

Ceva Santé Animale S.A., et al.

v.

Targan, Inc.

IPR2024-00595

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

Patent Owner's Demonstratives

Hearing: May 6, 2025

Grounds

GROUND	CLAIM(S) CHALLENGED
1. Gershman + Pierre	1, 3
2. Yavnai + Pierre	1, 3
3. Pierre + Goodwin	1, 6, 7
4. Pierre + Gershman	1, 6, 7
5. Pierre + Goodwin + Tao	2
6. Pierre + Gershman + Tao	8
7. Gershman + Pierre + Tao	2, 4, 5, 9-15
8. Yavnai + Pierre + Tao	2, 5, 9-11, 14-18

Petitioners Failed to Meet Their Burden

- *First:* Petitioners failed to show their obviousness combinations include all claim limitations of any challenged claim
- *Second:* Petitioners failed to show a POSA would have a motivation to combine and reasonable expectation of success (RES)
- *Third:* Petitioners submitted an expert declaration on Reply that fails to analyze the prior art from the perspective of the POSA

Overview of '124 Patent

Independent Claim 1 – Key Terms

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
a computer processor having a database of images of male and female wing patterns for the particular breed, the computer processor in communication with the image capture device, whereby the image capture device captures at least one image of the chick and transmits it to the computer processor where the image is processed and compared to the database to determine the sex.

Ex. 1001 ('124 patent) at Claim 1

Independent Claim 6

6. A system for determining the health of a day old chick comprising:
a moving platform upon which an unrestrained chick is supported;
image capturing device to capture at least one electronic image of the chick;
computerized image processor in communication with the image capture device, the computerized image processor having access to a database of images of healthy and unhealthy chicks of the same breed, whereby the image capture device captures at least one image of the chick, and it is transmitted to the computerized image processor compares the at least one image of the chick to the database of images to detect a deviation from the database of images.

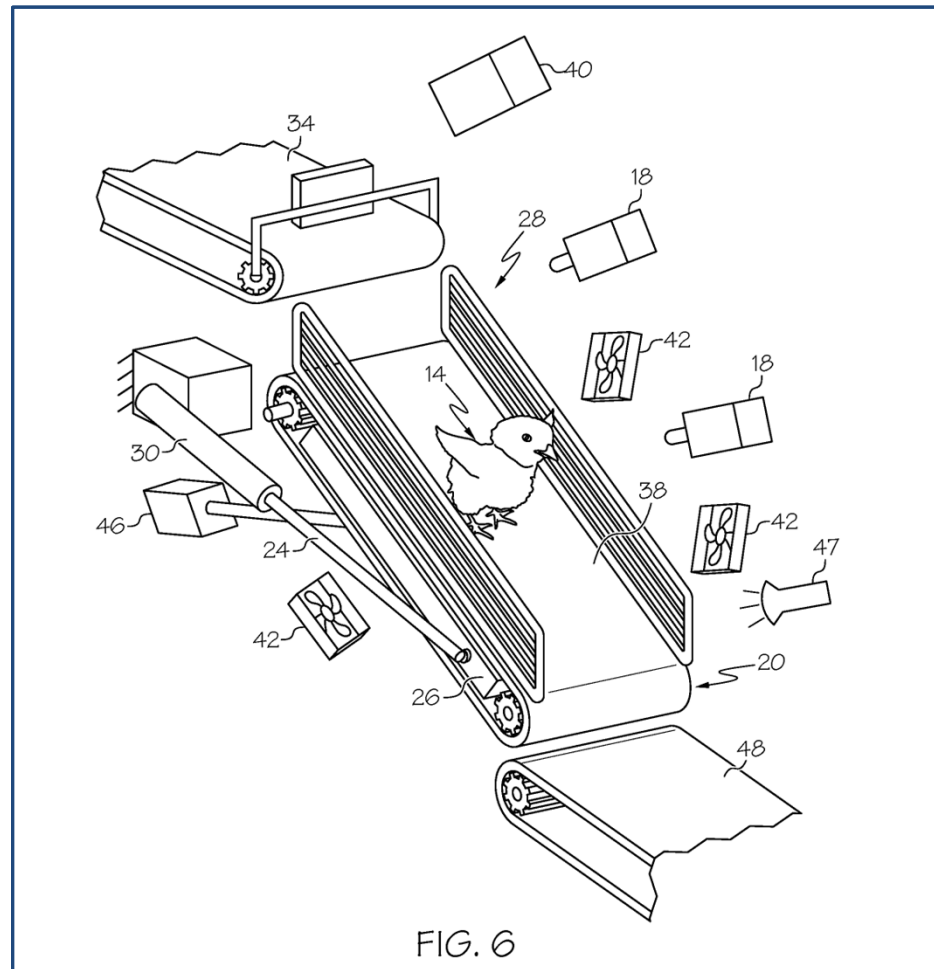
Ex. 1001 at Claim 6

Independent Claim 9

9. A system of sorting chicks on the basis of a predetermined feature of a chick comprising:
a moving platform to support an unrestrained chick of a particular breed;
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;
a computer processor in communication with the image capture device, the computer processor having a database of images of a predetermined feature of a chick therein, the computer processor capable of processing images and determining deviation from the database of images; and
removing means for removing a chick from the moving platform, the removing means in communication with the computer processor, whereby when the image capture device takes an image of the chick and transmits it to the computer processor, the computer processor processes the image and determines any deviation of the image from the database of images, if a deviation is detected, the computer processor communicates with the removing means to remove the chick from the moving platform.

Ex. 1001 at Claim 9

Overview of the '124 Patent



Ex. 1001 ('124 patent) at Fig. 6

Summary of the Prior Art

Gershman

Chick placed on stationary plate

Chickens were placed on plate manually and was pushed down from a height of 20 cm on the shock absorbers (Fig. 3).

Ex. 1003 (Gershman) at 5; POR at 32-33

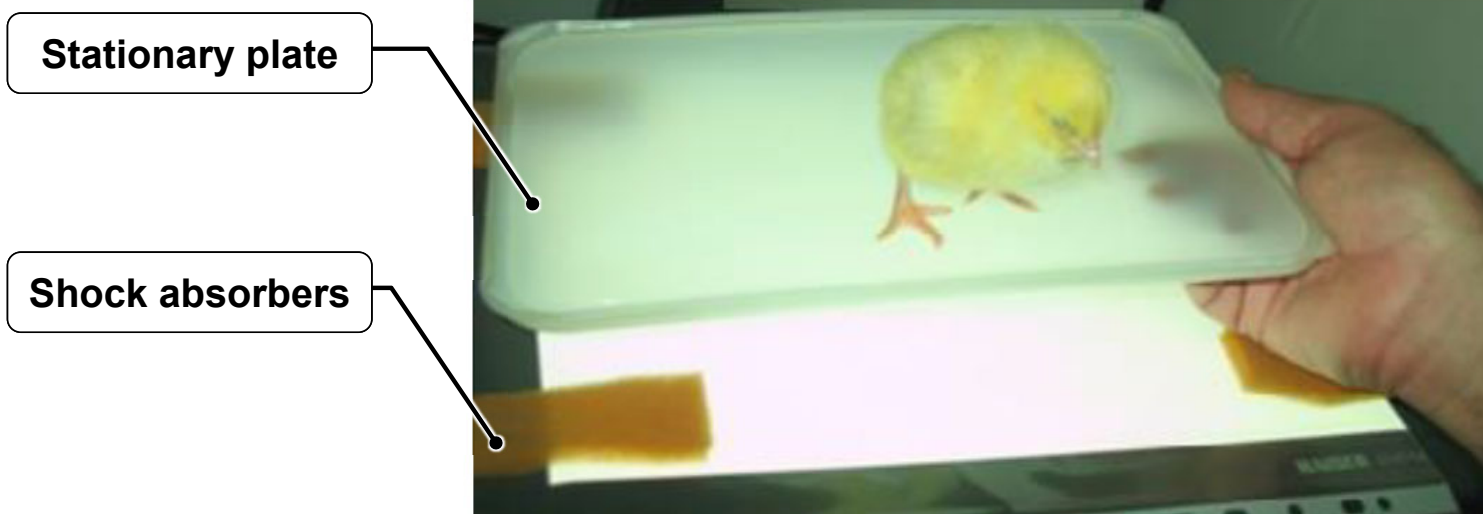


Fig.3 Chick on plate. Light radiates from the bottom

Ex. 1003 (Gershman) at 5; POR at 32-33

Gershman

To ensure sharp fall of plate it is possible to use mechanical activator (for example, a cylinder with a flexible wheel at the end of the pusher), which will provide the initial acceleration, a little **more than g**. In the result of this feet of chicks will be **without support** and they reflexively will open their wings.

