History of Development of the Patent System in Japan

- How to Make Technical Experts Realize “Ikigai” within Themselves for Innovation -

February 19, 2018

Takashi SAKURAI

Executive Director
Industrial Property Cooperation Center
(Former Deputy Commissioner of the Japan Patent Office)

Outline of Today's Presentation

- Investors who greatly contributed to Japan's technological progress and achievements:

  To support innovations by inventors, the patent system in Japan was established and improved.

- "Ikigai" for technical experts in our time:

  "Place where technical experts find themselves needed and can play important roles"
  – Cases at the IPCC

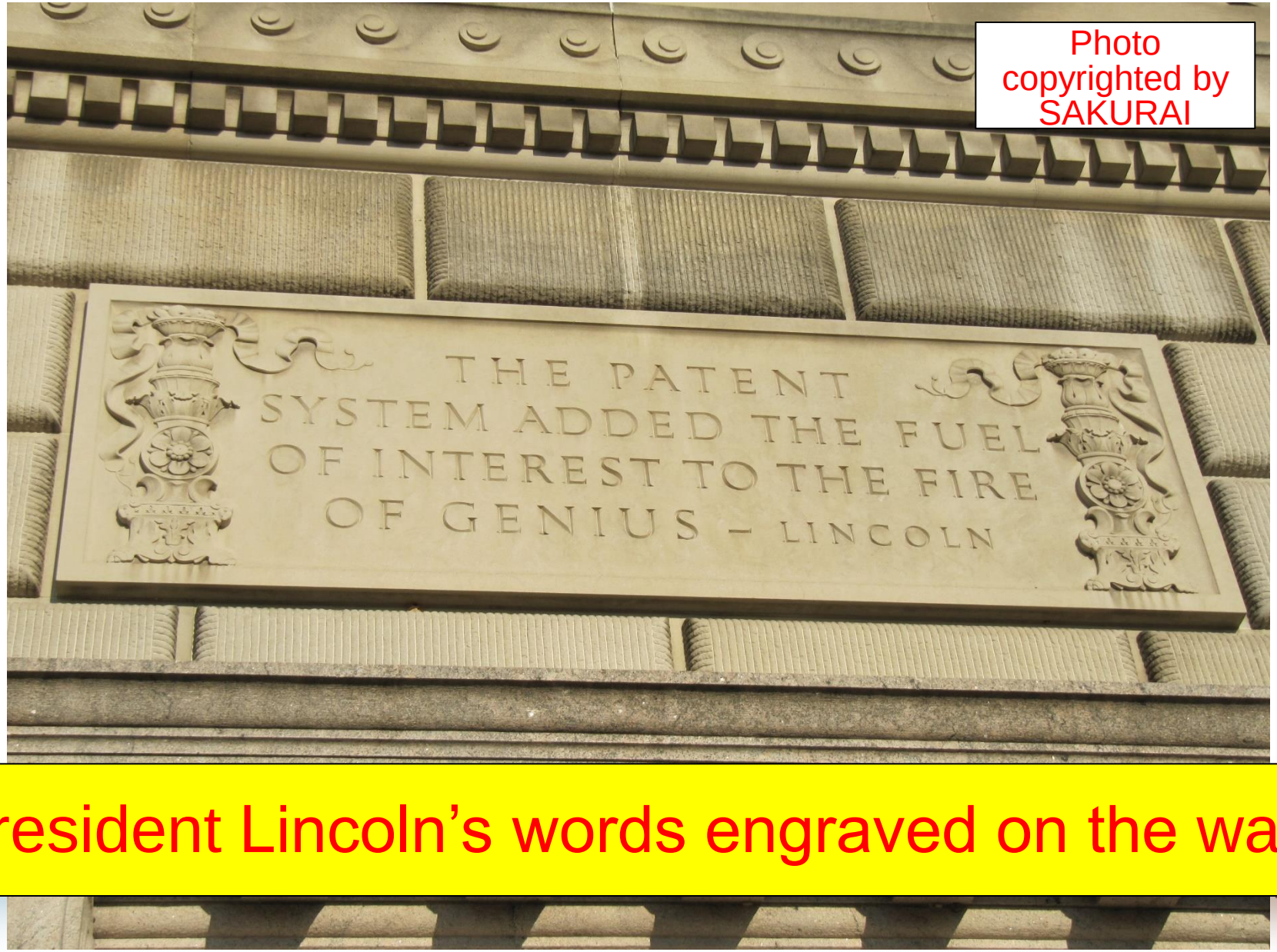
Words of President Abraham Lincoln

Building of the United States Department of Commerce (DOC)

Words of President Abraham Lincoln (2)

In 1802, the United States Patent Office (USPO) was established.

