The Role of Patents and Utility Models in Leveraging Innovations in the Food Processing Industry

Masao GOTO

Japan External Trade Organization (JETRO) Dubai
1. Intellectual Property Rights
2. Outline of the Patent System
   (i) “Invention” and “Patent”
   (ii) From Filing to Acquisition of Patent Rights
3. Outline of the Utility Model System
4. Case Examples in the Food Processing Industry
1. Intellectual Property Rights

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4. Case Examples in the Food Processing Industry
Introduction

Lineup of Products
Introducing the lineup of I Lohas products made from carefully selected natural water

Lightweight bottle that can be squeezed

Squeezable Bottle
Easy to squeeze lightweight bottle that weighs 12g. Compared to our existing PET bottle products, the amount of resin used was reduced by approximately 40%.

Ribs were put to the bottle surface to maintain durability
Constricted part at the lower part of the bottle further improved strength and made the bottle easier to hold

Why squeeze the I Lohas bottle?
“Squeezing” will enable to reduce the size of the bottle. Smaller volume will lead to conserving space, which is ecologically friendly to the earth and home.

Source: Official I Lohas Website  https://www.i-lohas.jp/
This is actually a product for which a **patent** was granted!

Patent Reg. No. 5118478
The Coca-Cola Company
“Plastic Bottle”

Source: J-PlatPat, INPIT
In addition to the patent, the shape is registered as a “design”!

The product name is registered as a “trademark”!

Design Reg. No. 1329280
The Coca-Cola Company “Bottle”

Trademark Reg. No. 5257158
The Coca-Cola Company “い・ろ・は・す／I LOHAS”

Source: J-PlatPat, INPIT
Intellectual Property/Intellectual Property Rights

**Intellectual Property:**
Achievement of intellectual creative activities by humans

**IP Rights:**
To protect IP by law

- Patent Rights
- Design Rights
- UM Rights
- TM Rights
- Copyrights
- etc.

**Business Activities**
- Technical Development
- Design Planning
- Manufacturing
- Sales Activity
- Product Planning
- Product Planning
- Product Planning
- Business Activities

Reference: Art. 2, Intellectual Property Basic Act
Why is it necessary to manage IP?

When IP is defenseless:
- Brings about price competition

When IP is defended/managed by rights or by keeping know-how as a secret:
- Secure market superiority
## Types of IP Rights

### Promote creative desire

<table>
<thead>
<tr>
<th>Rights on intellectual creations, etc.</th>
<th>Maintain credibility</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Patent Rights</strong> (Patent Act)</td>
<td><strong>Rights on signs for business, etc.</strong></td>
</tr>
<tr>
<td>○ Protects “inventions”</td>
<td>○ Protects trademarks used for goods/services</td>
</tr>
<tr>
<td>○ 20 years from filing (partly extended to 25 years)</td>
<td>○ 10 years from registration (Renewable)</td>
</tr>
<tr>
<td><strong>Utility Model Rights</strong> (Utility Model Act)</td>
<td>○ Protects trade names</td>
</tr>
<tr>
<td>○ Protects devices for shapes of articles</td>
<td>○ Regulates illegal use of well-known/famous trademarks etc.</td>
</tr>
<tr>
<td>○ 10 years from filing</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td><strong>Design Rights</strong> (Design Act)</td>
<td><strong>Geographical Indication (GI)</strong> (Act on Protection of the Names of Specific Agricultural, Forestry and Fishery Products and Foodstuffs)</td>
</tr>
<tr>
<td>○ Protects design of articles</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td>○ 20 years from registration</td>
<td><strong>Industrial Property Rights = Under the jurisdiction of JPO</strong></td>
</tr>
<tr>
<td><strong>Copyrights</strong> (Copyright Act)</td>
<td>○ Regulates acts of unfair competition, such as illegal use of know-how and customer lists</td>
</tr>
<tr>
<td>○ Protects mental works of literature, science, art, music, programs, etc.</td>
<td>○ Protects trade names</td>
</tr>
<tr>
<td>○ 50 years from the death of author (50 years from publication for corporations and 70 years from release for movies)</td>
<td>○ Regulates illegal use of well-known/famous trademarks etc.</td>
</tr>
<tr>
<td><strong>Circuit Layout Rights</strong> (Act concerning the Circuit Layout of a Semiconductor Integrated Circuit)</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td>○ Protects use of circuit layout of semiconductor integrated circuits</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td>○ 10 years from registration</td>
<td>○ Regulates acts of unfair competition, such as illegal use of know-how and customer lists</td>
</tr>
<tr>
<td><strong>Plant Breeders’ Rights</strong> (Plant Variety Protection and Seed Act)</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td>(Technical, business info.)</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td>○ Protects new plant breeds</td>
<td>○ Regulates acts of unfair competition, such as illegal use of know-how and customer lists</td>
</tr>
<tr>
<td>○ 25 years from registration (30 years for trees)</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td><strong>Trade Secrets</strong> (Unfair Competition Prevention Act)</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
<tr>
<td>○ Regulates acts of unfair competition, such as illegal use of know-how and customer lists</td>
<td>○ Protects names of products in which the quality, social valuation, and other established features are combined with production areas.</td>
</tr>
</tbody>
</table>
Three Effects of IP Activities