It is logical to propose, that in order to secure the symptoms of reflex opening of the wings legs should **lose support faster than they can move down**.

Ex. 1003 (Gershman) at 3; POR at 34-35

Yavnai

Chick enters
conveyor between
poles (64)

Chick subject to
vibrations while
between poles

Chick is
imaged while
between poles

Chick is
imaged

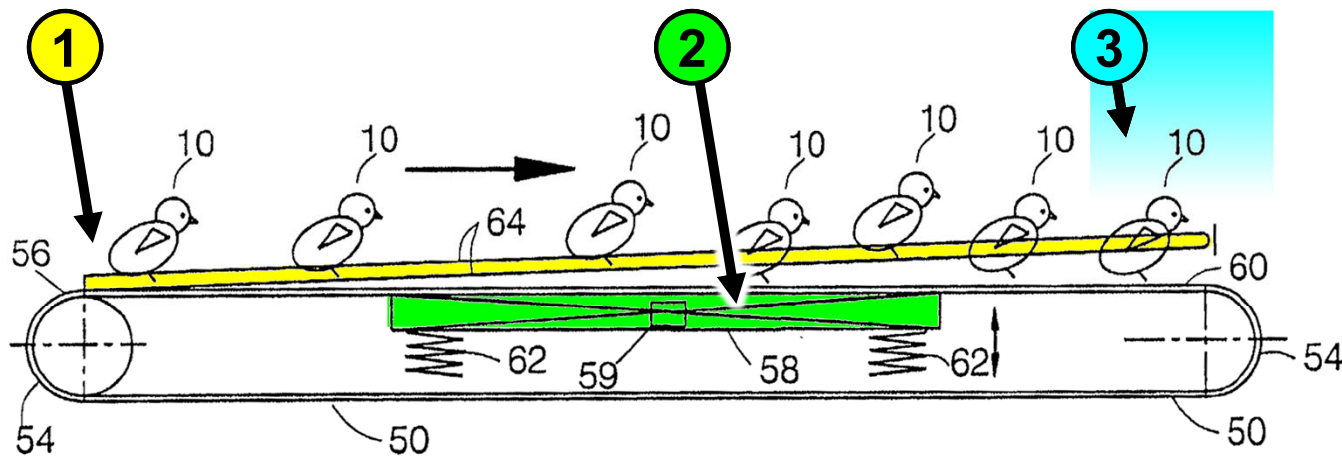


FIGURE 5A

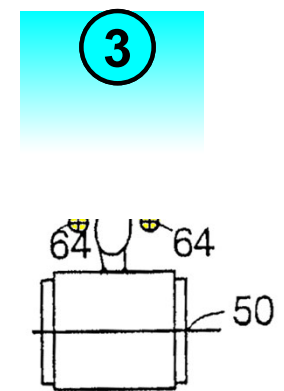


FIGURE 5B

Ex. 1004 (Yavnai) at Figs. 5A-5B (annotation added); POR at 4-6

Pierre

(19) FRENCH REPUBLIC	(11) Publication No.: 2 909 836
NATIONAL INSTITUTE OF INDUSTRIAL PROPERTY	(for use only with reproduction orders (21) National registration no.: 06 11050
PARIS	(51) Int. Cl. A 01 K 45/00 (2006.01)
(12)	INVENTION PATENT APPLICATION A1
(22) Submission Date: 12.15.06 Corporation—FR (30) Priority:	(71) Applicant(s): VISIO NERF,
(43) Application publication date: 06.20.08 Bulletin 08/25	(72) Inventor(s): ROBERT PIERRE and SOMVILLE OLIVIER
(56) List of documents cited in the preliminary research report: <i>This had not been prepared at the date of publication of the application</i>	(73) Holder(s):
(60) References to other related national documents:	(74) Representative(s): THIBON
LITTAYE	
METHOD AND INSTALLATION FOR THE EXAMINATION OF BIRD PLUMAGE The invention is applied specifically to the examination of chicks in industrial breeding centers. Each bird is placed under conditions in which it will open its wings, specifically by putting it into a situation where it is falling, across from a digital open wing image capturing camera, and the image is compared to a reference captured by the camera which is automatically selected to match an optimal open wing span of the bird.	
[Bar code]	

FR 2 909 836 - A1

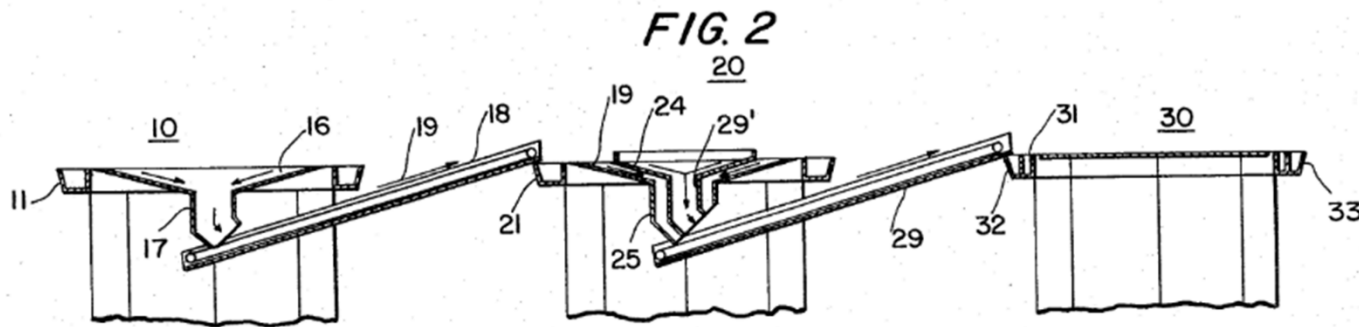
Exhibit 1004 (page 2)

... [T]o submit the image thus captured to automated image processing involving **a comparison with a reference image**, from which a characteristic to be assigned to the bird is deduced.

Ex. 1004 (Pierre) at 4; POR at 40

Goodwin

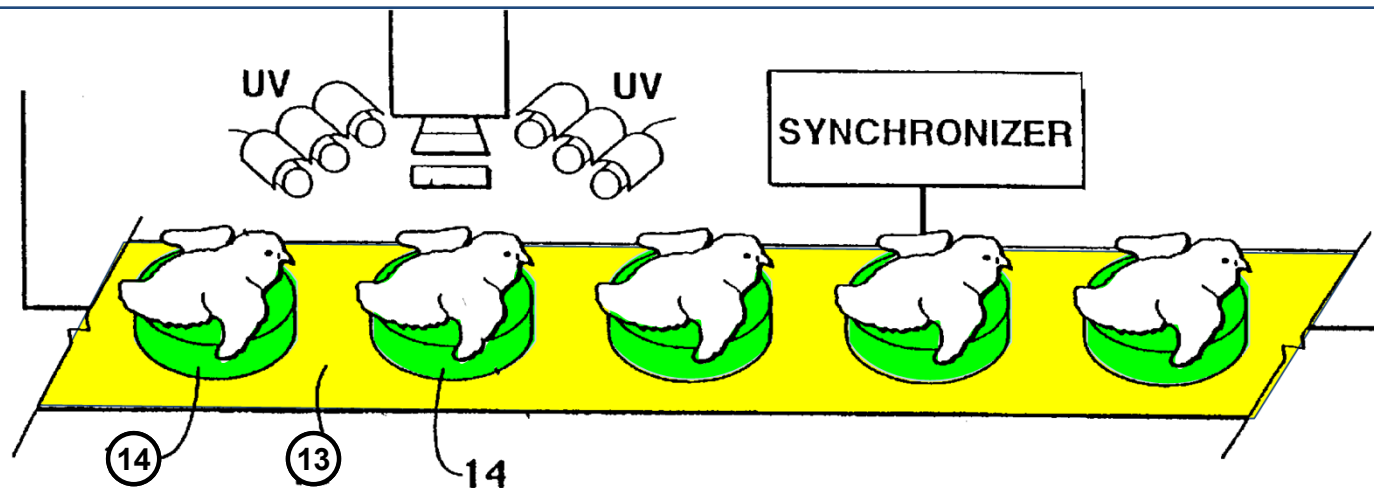
The chick processing system of this invention illustrated in FIGS. 1 and 2, comprises three operating stations, the first being a debaker station 10, the second being a sexing station 20 and a third being a vaccinator and packing station 30.