Words of President Abraham Lincoln (3)



President Lincoln's words engraved on the wall

Words of President Abraham Lincoln (4)

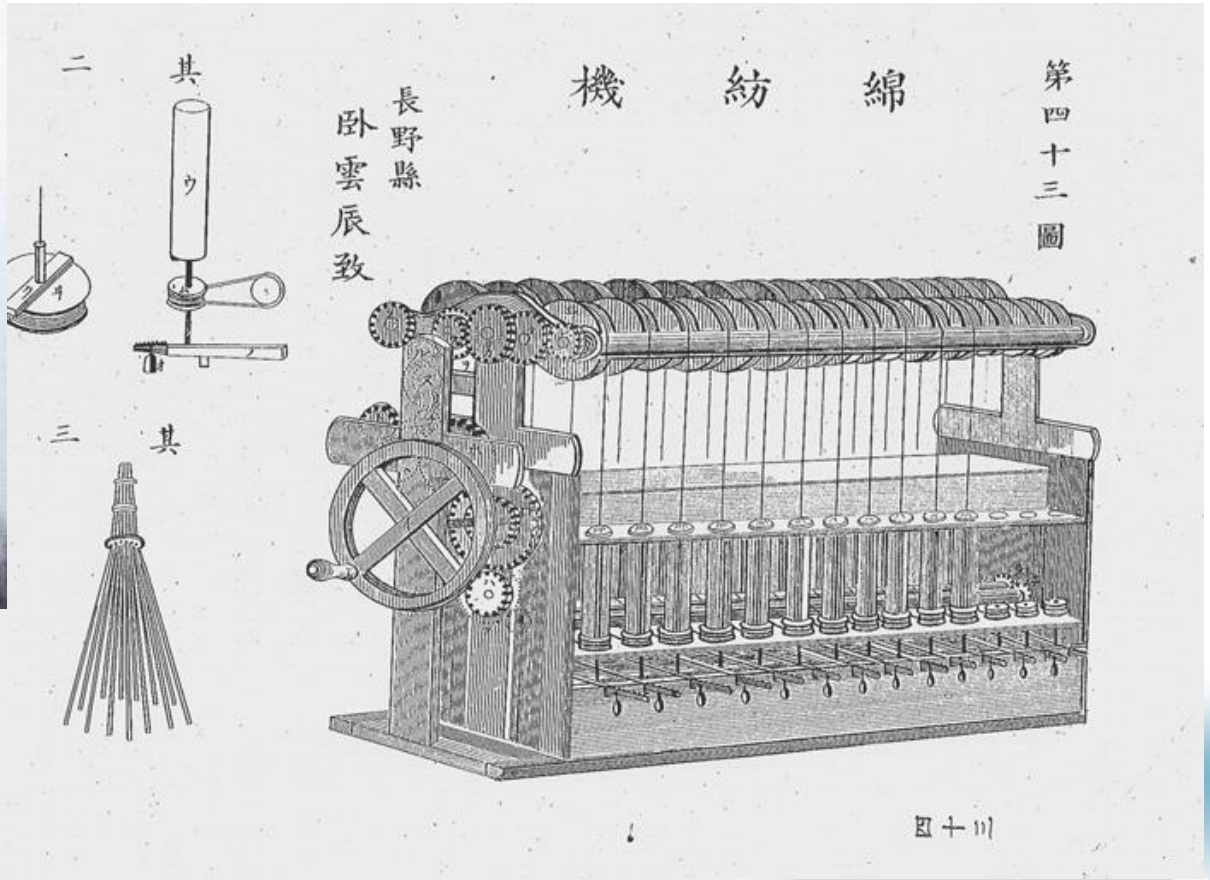
"The patent system added the fuel of interest to the fire of genius." Lincoln

President Lincoln's words engraved on the wall

Development of the Patent System in Japan

- 1868 Japan began to develop into a modern nation.
- 1871 Provisional Regulations for the first Japan's patent law were promulgated.
- 1872 The enforcement of the first patent law was suspended.
- 1885 Establishment of the patent system in Japan:
  The first Japan Patent Office was established; and the first so-called Patent Act came into effect.
- 1899 Japan acceded to the Paris Convention.

