28 (“chicks have been previously separated by other conveyors and dividers” and “such equipment and logistics are not discussed herein.”).

Patent Owner further argued that chick droppings would make Gershman's system unworkable. POR, 56. This argument ignores the fact that managing chick waste in automated chick conveyance system was well known in the automated chick industry in 2015. EX 1008, ¶ 37.

Patent Owner also argued that in the Gershman system the chicks would be injured or overload the plate, citing Dr. Keener. POR, 57. These arguments misunderstand the level of skill in the art of hatchery automation and again illustrate Dr. Keener's lack of familiarity with the level of skill in chick transport as of November 2015.⁴ EX 1008, ¶¶ 30-34.

Patent Owner also does not address the teachings of Gershman regarding a database of images. Petitioner's first Ground for Challenge is a combination of Gershman and Pierre. As acknowledged by Applicant during prosecution of the

⁴ Dr. Keener's 73-page resume includes only one third of a page mentioning poultry hatcheries. EX 2007, 9. That entry focuses on improved sanitation and mentions “observing” hatching. See also EX 1010, 24-38.

'124 patent, "Gershman discloses the use of a database of digital images." EX 1002, 196. The Examiner reached the similar conclusion as noted in the ID. ID, 11-12 ("the Examiner cited Gershman only for the disclosure of a library of stored images and related image processing"), EX 1002, 221, 227. For instance, Gershman teaches storing images corresponding to male and female chick wing characteristics. EX 1003, 3-4. Pierre teaches comparison of an image of plumage with reference images of plumage corresponding to different states (e.g. male or female) to determine a characteristic of the bird. Pierre simply expands on the application of the basic elements already provided by Gershman.

C. It was obvious to combine Yavnai and Pierre

Grounds 2 and 8 of the Petition rely on Yavnai as the base reference and Pierre for rendering the database limitations obvious.

Despite this, PO spends most of its effort attacking Yavnai's industrial viability rather than addressing the motivation to combine Yavnai with Pierre provided in the Petition. POR, 58-60. For example, PO argues that the chicks might be injured or rotate. These concerns are overblown. EX 1008, ¶¶ 41-47. Petitioner disagrees on Yavnai's industrial viability, but the issue is irrelevant to the proposed combinations. Once again, the '124 claims cover all systems from experimental to industrial. If an early system such as Yavnai's describes the '124 claim elements or renders them obvious, the claims are unpatentable.

The POR eventually argued that it would not have been obvious to combine the database of Pierre with Yavnai because the combination would be redundant and/or change Yavnai's principal of operation. POR, 61-62. However, Yavnai admits that an image taken using its proposed approach "is processed and sex identification is *attempted*." EX 1005, ¶ 39. Yavnai goes on to recognize that the sex may be unidentifiable. *Id.* Even the POR seems to question the proficiency of Yavnai's imaging process, stating that Yavnai "was (*purportedly*) able to determine sex by processing a single image." POR, 61. Nothing in Yavnai indicates that its approach is so essential or perfected as to render any alternative methods of image analysis redundant. A POSITA would have been motivated to try an alternative approach to image processing with Yavnai as proposed in the Petition.

Patent Owner also relies on Yavnai's use of monochromatic blue light to argue that the proposed combination would change the principle of operation of Yavnai. POR, 61-62. However, this light is merely used to highlight the contrast between the chick's wingtips and body and would be entirely consistent with the desire to have high-quality images for comparison with a database, as in Pierre. Indeed, Yavnai's process where "[An] image taken by camera 48 is processed and sex identification is attempted based on the sex distinguishable wing feather patterns" is entirely consistent with Pierre. EX 1005, ¶ 39.

Finally, even if the Pierre comparison to a database of images were redundant as PO proposes, the addition of the Pierre process to check or confirm Yavnai's own processing would itself provide a reason for adding the comparison step to the Yavnai system. In short, PO provides no compelling arguments against the rationale for combining Yavnai and Pierre presented in the Petition.

D. Goodwin-Pierre

The POR briefly challenges the motivation for combining Goodwin with Pierre by arguing that once the chick is dropped off the conveyor, the chick cannot be routed according to sex and would have to be picked up manually simply because it is no longer on the original conveyor. POR, 63. The POR seems to assume a POSITA has neither common sense or ordinary skill. Since the entire premise of this combination was to replace manual gender sorting with an automated approach, it would only be common sense to redesign the manual troughs of Goodwin to automatically route the male or female chicks as desired, especially given that Goodwin already teaches the use of conveyors. See, *In re Keller*, 642 F.2d 413, 425, (CCPA 1981) ("The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference.... Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.").