Ex. 1007 (Goodwin) at 1:48-52; Fig. 2; POR at 18

Tao

Referring to the drawings, and particularly FIG. 1, automatic feather sexing apparatus 11 is shown in schematic form wherein chicks about one day old are individually transported on **a conveyor 13** **having appropriate chick retainers 14.**



Ex. 1006 (Tao) at 3:62-66, Fig. 1 (cropped and annotation added); POR at 31

**Grounds 1, 4, 6-7 Fail Because Gershman Does Not Disclose
a “moving platform to support an unrestrained chick”**

The “Moving Platform to Support an Unrestrained Chick” Limitation

- All claims require a “moving platform to support an unrestrained chick” (Claims 1 & 9) or “moving platform upon which an unrestrained chick is supported” (Claim 6)
- Petitioners agree these limitations require the platform to be both *moving* **and** *supporting* the chick at the same time; not just movable

However, **Petitioner never argued that the prior art need only show a “moveable” platform, and thus the discussion is irrelevant to the Petition.**

Reply at 8 (first emphasis in original)

Petition Identified No *Moving* and *Supporting* Platform in Gershman

- Petition did not identify a platform that is both moving and supporting the unrestrained chick at any time in Gershman

Gershman discloses a moving plate with a surface upon which a chick is placed. The movement of the plate transports the chick from a first location to a second location via a mechanical activator. (Ex. 1003, page 5 (Materials and Methods).)

Petition at 22

Chick Is Supported on a Stationary Plate

Step 1:

chick is supported on
a ***stationary*** plate



Ex. 1003 (Gershman) at 5; POR at 32-33

Q. And at that point, **when the chick is placed on the plate, the plate is stationary, right?**

A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 32:25-33:6; Sur-Reply at 4

When the Plate is Moving, the Chick Is Not Supported

- **Step 2**: Plate accelerates downward faster than the chick's free fall (gravity) and the chick is “**without support**”

To ensure sharp fall of plate it is possible to use mechanical activator (for example, a cylinder with a flexible wheel at the end of the pusher), which will provide the initial acceleration, a little **more than g**. In the result of this feet of chicks will be **without support** and they reflexively will open their wings.

Ex. 1003 (Gershman) at 5; POR at 33-35

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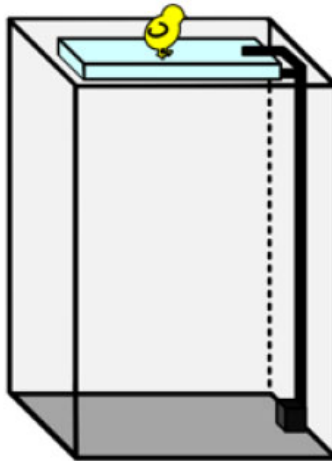
Ex. 1003 (Gershman) at 5; POR at 33-35

Gershman Plate Is Never Both Moving and Supporting the Chick

- The Gershman plate is either stationary and supporting the chick, or moving and not supporting the chick -- **never both moving and supporting the chick**

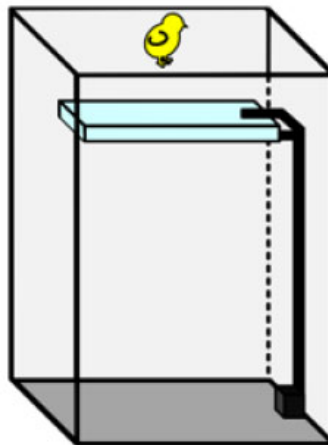
Step 1

- Stationary plate
- Chick is supported



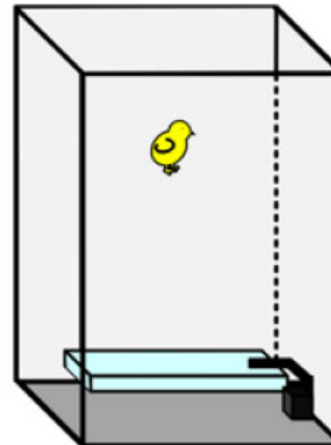
Step 2

- Moving plate
- Chick is not supported (in free fall)



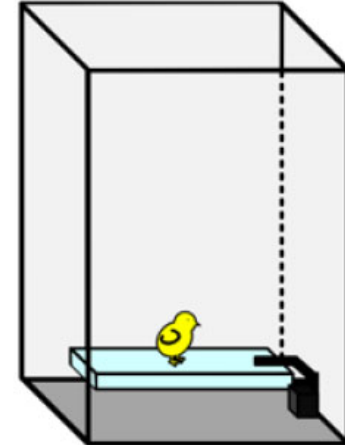
Step 3

- Stationary plate
- Chick is not supported (still in free fall)



Step 4

- Stationary plate
- Chick is supported



Ex. 2002 (Keener Decl.) ¶¶39-47; POR at 2-3

Petitioners' Reply Points to Embodiments Not Actually Disclosed in Gershman

- Petitioners cannot now assert new theories for how there is a platform that moves and supports, but they try to do just that on Reply
- Petitioners point to two new alleged Gershman implementations that:
 - are ***not actually disclosed*** in Gershman
 - that were ***read-into Gershman*** by their new expert

Petitioners' Reply: First New Read-In Embodiment

- First Newly Read-In Embodiment:
A Gershman plate that moves back up to the top while supporting the chick

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.**

Reply at 10

Mr. LeCroy Admits He Read the Upward Movement Embodiment into Gershman

- Petitioners' expert, Mr. LeCroy, admitted he read the upward movement embodiment into Gershman:

Q. Okay. So **this embodiment where the chick is lifted back upwards on the plate, this is something that you're reading into the Gershman** reference based on your background and understanding. Is that fair?

A. **That's fair.**

Ex. 2008 (LeCroy Tr.) at 39:5-12; Sur-Reply at 5-6

Mr. LeCroy Admitted Gershman Does Not Disclose an Upward Movement Embodiment

- Mr. LeCroy admitted that Gershman does not disclose the upward movement embodiment

Q. Okay. Gershman, you'd agree, **doesn't state anywhere that the moving plate will come back up** after the drop, right?

A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 38:22-25; Sur-Reply at 5-6

Petitioners' Reply: Second Read-In Embodiment

- Second Newly Read-In Embodiment: Decelerating the chick with shock absorbers while it is on the plate

[I]t 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.

Reply at 9-10

Targan, Inc.,
Patent Owner:

Case IPR2024-00595
U.S. Patent No. 10,806,124

PETITIONERS' REPLY

Mr. LeCroy Admits Gershman Does Not Disclose Decelerating the Chick with Shock Absorbers

- Mr. LeCroy admits Gershman does not disclose decelerating the chick with shock absorbers:

Q. Okay. But **would you agree, yes or no, that Gershman doesn't state anywhere that the purpose of the shock absorbers is to decelerate the chick?**

[Attorney objection omitted]

A. I would say it is – he does not state that, **correct.**

Ex. 2008 (LeCroy Tr.) at 37:4-10; Sur-Reply at 6-7

Gershman Teaches the Chick Will Not Be on the Plate When It Hits the Shock Absorbers

- Gershman actually teaches that the chick will *not* be on the plate when the plate hits and absorbs the shock of the drop
- Mr. LeCroy admitted that the plate will hit the shock absorbers first:

Q. So given all that, it's accurate, right, **that the plate is going to hit the shock absorbers before the chick does, right?**

A. That's to make an assumption that the plate is not going to decelerate, **correct.**

Ex. 2008 (LeCroy Tr.) at 36:8-12; Sur-Reply at 7

The Purpose of the Shock Absorbers Is to Absorb the Shock on the Plate

- The thin shock absorbers are there to absorb the shock on the plate



Fig.3 Chick on plate. Light radiates from the bottom

Ex. 1003 (Gershman) at 5; Sur-Reply at 6-7

The Chick Is Not Placed on a Plate that Is Already Moving

- The Reply relies on a statement in Gershman stating that “Chicken are placed on a moving plate” as suggesting the plate is moving when the chick is placed on it
Ex. 1003 (Gershman) at 3; Reply at 1-2, 8
- Petitioners’ expert admitted the chick is placed on a stationary plate:

Q. And at that point, **when the chick is placed on the plate, the plate is stationary, right?**

A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 32:25-33:6; Sur-Reply at 4

Gershman Does Not Disclose the Additional Limitation of Dependent Claim 3

3. The system of claim 1 wherein **the stimuli** may be one or more of the following group: **an angled conveyor, a vibrating conveyor, a strobe light, or a stream of air blowing on the chick.**

Ex. 1001, Claim 3

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
a computer processor having a database of images of male and female wing patterns for the particular breed, the computer

Ex. 1001, Claim 3

- *First*, Petitioners contend that Claim 3 can be satisfied without using any of the recited stimuli, improperly rendering Claim 3 superfluous (Reply at 11)

Wasica Finance GmbH v. Continental Automotive Systems, Inc. 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017) (“It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.”); Sur-Reply at 8

Gershman Does Not Disclose the Additional Limitation of Dependent Claim 3

3. The system of claim 1 wherein **the stimuli** may be one or more of the following group: **an angled conveyor, a vibrating conveyor, a strobe light, or a stream of air blowing on the chick.**

Ex. 1001, Claim 3

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
a computer processor having a database of images of male and female wing patterns for the particular breed, the computer

Ex. 1001, Claim 1

- *First*, Petitioners contend that Claim 3 can be satisfied without using any of the recited stimuli, improperly rendering Claim 3 superfluous (Reply at 11)

Wasica Finance GmbH v. Continental Automotive Systems, Inc. 853 F.3d 1272, 1288 n.10 (Fed. Cir. 2017)
("It is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.")