Tokimune GAUN: Inventor of tragedy



Tokimune GAUN

- Tokimune Gaun was born in a farming community in central Japan.
- In 1877, the Japanese government held the First National Industrial Exhibition in Tokyo. At the Exhibition, Gaun exhibited a cotton spinning machine invented by himself based on his own technology. The Exhibition displayed more than 80,000 invention works from across the country and attracted more than 450,000 visitors. Among all the exhibits, Gaun's cotton spinning machine won the award for the best invention at the Exhibition.

Circumstances Leading to Establishment of the Patent System in Japan

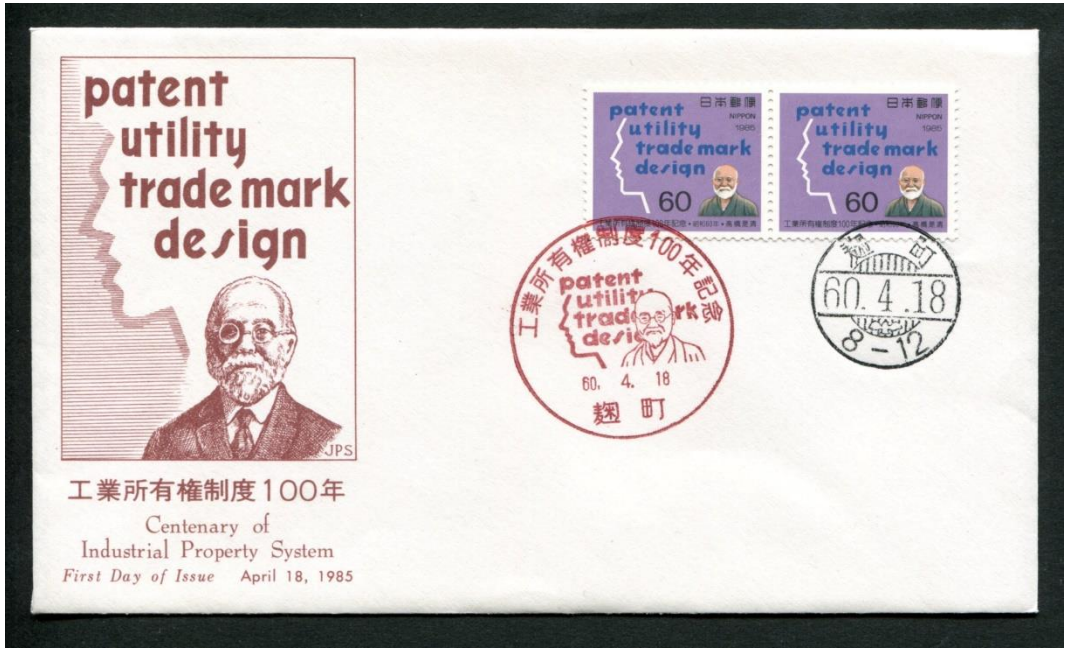
- However, at that time, since the patent system was not established yet in Japan, many counterfeits of Gaun's cotton spinning machine were imitated and spread all over Japan. As a result, although Gaun won the highest honor at the Exhibition, he did not gain any profits or financial rewards from his ingenious invention. And, afterwards, he was continuously forced to live a hard life.

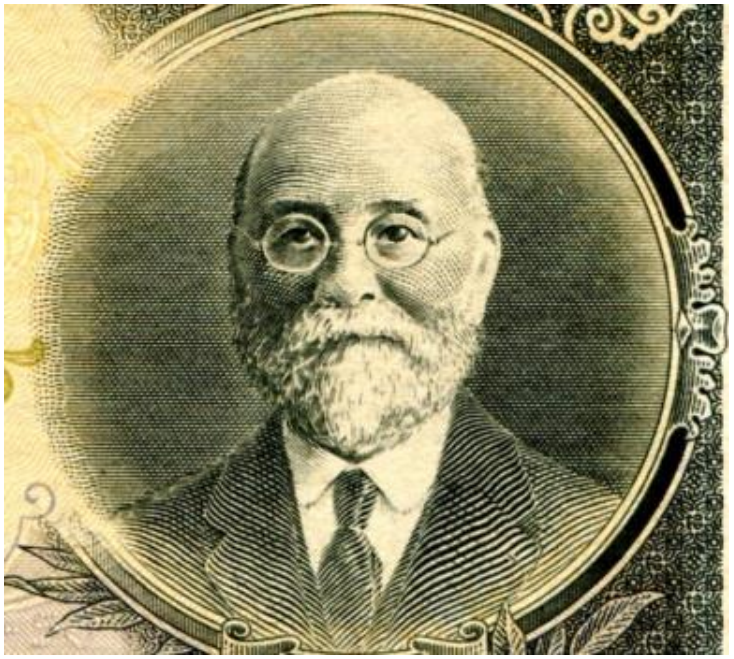
- The public outcry over his distressed condition led to establishing the patent system in Japan.