(1) Improve technical development ability
- Visualize intangible assets
- Turn intangible assets into property
- Enhance competitiveness among competitors

(2) Improve sales force
- Guarantee customers’ sense of security
- Convey the company’s strong points to customers
- Form cooperative relationships
- Secure leadership among traders

(3) Stimulate the company
- Promote originality and ingenuity to stimulate the company
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The Purpose of the Patent System

Through promoting the protection and the utilization of inventions, to encourage inventions, and thereby to contribute to the development of industry.

Protection of Invention (Right Holder)

Grants exclusive rights for a fixed period of time (Rights to say “Stop it!” to persons engaged in counterfeiting)

Patents assume the disclosure of inventions

Utilization of Invention (Third Party)

Based on the disclosed invention, promotes development of improved technology (induces improvement inventions and provides opportunity for new inventions) and contributes to spreading use of the patented inventions
Requirements for Acquiring Patent Rights

★Presupposition: It is an "invention"

Requirements for acquiring patent rights:

- It is industrially applicable
- It is not contrary to public order or morality
- It is new (Novelty)
- It is not easily conceived (Inventive Step)
- The same invention has not been filed in advance
- Filing documents such as the description meet the prescribed requirements
“Invention” under the Patent Act

- “Invention” = The highly advanced creation of technical ideas utilizing the laws of nature

Utilize the law of nature
- X Things contrary to the law of nature Ex.: Perpetual mobile
- X Artificial arrangements that do not utilize the law of nature
- X The laws of nature themselves

Technical ideas
- ○ Technology = Means for achieving a definite purpose (Can be conveyed as knowledge)
- ○ Anyone can obtain the same result
- X Skill = Achieved by an individual gaining proficiency

Creativity
- ○ Creating a new thing
- X Cannot be a “discovery” or “elucidation”

Highly advanced

(“Highly advanced” is stated for the purpose of distinguishing with “devices” under the Utility Model Act. Therefore, in determining whether an application is eligible as an “invention,” it will not be determined as not eligible for the reason that it is not “highly advanced.”)
Types of Inventions and Their Implementation

Invention

Product Invention (Including programs, etc.)

Manufacturing Process Invention

Process Invention

Process Invention that does not Involve Manufacturing

Scope of effect of rights

Acts of manufacturing, using, transferring, etc. of the product and acts of offering export, import, transfer, etc. of the product

Acts of using the process, using, transferring, etc. of the product that was manufactured by the process, and acts of offering export, import and transfer etc. of the product that was manufactured by the process

Acts that use the process

Ex.: Measuring method, Communication method, etc.
Being industrially applicable

- Inventions that are not considered to be industrially applicable

  (1) Invention of methods of operating, treating or diagnosing humans (→ Medical equipment and medicines fall under products)

  (2) Inventions that are commercially inapplicable
    • Inventions applied only for personal use (Method of smoking, etc.)
    • Inventions applied only for academic and experimental use

  (3) Inventions that can theoretically be implemented but actually inconceivable to implement
    • Method of covering the whole surface of earth with a UV-absorbing plastic film in order to prevent the increase in UV rays due to decrease of ozone layer
When there is a risk that an invention will damage public order, morality, or public health, it cannot be patented even if it satisfies all other requirements.

Ex.:  
X Money counterfeiting machine
X Vest for smuggling gold bars
X Method of manufacturing narcotic drugs
Inventions that lack novelty

In Japan or a foreign country, before filing a patent application, it was

- Publicly known invention
  
  (Disclosed, telecasted)

- Publicly worked invention

  (Selling and letting unspecified persons observe the manufacturing process)

- Invention posted in a distributed publication or invention that was made available through telecommunication lines

  (Patent gazettes, research papers, books, and the Internet)

* It should be noted that an invention will lose novelty due to disclosure, working, etc. by oneself.
(The next slide shows the provision on exception to loss of novelty.)
There is no restriction on form of disclosure

- Post on the Internet
- Announce on TV/radio
- Announce at a gathering (academic conference, etc.)
- Give a press conference
- Display works at an exhibition (exposition, etc.)
- Publish in a publication
- Put on sale
- Conduct an experiment

Invention becomes publicly known for the first time

Timing of Disclosure and Filing

Within 6 mo.