- *Second*, Petitioners identify the stimulus for Claim 3 as an air blower, but there no disclosure air blower in Gershman is designed to or will cause the chick to open its wings, nor any reason to do so

**Ground 2 & 8 Fail Because Yavnai Does Not Disclose an
“Unrestrained Chick”**

Yavnai Fails Because the Chick Is Restrained By Poles

- The claims require an “unrestrained chick,” but the chick in Yavnai is restrained by poles (64)

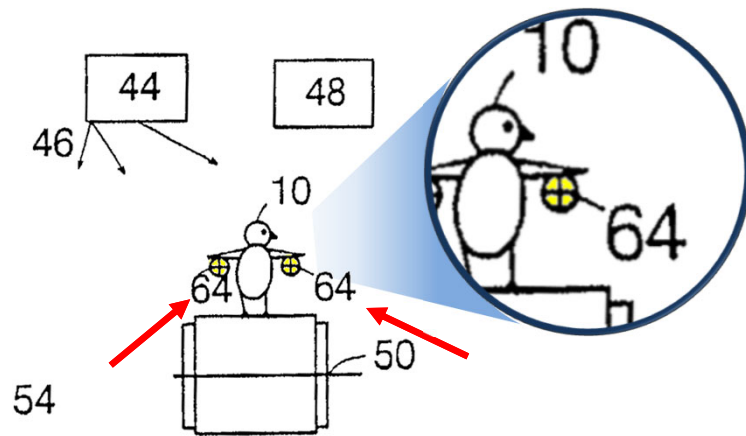


FIGURE 5B

Ex. 1005 (Yavnai) at Fig. 5B (annotation added); POR at 45

Yavnai Fails Because the Chick Is Restrained By Poles

- The claims require an “unrestrained chick,” but the chick in Yavnai is restrained by poles (64)

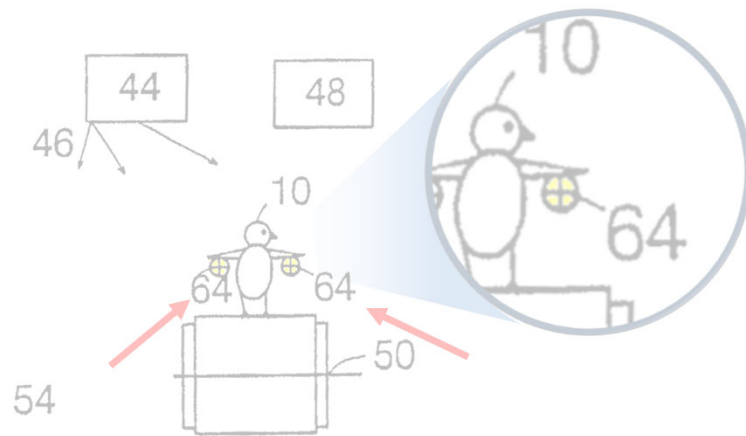


FIGURE 5B

Ex. 1005 (Yavnai) at Figs. 5A-5B; POR at 45

- Mr. LeCroy admitted the Yavnai poles **prevent the chick from freely moving its wings**:

Q. Okay. Well, and you would agree, right, that the poles under the chick's wings will **prevent it from moving its wings freely**, right?

A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 23:9-12; Sur-Reply at 10

The Chick Is Restrained Under Either Party's Proposed Construction

“Unrestrained Chick” (Claims 1, 6, 9):

Petitioners' Proposed Construction

“a chick that is ***able to freely move its wings*** while on the moving platform”

Petition at 19

PO's Proposed Construction

a chick that is “***free to move as it naturally can*** while on the moving platform”

POR at 25

Q. Okay. Well, and you would agree, right, that the poles under the chick's wings will ***prevent it from moving its wings freely***, right?

A. ***Correct.***

Ex. 2008 (LeCroy Tr.) at 23:9-12; Sur-Reply at 10

The Poles “Support” by Keeping the Wings Open

- The ID noted that Yavnai states that the poles “support” the chick, and does not use the word “restrain”:

Yavnai, however, uses the word “support” rather than “restrain.” Yavnai states the [p]oles support the spread wings while... [a] camera photographs the wing tips of [a] chick.” *Id.* ¶ 42; *see also id.* at 42

Paper 9 (Institution Decision) at 20-21

- But, Mr. LeCroy admitted that the way the poles “support” the chick by keeping the wings open (*i.e.*, restricting their movement):

Q. And the poles keep the chick’s wings open, right?

A. It appears that they’re supporting the wings.

Q. **And the way they support it is they keep the chick’s wings open, right?**

A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 22:1-7; Sur-Reply at 11-12

Mr. LeCroy Admitted the Chick's Wings Are Restricted

- Mr. LeCroy admitted the movement of the chick's wings is restricted by the poles:

Q. When the poles are under the chick's wings, the **movement of the wings is going to be restricted**, right?

A. Correct.

Ex. 2008 (LeCroy Tr.) at 23:17-20; Sur-Reply at 14

The Purpose of the Poles Is to Keep the Wings Open

- Mr. LeCroy admitted that the purpose of the poles is to ensure the chick does not close its wings:

Q. And another **purpose** of the poles, 64, is to **ensure that the chick does not close its wings**, right?

A. I would say that's the intention, **correct**.

Ex. 2008 (LeCroy Tr.) at 22:8-11; Sur-Reply at 10-11

Yavnai Does Not Work Unless the Chick's Wings Are Held Open

- Mr. LeCroy admitted that the system of Yavnai is not going to work unless the chick's wings are open:

Q. Because the system **isn't going to work unless the chick's wings are open**, right?

[Attorney objection omitted]

A. The system **needs the chick's wings to be open**, **correct**.
And the bars are there to support the chicks, chick's wings, correct.

Ex. 2008 (LeCroy Tr.) at 23:3-8; Sur-Reply at 11-12

The Prosecution History Shows “Unrestrained” Was Added to Distinguish Yavnai

- The prosecution history confirms the chick in Yavnai is restrained because the applicant narrowed the pending claims to recite an “unrestrained chick” specifically to distinguish Yavnai

In addition, **Yavnai et al. teaches restraining a chick** through the use of poles 64 or cups 40 to restrain the chick in order to cause the chick to open its wings. **Amended claim 1 is directed to a system having a moving platform to support an unrestrained chick.**

Ex. 1002 at 196; POR at 50

- After the amendment, the Examiner then allowed the claims stressing how “an unrestrained” chick was not disclosed in the prior art:

The closest prior art of record, namely Tao et al. (US 6,396,938 B1) **Yavnai** et al. (US 2001/0035370 A1), and/or Yakov Gershman, Non Patent Literature Document, entitled “A simple way to determine the sex of one-day poultry chickens (basic principles)”, **do not disclose, teach or suggest, a moving platform to support an unrestrained** chick of a particular breed; and a computer processor having database . . .

Ex. 1002 at 196; POR at 50

No Dispute that the Chick Is Restrained at the Point of Imaging

- PO submits that the claims require that the chick be unrestrained when the chick is imaged (POR at 44-48)
- In light of Petitioners' expert's admissions and Dr. Keener's testimony, there is no dispute the chick is restrained at the point of imaging:

Q. When the poles are under the chick's wings, the **movement of the wings is going to be restricted**, right?

A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 23:17-20; Sur-Reply at 14

Q. Okay. Well, and you would agree, right, that the poles under the chick's wings will **prevent it from moving its wings freely**, right?