The POR further argues that the Goodwin conveyor is substantially higher

than a chick can fall without injury and would result in harm to the chick, citing Dr. Keener. POR, 61. But during his deposition, Dr. Keener admitted that neither Goodwin or Pierre indicated how far a chick would fall at the end of the conveyor to have its image taken. EX 1010, 113-115. This argument is entirely speculative. As of 2015, chicks were regularly dropped 12 inches or more in industrial processing. EX 1008, ¶¶ 14-16, 51. Once again, the POR offers no credible basis for attacking the motivation to combine Goodwin with Pierre.

VI. TARGAN'S ALLEGED SECONDARY CONSIDERATIONS DO NOT SUPPORT NON-OBVIOUSNESS

Targan argued that secondary considerations—specifically, long-felt but unmet need and unexpected results—support a finding of non-obviousness. POR, 65-68. Targan provides no meaningful evidence in support of its positions.

The “evidence of secondary considerations must have a ‘nexus’ to the claims, *i.e.*, there must be ‘a legally and factually sufficient connection’ between the evidence and the patented invention.” *Henny Penny Corp. v. Frymaster LLC*, 938 F.3d 1324, 1332 (Fed. Cir. 2019) (citation omitted). The burden of proving a nexus exists lies with the patentee—here, Targan. *See id*; *Demaco Corp. v. F. von Langsdorff Licensing, Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988).

A. Targan failed to show that the ‘124 patent satisfied an unmet need

Targan argued that there existed a long-felt but unmet need of high throughput and highly accurate sexing and health detection of chicks while

maintaining chick welfare. POR, 65-66. Targan further asserted in one sentence that the '124 patent offered a solution to the need. POR, 66, citing EX 2002, ¶ 190.

Dr. Keener similarly offered a conclusory sentence that the '124 patent solved the need but provided no explanation or evidence as to how it accomplished this feat. EX 2002, ¶ 190. This conclusory sentence is not sufficient to satisfy PO's burden to prove that the '124 claims met the unmet need.

Further, Dr. Keener readily acknowledged that he had no idea whether the '124 patented subject matter had ever been made or commercialized. EX 1010, 117-118. PO's failure to point to any evidence of even one system in the real world actually practicing the claimed invention, let alone one having commercial success, is striking.

B. Targan failed to show unexpected results

Targan also argued that the '124 patent created a system where the chick is unrestrained yet supported as it is imaged. As discussed above, this argument first fails because the '124 claims do not require the chick to be unrestrained and supported on the moving platform while it is imaged.

Equally problematic, Targan fails to show any "results" at all. To have unexpected results, there must be actual results. Targan presents no evidence of a demonstration system, commercial product, or any other implementation showing

a difference between its claimed system and any of the prior art systems in throughput or accuracy of sex determination and/or the number of injuries sustained by chicks. As already noted above, Dr. Keener did not know whether the '124 patent subject matter had ever been made or commercialized, and Patent Owner has not submitted any evidence suggesting it was. For this reason as well, there are no unexpected results supporting the non-obviousness of the '124 patent claims. See, *Halozyme, Inc. v. Iancu*, 320 F. Supp. 3d 788, 809 (E.D. Va. 2018), *aff'd*, 789 F. App'x 884 (Fed. Cir. 2020) ("The evidence Halozyme submitted regarding PEGPH20's satisfaction of a long-felt need is irrelevant, because PEGPH20 is not commercially available to meet any such need, and thus Halozyme has not demonstrated that the need has been met by the claimed invention").

VII. CONCLUSION

For the foregoing reasons, Petitioners ask that claims 1-18 of the '124 patent be canceled.

Dated: February 10, 2025

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

The undersigned certifies this document complies with the type-volume limitation of 37 C.F.R. § 42.24. The petition contains 5,563 words, as calculated by the Microsoft Word program excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a).

Dated: February 10, 2025

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned hereby certifies that the foregoing Petitioners' Reply with Exhibits 1008-1010 was served on February 10, 2025 by e-mail to:

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