- The said person
- Publish in a research paper, etc.
- File application to which Art. 30 applies
- Submit documentary evidence

Within 30 days

- The other person
- The other person’s application

○ The said person’s application → Will be rejected if it is the same as the prior application filed by the other person.
○ The other person’s application → Will be rejected since the research paper will be considered as publicly known technology.
Inventions that slightly improved an already known invention or inventions that are easy to make for anyone, cannot be patented as they lack inventive step.

Determination is made on whether the line of reasoning that led to the invention was easy for a person that has knowledge of the technical field the invention belongs to (person skilled in the art).

(1) An invention that merely put together publicly known inventions or worked inventions

(2) Inventions that merely replaced part of the components of the invention with other components
The same invention has not been filed in advance

- Patent is granted to the person who first filed an application with the JPO and not the person who first made the invention

Adoption of the “First-to-File Rule”

★ It is important to file an application as soon as possible when you make an invention

★ It is not possible to acquire two patents for the same invention even when they were made by the same applicant
In order to acquire a patent, it is necessary to go through procedures using documents (file a patent application) at the JPO.

➔ It is necessary to clarify the content of an invention to be patented in order to protect and utilize the invention.

✔ Whether the content is described in a manner sufficient for a person skilled in the art to implement the invention

✔ Whether the technical scope for which rights are sought is clear

✔ Whether prior art documents are disclosed
【書類名】明細書
【発明の名称】電気スチル画像記憶カートリッジ及びカメラ
【技術分野】
【0001】
本発明は電気スチル画像記憶カートリッジ及びカメラに関する。
【背景技術】
【0002】従来の銀塩式カメラは、近年普及してきた電気式カメラに比べて高解像度な画像が得られる利点が多い。
【先行技術文献】
【特許文献】
【0003】特開2003-49999号公報
【非特許文献】
【非特許文献1】特許太郎著「画像記憶カメラのいろいろ」特許出版,2003年,p.12-34
【発明の概要】
【発明が解決しようとする課題】
【0005】しかしながら、銀塩式カメラは、撮影した画像を見るために現像処理をしなければならないなど、取扱いが煩雑になる欠点があり、銀塩式カメラに電気式カメラを一体化するという方法も携帯性や小型化などの点で不利がある。
【課題を解決するための手段】
【0006】本発明は、従来の銀塩写真カートリッジと互換性がある形状の電気スチル画像情報を記憶する手段を備えたカートリッジと、銀塩式及び電気式の両方のカートリッジを装填可能カメラを提供することで上記課題を解決する。
【発明の効果】
【0007】本発明は、高品質な銀塩画像を得たい場合には、銀塩フィルムカートリッジを装填し、手軽な電子画像を得たい場合には、電気スチル画像記憶カートリッジを装填するだけで、銀塩式と電気式の2種類の画像形式を選択でき、カメラ本体を1台で済むため携帯に優れ、光学系の供用化による小型化も可能になる。

Patent Claims
【書類名】特許請求の範囲
【請求項1】電気スチル画像情報を記憶する記憶手段を有してなる電気スチル画像記憶カートリッジ。
【請求項2】銀塩写真カートリッジと請求項1に係る電気スチル画像記憶カートリッジを併用可能にしたカメラ。
Scope of Patent Claims and Statement in the Description (Example)

Scope of Patent Claims

“Glass made of metal”

Description

Title of Invention “Glass”

Detailed Description of the Invention

Working example of a glass made of aluminum

Working example of a glass made of copper

- If it is written here “Glass made of aluminum,” it will not be possible to exercise rights on glass made of metal other than aluminum.
- If it is written here “Glass made of copper,” it will not be possible to exercise rights on glass made of metal other than copper.
- If it is written here “Glass made of metal,” it will be possible to exercise rights on glass made of all kinds of metal.
- However, when it is written here “Glass made of metal,” if a glass made of stainless steel is known, the application will be determined to lack novelty.
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When 1 year and 6 months have passed since the filing date of a patent application, the content of the application such as the description will be disclosed to the public. (Publication of unexamined patent application is published.)

Right to Demand Compensation (Article 65, Patent Act)

As a provisional protection for publication of application, a right to demand payment of an amount corresponding to the licensing fee to the third party who implemented the invention is approved, after patent rights are acquired.