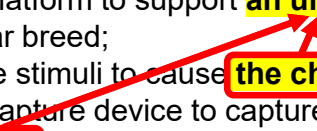
A. **Correct.**

Ex. 2008 (LeCroy Tr.) at 23:9-12; Sur-Reply at 10

PO's Construction Is Correct Under Basic Antecedent Basic Principles

- The claims require the chick to be unrestrained during stimulation and image capture
- This is because the antecedent bases for “the chick” that is stimulated and imaged is the “unrestrained chick”

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



Ex. 1001 ('124 patent) at Claim 1 (annotation added); Sur-Reply at 15-17

Petitioners Are Wrong That the Preamble Provides Antecedent Basis

- Petitioners argues the chick can be unrestrained prior to image capture and restrained during image capture (Reply at 6-7, 14)
- Petitioners argue that the antecedent basis for “the chick” is the “chick” recited in the preamble

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

- Petitioners ignore that after the recitation of “a chick” in the preamble the first claim element limits the chick to an “unrestrained chick”

Petitioners' Argument Is Also Contrary to Law

- *Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC*, 962 F.3d 1362 (Fed. Cir. 2020) controls
- Presented a similar situation where a party attempted to argue antecedent basis for an element was found in the preamble rather than in the first recitation of the element:

1. An internally illuminated **textile footwear** comprises:
a footwear;
the footwear comprises a sole and an upper; ...

Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC,
962 F.3d 1362, 1365 (Fed. Cir. 2020) (reciting Claim 1 of the '038 patent); Sur-Reply at 15-17

Shoes by Firebug

- The Federal Circuit rejected this argument because the claim *reintroduced* “a footwear,” which created the antecedent basis

“Notably, the first limitation of the body of claim 1 of the [] patent **reintroduces** ‘a footwear’ which ‘comprises a sole and an upper.’ The **preamble, then, cannot be said to provide essential structure or necessary meaning** to the claimed invention because the same element—the footwear—is **independently recited in the body of the claim.**”

Shoes by Firebug LLC v. Stride Rite Children’s Grp., LLC,
962 F.3d 1362, 1367-68 (Fed. Cir. 2020); Sur-Reply at 15-17

1. An internally illuminated ~~**textile footwear**~~ comprises:

a footwear;

the footwear comprises a sole and an upper; ...

Shoes by Firebug, 962 F.3d at 1365 (annotation added); Sur-Reply at 16

Antecedent Basis for “The Chick” Is the “Unrestrained Chick”

- The same applies here: “an unrestrained chick” reintroduces the chick and is the antecedent basis
- The non-limiting preamble cannot provide antecedent basis

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 ...

not a claim element

reintroduction

Reply at 6 (annotation added)

***Firebug* Confirms the Antecedent Basis for “The Chick” Is the “Unrestrained Chick”**

- *Shoes by Firebug* also presented an example of when a preamble *can* provide the antecedent basis and it is inapplicable here

1. An internally illuminated **textile footwear** comprises:

the illumination system being housed within **the footwear**; and

Shoes by Firebug LLC v. Stride Rite Children's Grp., LLC,
962 F.3d 1362, 1365 (Fed. Cir. 2020) (reciting Claim 1 of the '574 patent)

Unlike claim 1 of the '038 patent, **claim 1 of the '574 patent does not reintroduce “footwear” in the body of the claim but instead relies on the instance of “footwear” introduced in the preamble for “antecedent basis.”** ... The first and only reference to footwear in the body of claim 1 appears in a limitation describing the configuration of the illumination system (“the illumination system being housed within the footwear”)

Id. at 1368

Yavnai Also Fails Under Petitioners' Construction

- Petitioners argue the chick can be unrestrained prior to image capture and restrained during image capture (Reply at 6-7, 14)
- Yavnai still fails under this construction because the chick is restrained from the start of the conveyor to force it into the position needed for stimulation and imaging

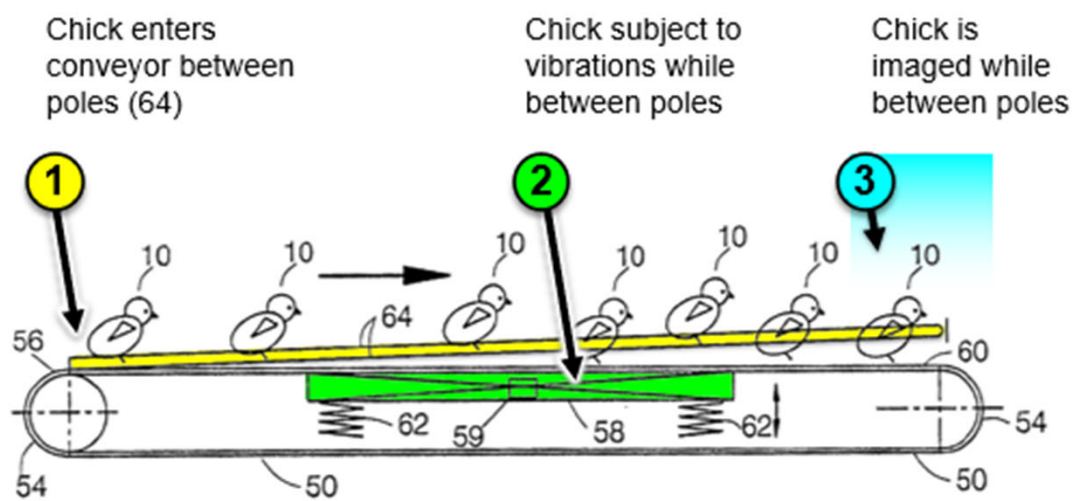


FIGURE 5A

Ex. 1005 (Yavnai) at Figs. 5A (annotation added); POR at 17

The Chick Must Be Restrained Over the Whole Conveyor

- Dr. Keener explained it is necessary for poles to immediately restrain the chicks from lateral motion to keep them in alignment

As shown in Figures 5A-B, and as a POSITA would understand, **when the chick is placed on the conveyor belt, the poles immediately restrain the chick's feet and legs laterally**, thereby restricting the chick's lateral movement so that the chick remains in alignment for the angled poles to restrain the chick's wings.

Ex. 2002 (Keener Decl.) at ¶¶99; POR at 17

- The poles immediately prevent the chick from running off the conveyor prior to imaging

The Poles Must Restrain the Chicks Laterally or They Could Run Off the Conveyor

- Mr. LeCroy confirmed that the system of Yavnai is not designed to let the chick run away before the photo is taken:

Q. But we could agree, right, that the Yavnai system **isn't designed such that the chick should be able to run away** before the image is taken of the chick, right?

A. I would say the **intention is for it not to run away, yes.**

Ex. 2008 (LeCroy Tr.) at 29:24-30:4; Sur-Reply at 14-15

**All Grounds Fail Because Pierre Does Disclose or Render Obvious
Any of the Database Limitations**

All Independent Claims Recite Use of a Database with Specific Types of Images

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
a computer processor having **a database of images of male and female wing patterns for the particular breed**, the computer processor in communication with the image capture device, whereby the image capture device captures at least one image of the chick and transmits it to the computer processor where the image is processed and compared to the database to determine the sex.

6. A system for determining the health of a day old chick comprising:
a moving platform upon which an unrestrained chick is supported;
image capturing device to capture at least one electronic image of the chick;
computerized image processor in communication with the image capture device, the computerized image processor having access to **a database of images of healthy and unhealthy chicks of the same breed**, whereby the image capture device captures at least one image of the chick, and it is transmitted to the computerized image processor compares the at least one image of the chick to the database of images to detect a deviation from the database of images.

9. A system of sorting chicks on the basis of a predetermined feature of a chick comprising:
a moving platform to support an unrestrained chick of a particular breed;
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;
a computer processor in communication with the image capture device, the computer processor having **a database of images of a predetermined feature of a chick therein**, the computer processor capable of processing images and determining deviation from the database of images; and
removing means for removing a chick from the moving platform, the removing means in communication with the computer processor, whereby when the image capture device takes an image of the chick and transmits it to the computer processor, the computer processor processes the image and determines any deviation of the image from the database of images, if a deviation is detected, the computer processor communicates with the removing means to remove the chick from the moving platform.