Korekiyo TAKAHASHI
First Commissioner of the JPO

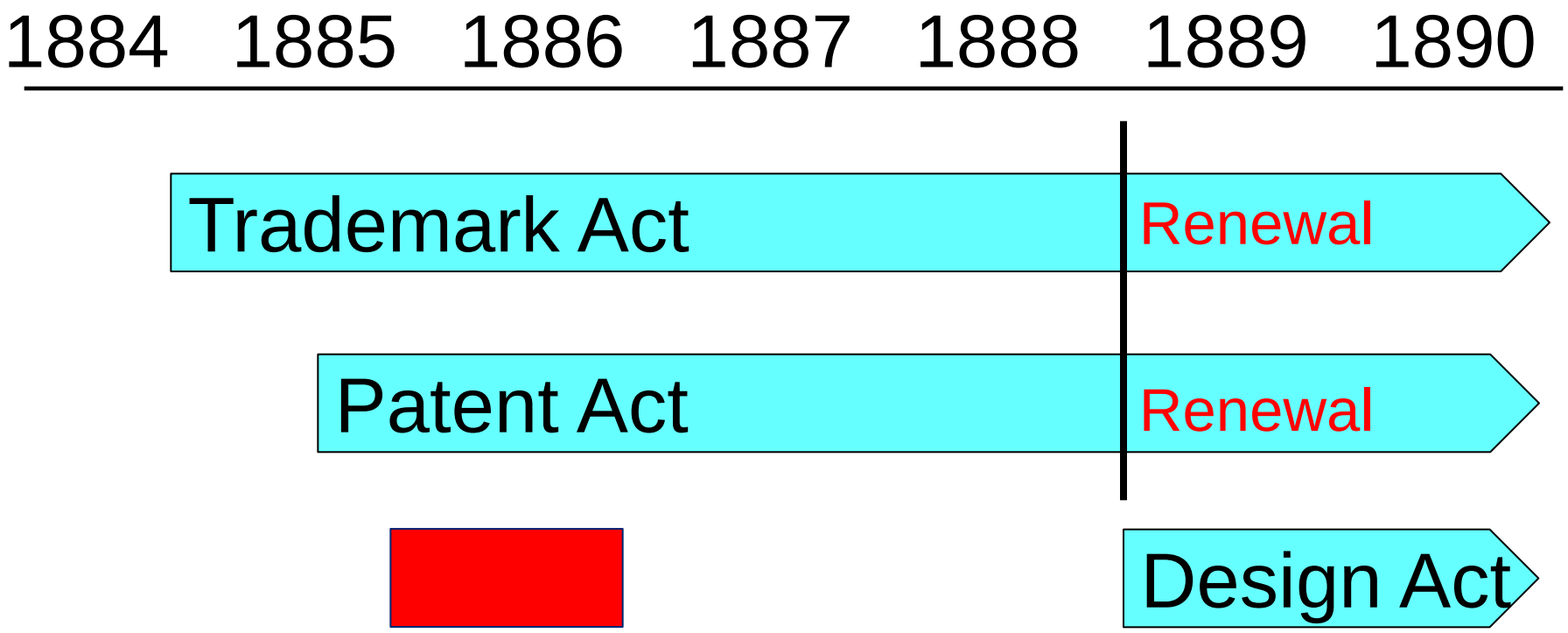
April 1885: Mr. Korekiyo TAKAHASHI became the first Commissioner of the Japan Patent Office at the age of 34.