It will be possible to demand payment of an amount corresponding to the licensing fee for implementing the invention during this period.
### Right to Demand Injunction
- It is possible to demand injunction against infringing acts at present and in the future to infringers of rights and those likely to infringe rights in the future.
- In addition, it is possible to demand disposal of infringing goods as well as disposal of facilities that manufacture infringing goods.

### Right to Demand Compensation
- It is possible to demand compensation to infringers when rights are infringed.
- Since it is often difficult to prove the facts to determine the amount of damage based on the infringing act by the infringer, three special provisions for calculating the amount of compensation are established under the Patent Act. (Article 102)

### Right to Demand Measures to Restore Credibility
- When business reputation was damaged by infringing acts, it is possible to demand measures necessary to restore the reputation, such as publishing an apology in newspapers.

### Right to Demand Restitution of Unjust Enrichment
- It is possible to demand restitution of unjust enrichment obtained by the infringer through infringing acts.

### Infringement Offense
- Criminal Penalty against Infringers: Imprisonment with required labor for not more than 10 years or a fine of not more than 10 million yen; a fine of not more than 300 million yen for the infringer’s juridical person.
When rights are acquired in Japan, protection of the rights does not extend to foreign countries.

* This is the same for patents, utility models, designs and trademarks.

When manufacturing/selling/utilizing goods in a foreign country, it is important to acquire rights in that country.

However, it is possible to stop export/import of infringing goods at customs.

Effect of Rights in Foreign Countries

- **Japan**: Patent Rights (Valid only in Japan)
  - Manufacture/Sell

- **Foreign Countries**: To exercise rights in a foreign country, it is necessary to acquire patent rights in that country.
  - Import goods
  - Export goods

Protection does not extend to foreign countries.
Direct Filing with Foreign IP Offices

Applicants send request forms in each country and file an application to each IP office, using the language of each country.

International Patent Appl. (PCT Appl.)

Applicants use an internationally standardized request format under the PCT and prepare international filing documents in either Japanese or English. The documents are then submitted to the JPO.

* As of June 2017, 152 countries (regions) accede to the PCT.
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### Purpose

To encourage devices by promoting the protection and the utilization of devices with respect to the shape or structure of an article or to the combination of articles, and thereby to contribute to the development of industries.

### Subject of Protection

<table>
<thead>
<tr>
<th>Article</th>
<th>A thing which possesses a certain shape that is fixed spatially and is a product that is freely transportable for business transactions, and the purpose of using the thing is clear</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shape</td>
<td>An external figuration expressed by line, surface, etc. Ex.: Tooth shape of a gear and edge type of a tool.</td>
</tr>
<tr>
<td>Structure</td>
<td>A structure constructed spatially and three-dimensionally, and expressed by the ground plan, the elevation view, etc.</td>
</tr>
<tr>
<td>Combination</td>
<td>Two or more articles which are spatially separated that produce use value when they relate to each other functionally by use. Ex.: Fastening tools that consist of a bolt and a nut</td>
</tr>
</tbody>
</table>
Reference: Difference between Patent and Utility Model Systems

### Patent System vs. Utility Model System

<table>
<thead>
<tr>
<th>Category</th>
<th>Patent System</th>
<th>Utility Model System</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Subject of Protection</strong></td>
<td>Inventions of products, processes, and processes for producing products</td>
<td>Limited to devices related to articles</td>
</tr>
<tr>
<td><strong>Substantive Examination</strong></td>
<td>Examined by examiners</td>
<td>Not examined</td>
</tr>
<tr>
<td><strong>Duration of Rights</strong></td>
<td>20 years from filing</td>
<td>10 years from filing</td>
</tr>
<tr>
<td><strong>Fees</strong></td>
<td>Approx. 150 thousand yen</td>
<td>Approx. 20 thousand yen</td>
</tr>
<tr>
<td>(For 3 years from registration)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Exercise of Rights</strong></td>
<td>Exclusive rights</td>
<td>Possible only after presenting the technical opinion report and giving a warning</td>
</tr>
<tr>
<td><strong>Number of Applications</strong></td>
<td>Approx. 318 thousand applications per year</td>
<td>Approx. 6 thousand applications per year</td>
</tr>
</tbody>
</table>

Technical Opinion Report: JPY42,000 + JPY1,000 for each claim
Examination of Basic Requirements

Formality Check

Lump-sum payment of filing fees and registration fees for 3 years

Issue of Registered Utility Model Publication

Patent application based on registered UM

Conversion is possible in principle, provided it is within 3 years from the filing date. (The UM right will be abandoned)

Registration of Establishment

Correction of registered UM

Correction in order to restrict the claim etc. is possible (Limited to one time)

Publication

Rights expire in a maximum of 10 years from filing

Invalidation Trial

Appeal to the IP High Court

Appeal to the Supreme Court

JPY42,000 + JPY1,000 for each claim

Request Technical Opinion Report

Reference: Flowchart of Procedures for Filing UM Application
Utility model rights can be exercised only after a technical opinion report is presented and warning is given. (A third party can also request for technical opinion report)

A technical opinion report is a document that states the evaluation of the novelty, inventive step, etc. of the filed device by a JPO examiner, as a material for determining the validity of utility model rights.