Ex. 1001 ('124 patent) at Claim 1, 6, & 9

All Grounds Rely on Pierre as Rendering Obvious the Claimed Database Limitations

- All grounds rely on Pierre as rendering obvious the database limitations
- But, nowhere does Pierre disclose use of a database, much less of the specific claimed images POR at 39-41
- Pierre *does not even mention* the word “database,” nor does it render use of such a database obvious, as PO’s database expert’s unrebutted declaration explained Ex. 2003 (Karam Decl.) ¶¶46-49; POR at 40-41

The Petition's Attorney Argument Regarding Pierre

- The Petition relied exclusively on attorney argument to contend it would have been obvious to modify Pierre to include the claimed databases
- The attorney argument relied on a misreading of Pierre as using within a single system multiple references images

However, Pierre teaches the use of “reference images recording a specific state” of a bird. (Ex. 1004, page 3.) **It would have been obvious to store a collection of reference images in a database in order to organize the collection of reference images.** The reference images demonstrate variations in feathers that are attributed to the sex of a chick. (*Id.*, page 3.)

Petition at 23

Petitioners Misread Pierre

- PO's database expert, Dr. Karam, explained how Petitioners' attorneys are misreading Pierre's single mention of "reference images"
- A POSA would understand that different systems implementing Pierre may each use a different reference image depending on the application that the particular system is designed for

While Pierre makes one reference to "reference images", it is merely recognizing the fact that **the single reference image that the system uses may depend on what the system is designed to analyze** (e.g., the type or state of animals being examined). But in the end, the system compares only the individual captured images of the chick to a single "reference image" (not a database or anything equivalent thereto).

Ex. 2003 (Karam Decl.), ¶49; POR at 4, 41-42

Pierre Compares a “Reference Image” to the Captured Chick Image

as signifying an optimal development span, and to submit the image thus captured to automated image processing involving **a comparison with a reference image**, from which a characteristic to be assigned to the bird is deduced.

Ex. 1004 (Pierre) at 4

Ex. 1004 (Pierre) at 4-5, 8; Ex. 2003 (Karam Decl.) at ¶46; POR at 40-41

Pierre Compares a “Reference Image” to the Captured Chick Image

as signifying an optimal development span, and to submit the image thus captured to automated image processing involving a **comparison with a reference image**, from which a characteristic to be assigned to the bird is deduced.

in order to **compare an image** of opened wings captured by said camera selected for each bird being examined, in order to correspond to an optimal span of wing development, **with a reference image** and to deduce from said comparison a

Ex. 1004 (Pierre) at 4

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in order to **compare an image** of opened wings captured by said camera selected for each bird being examined, in order to correspond to an optimal span of wing development, **with a reference image** and to deduce from said comparison a

conducted by directing the examination to the open wings such that the **image** captured for image processing may be optimal for **comparison with a reference image useful for each specific application.**

Ex. 1004 (Pierre) at 5

Ex. 1004 (Pierre) at 4-5, 8; Ex. 2003 (Karam Decl.) at ¶46; POR at 40-41

Pierre Compares a “Reference Image” to the Captured Chick Image

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in order to **compare an image** of opened wings captured by said camera selected for each bird being examined, in order to correspond to an optimal span of wing development, **with a reference image** and to deduce from said comparison a

conducted by directing the examination to the open wings such that the **image** captured for image processing may be optimal for **comparison with a reference image** useful for each specific application.

For this purpose, the capturing of the digital image used for processing by **comparison with a reference image** may specifically be done so as to reveal

Ex. 1004 (Pierre) at 5

Ex. 1004 (Pierre) at 4-5, 8; Ex. 2003 (Karam Decl.) at ¶46; POR at 40-41

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For this purpose, the capturing of the digital image used for processing by **comparison with a reference image** may specifically be done so as to reveal

retained to an automatic image processing involving a **comparison with a reference image** from which is deduced a characteristic to be assigned to the bird.

Ex. 1004 (Pierre) at 4-5, 8; Ex. 2003 (Karam Decl.) at ¶46; POR at 40-41

No Motivation to Store a Single Reference Image in a Database

- Because a system implementing Pierre would use only a single reference image there would be no motivation to store it in a database

A POSITA would have understood that **databases include a level of organization and/or structure that is not needed in Pierre** at least because the captured images of Pierre are only ever compared with a single “reference image”.

Ex. 2003 (Karam Decl.) ¶47; POR at 40-41

Dr. Karam's Opinions Stand Unrebutted

- The Reply does not mention Dr. Karam's declaration at all, much less rebut any of her opinions
- Tellingly, Petitioners new expert did not submit any opinions regarding whether Pierre disclosed or rendered obvious a database
- Indeed, Mr. LeCroy admitted he did not even read Dr. Karam's declaration:

Q. And you never reviewed the declaration of Dr. Lina Karam submitted by patent owner? Is that right?

A. **I did not.**

Ex. 2008 (LeCroy Tr.) at 19:12-15; Sur-Reply at 2

Pierre Does Not Disclose or Render Obvious a Database with the Specific Images Recited

- The required database must include images of “male and female” wing patterns (Claim 1) or “healthy and unhealthy” (Claim 6) chicks
- Pierre does not disclose or render obvious a database storing both types of images because it uses a single reference image

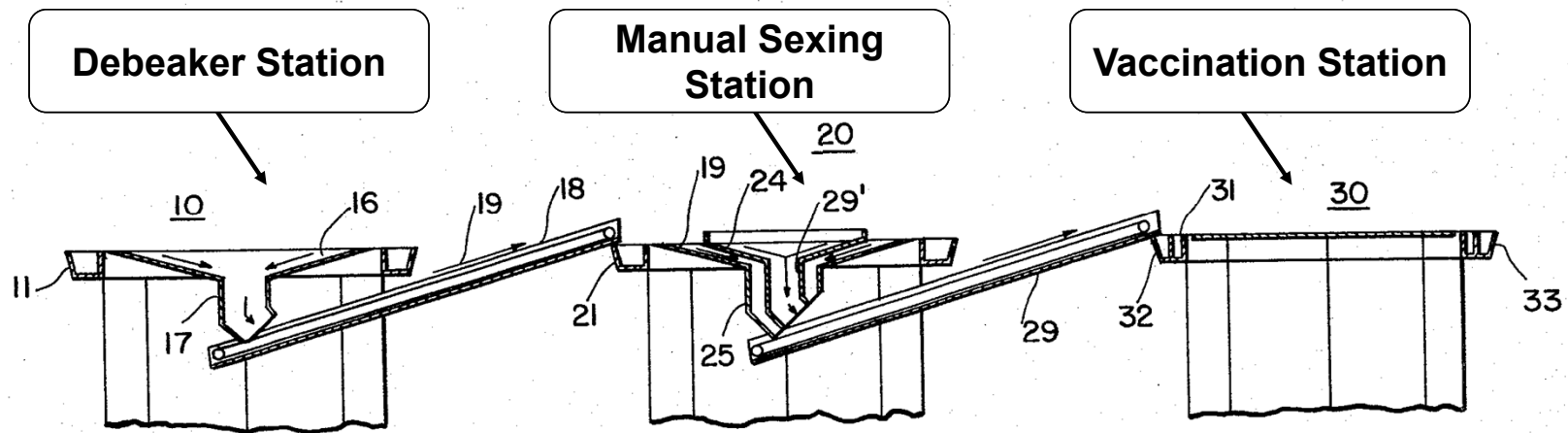
compared with “reference images” in the plural form. More specifically, for purposes of claims 1-5, the **single “reference image” of Pierre could only be, at best, either a male or female, but not both.** Similarly, for purposes of claims 6-8, the single “reference image” **could only be, at best either healthy or unhealthy chick, but not both.** While Pierre makes one reference to “reference images” it is merely

Ex. 2003 (Karam Decl.), ¶49; POR at 4, 41-42

Ground 3: Pierre + Goodwin
Ground 5: Pierre + Goodwin + Tao

Goodwin's Manual Sexing System

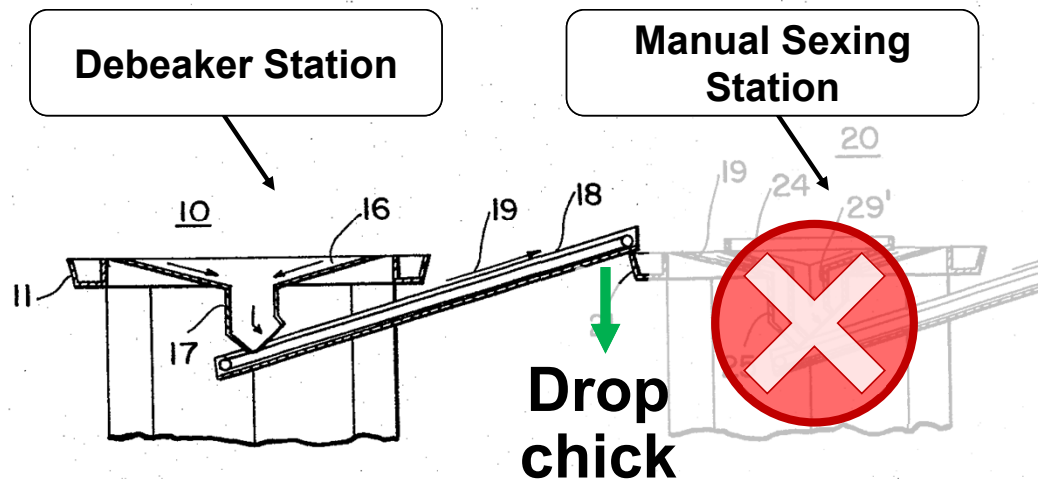
- The ID did not reach the merits of the Grounds based on Goodwin (3 & 5)
- Goodwin is directed to a manual examination chick sexing system with no stimulating and no imaging of a chick:



Ex. 1007 at Fig. 2 (annotation added); POR at 62-64

Petitioners Proposed Extensive Modifications to Goodwin

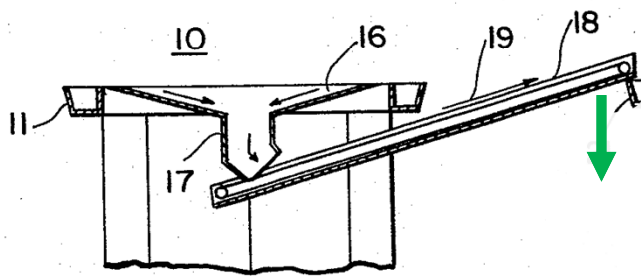
- Petitioners argue that a POSA would be motivated to and have a RES in modifying Goodwin to convert it into an automated system like Pierre
- Petitioners propose extensive modifications wherein the manual sexing station is removed, and the chick falls off the first conveyor to have its picture taken



Ex. 1007 at Fig 2 (annotation added); Petition at 31

Goodwin as Modified Does Not Disclose the “Moving Platform” Limitations

- Even if the POSA would modify Goodwin as Petitioners propose, Grounds 3 & 5 still fail because the system does not include a “moving platform **to support** an unrestrained chick”
- As discussed *supra*, the claims require that the image be taken of an unrestrained chick *supported* by a moving platform
- In Petitioners’ proposed mortification the chick is no longer supported by the moving platform when its image is taken



**Chick is not supported
on a moving platform**

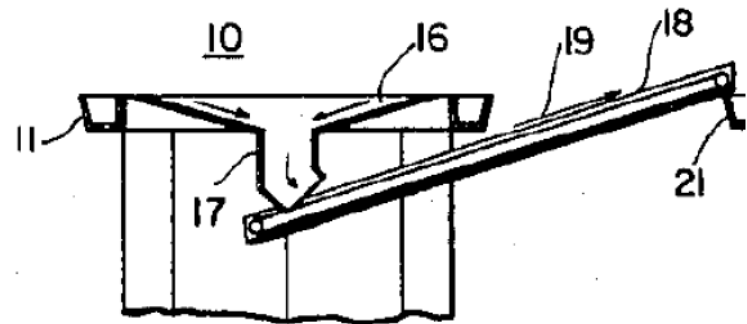
Ex. 1007, Fig. 2 (annotation added); Ex. 2002 (Keener Decl.) ¶165; POR at 52, 62-64

A POSA Would Not Be Motivated to Combine Goodwin and Pierre

A Goodwin-Pierre System Would Increase the Risk of Injury

- Dropping chicks off of Goodwin's conveyor would increase the risk of harm to the chicks
- A key objective of the '124 Patent is to minimize the risk of harm to chicks

Additionally, Petitioner fails to account for the harm that may be caused to the chick by just being dropped off of the conveyor 18, particularly given that the conveyor 18 is substantially higher off the ground than a chick is expected to be able to fall without injury. Ex. 2002, ¶184.



Ex. 1007 (Goodwin) Fig. 2 (cropped); POR at 63

Petitioners' Belated Expert Declaration Should Be Given No Weight

Mr. LeCroy Did Not Offer Opinions From the Perspective of a POSA

- Mr. LeCroy did not recite or use either party's definition of a POSA
- Instead, he opined from the perspective of “a person working in the field of hatchery automation”

I have been asked to consider certain aspects of these documents and how a person working in the field of hatchery automation would have understood them as of November 2015, as discussed further below.

Ex. 1008 (LeCroy Decl.) ¶13; Sur-Reply at 25

- Could be a chick line operator
- Could be an undergrad student
- Could be a top professor of agricultural engineering
- Could be a senior hatchery automation engineer

Mr. LeCroy Is Not a POSA Under Petitioners' Definition

- Why did Petitioners ask Mr. LeCroy to provide opinions from the point of view of “a person working in the field of hatchery automation” rather than a person of ordinary skill in the art?
- They could not ask him to give opinions from the perspective of a POSA because *he does not meet Petitioners' definition of a POSA*

A POSITA would further be aware of image acquisition and processing techniques for automating chick assessment and chick sexing or have access to team members with this image processing knowledge.

Petition at 21

- Mr. LeCroy identified no knowledge or experience with image acquisition and processing, nor access to any team with such knowledge when opining

Ex. 1003 (LeCroy Decl.) ¶¶6-11

Petitioners' Obviousness Combinations Fail for the Additional Reason That They Have Failed to Show Motivation or RES

Petitioners Failed to Show Motivation or RES for:

Ground 1: Gershman + Pierre

Ground 7: Gershman + Pierre + Tao

The Petition Did Not Identify Any Sufficient Motivation or RES to Modify Gershman's Means of Analyzing Images

- Petitioners claim it would be obvious to add Pierre's alleged database to Gershman
- But, the Petition failed to identify why the POSA would want an additional (redundant) or alternative way of determining sex in Gershman when Gershman already discloses a computerized method of determining sex

It would have been obvious to a POSITA to store the reference images of male and female wing patterns taught by Pierre in a database in the computer of Gershman as an alternative or additional means of analyzing the image of the chick to determine the sex of the chick with a reasonable expectation of success.

Petition at 24;
see also Ex. 2003 (Karam Decl.) ¶¶48-50; Ex. 2002 (Keener Decl.) ¶¶174-75; POR at 58

Petitioners Failed to Show Motivation or RES for:

Ground 4: Pierre + Gershman

Ground 6: Pierre + Gershman + Tao

Petitioners Did Not Show any Motivation or RES for Modifying Pierre to Add Gershman's Plate

- Grounds 4 and 6 entail adding the drop plate of Gershman to the industrial system of Pierre
- These Grounds fail because the POSA would not be motivated to use Gershman's plate in the *industrial* system of Pierre

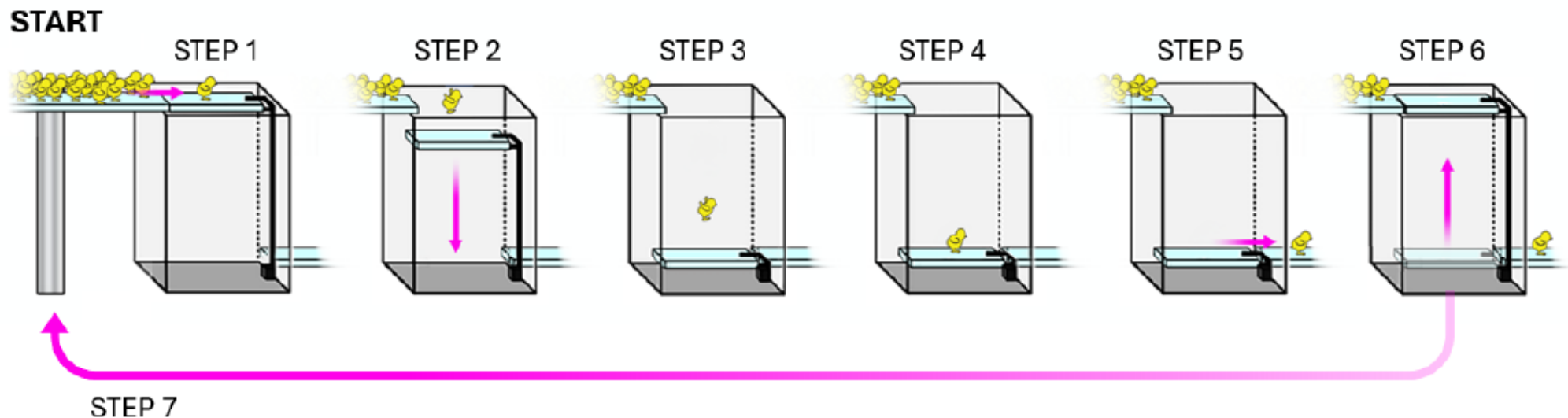
(15) FRENCH REPUBLIC NATIONAL INSTITUTE OF INDUSTRIAL PROPERTY PARIS	(11) Publication No.: (for use only with) (21) National registration no.: (51) Int. Cl. A 61 K 48/00 (2006.01)
(12) INVENTION PATENT A1	(71) Applicant(s): (72) Inventor(s): SOMVILLE OLIVIER
(22) Submission Date: 12.15.06 Correspondence—FR (30) Priority:	(73) Holder(s): (74) Representative:
(43) Application publication date: 06.20.08 Bulletin 0025 (56) List of documents cited in the preliminary research report: This list has not been prepared at the date of publication of the application (60) References to other related national documents:	
LITAYE	
METHOD AND INSTALLATION FOR THE EXAMINATION OF BIRDS The invention is applied specifically to the examination of chicks in industrial breeding centers. Each bird is placed under conditions in which it will open its wings, specifically by putting it into a situation where it is falling, across from a digital open wing image capturing camera, and the image is compared to a reference captured by the camera which is automatically selected to match an optimal open wing span of the bird.	
FR 2 909 838 - A1	
[for note]	
Exhibit 1004 (page 2)	