Reference: Commemorative postage stamp and money bill with the portrait of Korekiyo TAKAHASHI



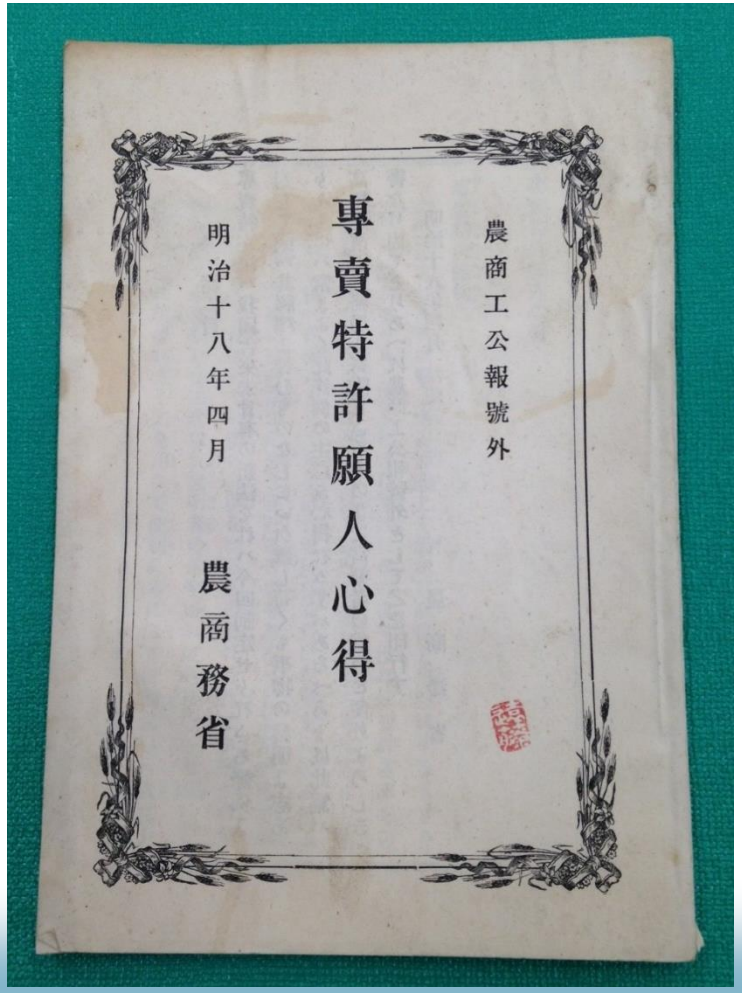


Starting Year of Industrial Property Rights Systems in Japan



Study tour to observe foreign Patent Offices by the Commissioner TAKAHASHI

Publication of Patent Application Manual for Users

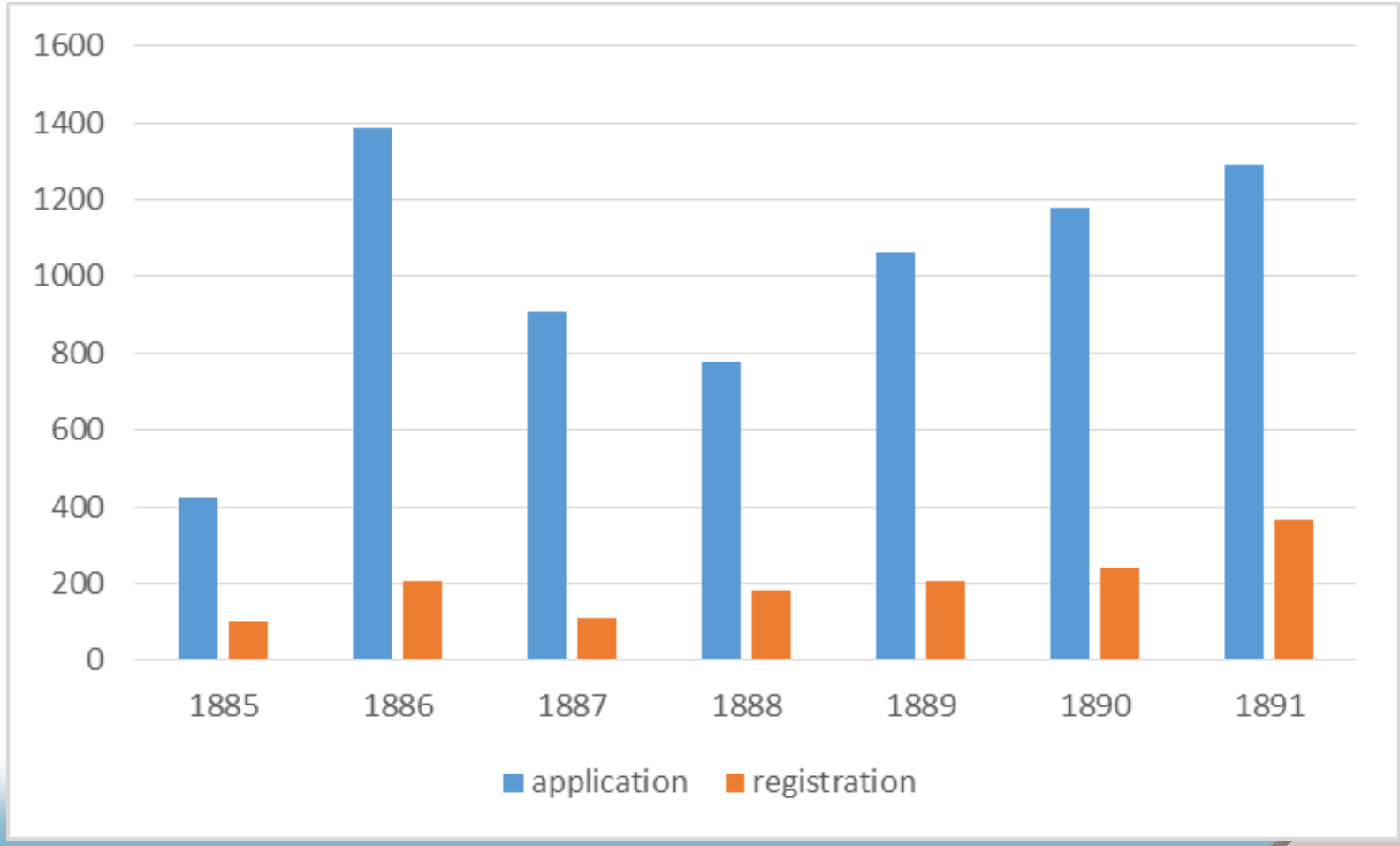


In April 1885, a user manual of filing procedures for patents was published almost at the same time the first so-called Patent Act was promulgated.

Benefits of TAKAHASHI's Patent Application Manual

- The User Manual, which was written by Commissioner TAKAHASHI himself, explained the specific details for each article of the first Patent Act, such as the purposes of the Act and what applicants should pay particular attention to when filing patent applications. Also, Commissioner TAKAHASHI tried to make the Manual clearer and easier for any user to understand.
- His Manual includes examples of specifications that applicants need to submit at the time when they file patent applications. The examples include three types of inventions: (1) an invention of a process; (2) an invention of a composition; and (3) an invention of a mechanical device. By making effective use of these examples, he gave easy-to-understand explanation of how to describe patent specifications.