Meaning of the number regarding evaluation in the technical opinion reports

- For the evaluation, a relevant number from “1” to “6” is selected. Numbers other than “6” indicates that novelty etc. was denied.
Topics

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Example of Utilization of Multiple IP Rights (1) (Utilization of Patent Rights and Utility Model Rights)

Cup Noodles (Nissin Food Products Co., Ltd.)

**Details**
- Needs…To globally popularize the company’s “Chicken Ramen” which is the first instant noodle product in the world. (The company wanted people in foreign countries to eat instant noodles.
- Issue…Difference in food culture (Americans do not use chopsticks or porcelain bowls)
- Trigger…Took notice of the fact that an American used disposable paper cup and fork to sample instant noodles. (It will be possible to eat the noodles at anywhere, anytime one wants to, if a new container is developed)

**Product Details**
- Container is made of styrene foam…Is not hot and the size is just right for the palm
- Structure of hanging the noodles in the container…Provides the cup strength and prevents noodles from breaking
- Know-how of restoring noodles using hot water in 3 min.…Noodles are densely packed toward the top part of the container → Solid pieces of food at the top stimulates appetite

**Patent Reg.**  
**Process for Producing Snack Noodles With a Container**  

**Utility Model Reg.**  
**Snack noodles in a cup that restores to cooked state when hot water is poured**  
UM Reg. No. 1428858 (Japanese Examined UM Publication No. 55-43994)

Obtained hint from airline food = Could be used for the cover?

Macadamia container which provided an idea
### Advantages of the Cultivation Method

- There will be no discoloration or deformity of the vegetable because the vegetable does not come in contact with the ground.
- It is possible to surely determine the ripening stage because farmers can observe the whole vegetable.
- There is less damage to the stems and leaves while conducting cultural practices.
- Contributes to reducing work load of cultural practices and harvesting as most of the work is conducted while standing up.

### Patent Registration

**Aerial Cultivation Method of Pumpkins**

From 1989 to 1990, this cultivation method was developed at the experimental farm of the Shinsei Trading Co., while studying an effective way of using the seedling house no longer used, as the company changed the paddy fields to fields for growing vegetables. Net is placed to cover the arched pipe and seedling is planted permanently to the inside or outside of the net. After the pumpkin is produced, the young pumpkin is placed inside the net so that it will not be damaged by the mesh.

**Advantages of the Cultivation Method**
- There will be no discoloration or deformity of the vegetable because the vegetable does not come in contact with the ground.
- It is possible to surely determine the ripening stage because farmers can observe the whole vegetable.
- There is less damage to the stems and leaves while conducting cultural practices.
- Contributes to reducing work load of cultural practices and harvesting as most of the work is conducted while standing up.

**Patent Reg. No.** 2509148
**Filing Date** December 10, 1993
**Registered Date** April 16, 1996
**Usage State of Rights**
- 15 farms in Naganuma town and the surrounding areas are cultivating the pumpkins.
- Annual production: Approx. 30 tons

### TM Registration

**Flying Pumpkins**

- [Reg. No.] 2597162
- [Filing Date] October 1, 1990
- [Registered Date] November 30, 1993
- [Expiration of Trademark Reg. Term] November 30, 2023
- [No. of Classes] 2
  - Cl. 29 Processed vegetable of pumpkin
  - Cl. 31 Pumpkin
- [Trademark Owner] Individual (Hokkaido)
Innovation and Intellectual Property as Engines for Competitive Agribusiness: Empowering Women Researchers and Entrepreneurs in Africa

Casablanca, Kingdom of Morocco, November 15 to 17, 2017

Thank you for your attention!
INVENTORS & INNOVATORS - PATENTS -


Tripling the Mango Yield in the Philippines
Dr. Ramón Barbara, Inventor, Philippines

Some Other Films Produced by WIPO in the Field of Agriculture:

A Natural Pesticide
Daniel Assefa, Inventor, Ethiopia

A Novel Rice Harvester
Hoang T. Pham, Inventor, Viet Nam