This invention relates to the examination of animals' plumage and to the use of the information that is detectable according to the appearance of the plumage as it can be examined using computerized means involving the analysis of digital images. Its subject is a specific technique for the examination of animal plumage, the interest in which is principally manifested in its aviculture applications, and **specifically, in industrial poultry breeding facilities.**

Ex. 1004 (Pierre) at 3

Combining Gershman with Pierre Would Result in an Unacceptably Slow System

- Using Gershman's drop plate in any industrial system would create bottlenecks that are unacceptable in an industrial system



Ex. 2002 (Keener Decl.) ¶¶167-75; POR at 54

Combining Gershman with Pierre Would Create Problems with Chick Droppings

- Using Gershman's drop plate in an industrial system would create the additional problem of a build up of chick droppings, preventing chick imaging

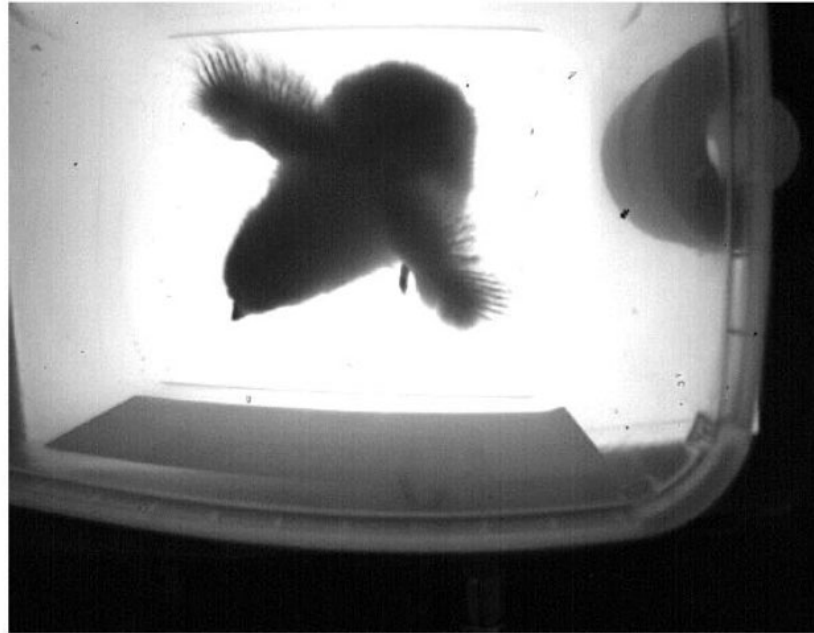


Fig. 5. Falling female chick

Ex. 1003 (Gershman) at 7; Ex. 2002 (Keener Decl.) ¶¶60, 173; POR at 56

Petitioner Failed to Show Motivation or RES for:

Ground 2: Yavnai + Pierre

Ground 8: Yavnai + Pierre + Tao

A POSA Would Not Be Motivated to Combine Yavnai with Pierre

- A POSA would not be motivated to use Yavnai alone or in combination with Pierre
- *First*, Yavnai requires the chick to be highly restrained to take its picture, increasing the risk of injuring fragile day-old chicks

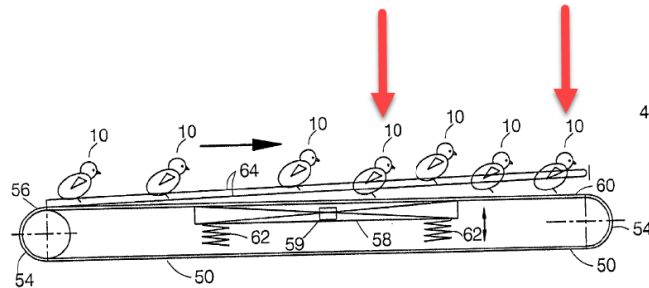


FIGURE 5A

Ex. 1004 (Yavnai) at Figs. 5A (annotation added);
POR at 17-18

- *Second*, Yavnai requires chicks to be in a very precise alignment for imaging, or it fails. The POSA would know there would be a high failure rate.
- *Third*, Yavnai already has a system for determining chick sex from an image without any use or involvement of a database or reference image so there is no motivation to combine with Pierre

Ex. 2002 (Keener Decl.) ¶179; POR at 60

Ex. 2002 (Keener Decl.) ¶180-81; POR at 51-62

Patent Owner's Motion to Strike the Declaration of Mr. LeCroy

Petitioners Improperly Raise New Invalidity Theories on Reply



Patent Trial and Appeal Board
Consolidated Trial Practice Guide
November 2019

“While replies and sur-replies can help crystallize issues for decision, a reply or sur-reply that raises a new issue or belatedly presents evidence may not be considered...”

Patent Trial and Appeal Consolidated Practice Guide,
November 2019, 74-75

- In violation of the PTAB’s rules, Mr. LeCroy’s new expert declaration and the Reply present new interpretations of the prior art and claim construction

Example New Prior Art Interpretations Presented on Reply

Original Gershman “moving plate” Argument

Petition: “The moving plate is pushed downwards via a mechanical activator . . .” and “[t]he movement of the plate transports the chick from a first location to a second location”

Expert Support: None

Example New Prior Art Interpretations Presented on Reply

Original Gershman “moving plate” Argument	New Alleged Gershman Embodiment Where Plate Moves Back Up With the Chick on It
<u>Petition</u>: “The moving plate is pushed downwards via a mechanical activator . . .” and “[t]he movement of the plate transports the chick from a first location to a second location”	<u>Reply</u>: “In addition to supporting a chick while moving vertically downward, the moving platform of Gershman also supports a chick while moving vertically upward.” Paper 19 (Reply) at 10
<u>Expert Support</u>: None	<u>Expert Support</u>: “These statements suggest to me that Gershman also considered that the spring would raise the plate and the chick (i.e., be a moving platform supporting and lifting the chick) back up to its original level.” Ex. 1008 (LeCroy Decl.), ¶ 34.

Example New Prior Art Interpretations Presented on Reply

Original Gershman “moving plate” Argument

Petition: “The moving plate is pushed downwards via a mechanical activator . . .” and “[t]he movement of the plate transports the chick from a first location to a second location”

Expert Support: None

Example New Prior Art Interpretations Presented on Reply

Original Gershman “moving plate” Argument	New Alleged Gershman Embodiment Where the Chick IS Decelerated by Shock Absorbers while on the Moving Platform
<u>Petition</u>: “The moving plate is pushed downwards via a mechanical activator . . .” and “[t]he movement of the plate transports the chick from a first location to a second location”	<u>Reply</u>: “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.’ <i>Id.</i>, Fig. 3, 4-5. These facts show that the chick will be supported at least some of the time the plate is moving.” Paper 19 (Reply) at 2
<u>Expert Support</u>: None	<u>Expert Support</u>: “The shock absorbers and the moving plates with corresponding plates indicate that the chick would be cushioned by the moving plate as it decelerates towards the end of the plate’s decent. ... I would have expected the chick to be supported by Gershman’s moving plate at least part of the time the plate was moving.” Ex. 1008 (LeCroy Decl.), ¶ 28.