Trends in Patent Applications Filed in Japan



Reliefs of Ten Japanese Great Inventors

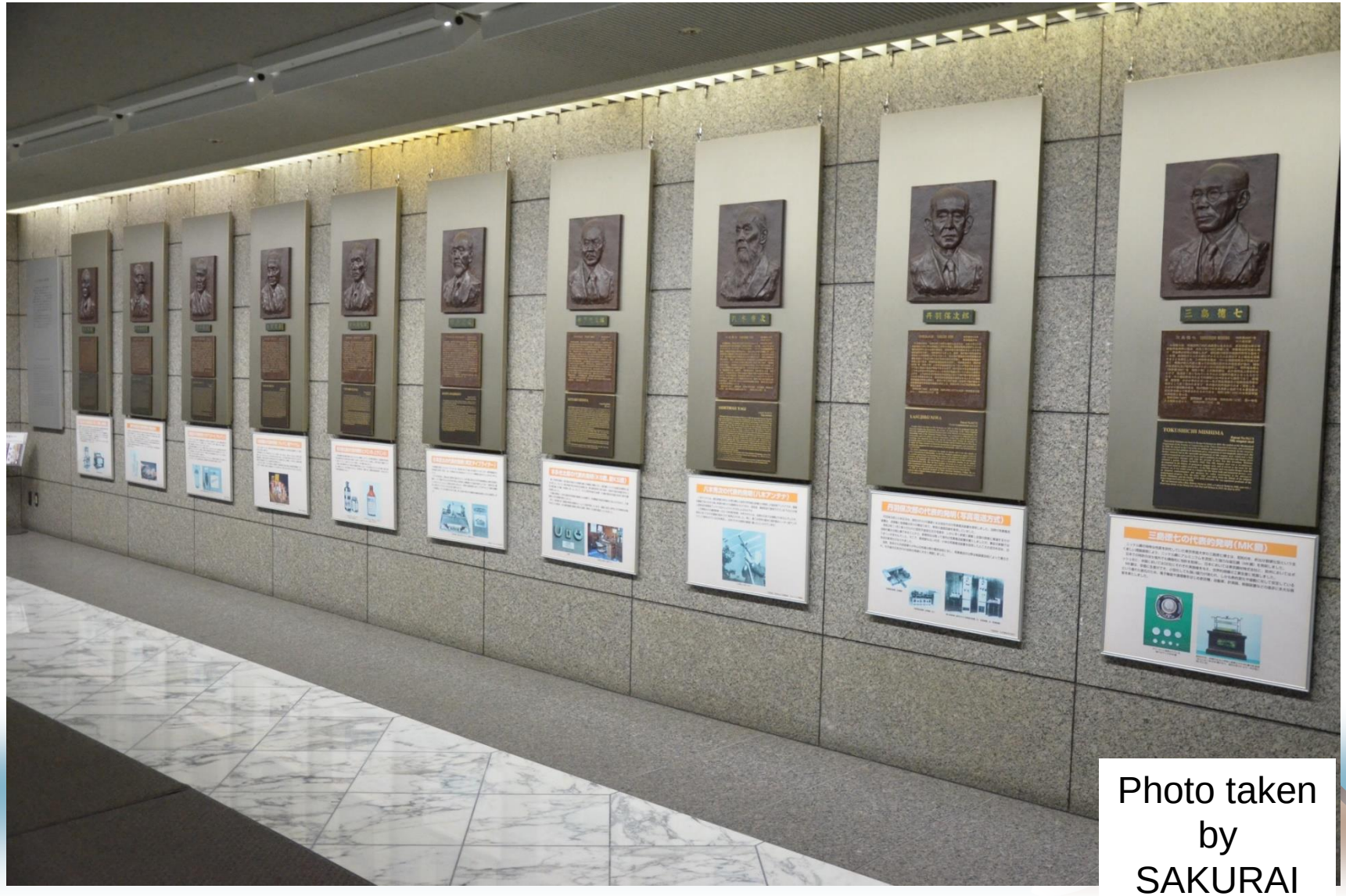


Photo taken by SAKURAI

List of Ten Japanese Great Investors

Name of Inventor	Major Invention	JPO's Patent No.
Sakichi TOYODA	Wooden Weaving Machine Driven by Human Power	1195
Kokichi MIKIMOTO	Cultured Pearls	2670
Jokichi TAKAMINE	Adrenaline	4785
Kikunae IKEDA	Sodium Glutamate	14805
Umetaro SUZUKI	Vitamin B1	20785
Kyota SUGIMOTO	Typewriter for Japanese Language	27877
Kotaro HONDA	KS Magnetic Steel	32234
Hidetsugu YAGI	Yagi Antenna	69115
Yasujiro NIWA	Phototelegraphic Method	84722
Tokushichi MISHIMA	MK Magnetic Steel	96371

(1) Sakichi TOYODA

Sakichi TOYODA obtained, throughout his lifetime,
- 84 patent rights
- 35 utility models

1926 Established Toyoda Automatic Loom Works, Ltd.

1929 Sold the patent rights for Toyoda's automatic loom to Platt Brothers & Co., Ltd. of the UK.

➔ With the money earned by selling his patents, Automobile Department was set up to manufacture automobiles, which became the current Toyota Group.

Automatic Loom Patent Sold to Platt Brothers & Co., Ltd. of the UK. (in 1929)

JPO's Official Gazette for Toyoda's patent (in 1924)

圖 一 第

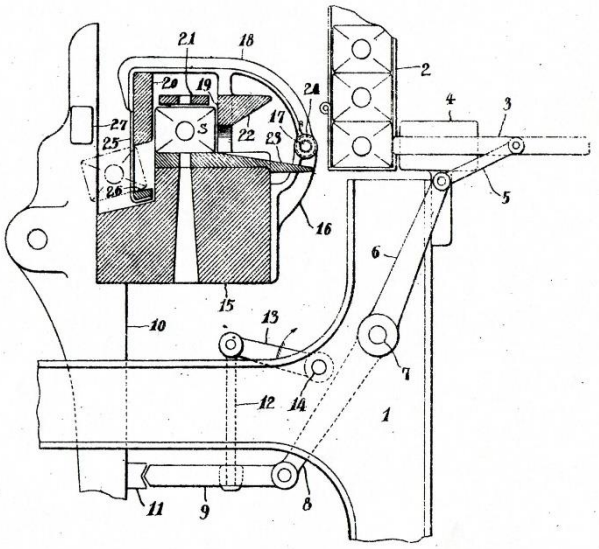
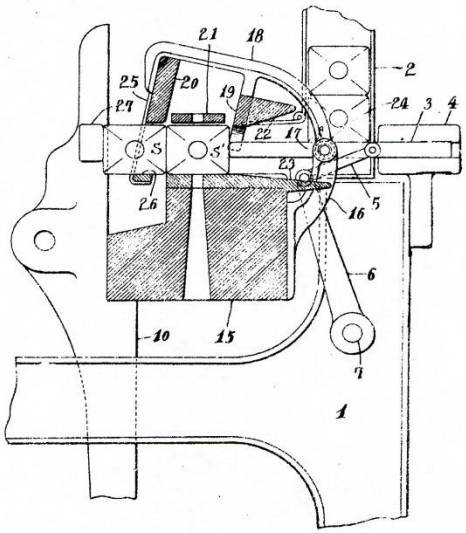


圖 二 第



特許第六五一五六號

〔大正十四年公告第四七八五號〕

第八十七類　一四、絣絲補充裝置

出願　大正十三年十一月二十五日
公告　大正十四年五月九日
特許　大正十四年八月十日

明細書

杼換式自動織機

名古屋市東區白壁町二丁目二番地
特許權者（發明者）豐田喜一郎
代理人　辨理士　飯田治彥

發明ノ性質及目的ノ要領

本發明ハ正面ニ案內斜板ヲ有スル前側板ト後側板トニテ杼箱ヲ形成セシムヘクナシ前後兩側板ヲ回動臂ニ支持セシメテ共ニ開閉シ得ル如クシ杼換ニ際シ杼ヲ押込ムコトニ依リ前側板ヲ壓開スルト同時ニ後側板ヲ開カシメ杼換完了スルヤ兩側板ヲ同時ニ閉チシメ後側板ノ俯下ニ伴ヒ排出杼ヲ放下セシムル如キ杼換裝置ヲ具フル自動織機ニ係リ其ノ目的トスル所ハ敏速ニ輕快ニ且ツ正確ニ杼換動作ヲ遂クルコトヲ得セシメ以テ高速度ノ力織機ニ應用スルモ何等ノ支障ヲ來スコト無ク完全ニ運轉スルヲ得ルニ在リ

圖面ノ略解

添附圖面ニ於テ第一圖ハ本裝置ノ側面圖第二圖ハ杼換動作ニ於ケル本裝置ノ側面圖第三圖ハ第一圖ニ於ケル箇臺ノ部分的正面圖ナリ以上諸圖ニ於テ同一符號ハ同一若ハ均等部分ヲ表スモノトス

發明ノ詳細ナル說明

機枠①上ニハ豫備杼溜②ヲ定着シ杼溜②中ノ最下位ニ在ル杼ヲ押出ス爲メニ杼押桿③ヲ具フ杼押桿③ハ「ガイド」④中ニ在リテ左右ニ摺動シ得ル如クナシ其ノ一端ハ連杆⑤ニ依リテ上臂⑥ニ連繫ス上臂⑥ハ機枠①ニ設ケタル心軸⑦ニ取附ケラレ心軸⑦ニハ下臂⑧ヲ取附ケ之ニ受桿⑨ヲ連絡ス受桿⑨ハ其ノ中央ヲ吊桿⑫ニテ臂桿⑬ニ連繫セシメ臂桿⑬ハ軸⑭ニ定着セラル軸⑭ハ機枠①ニ橫架セラレ其ノ他

(2) Kokichi MIKIMOTO

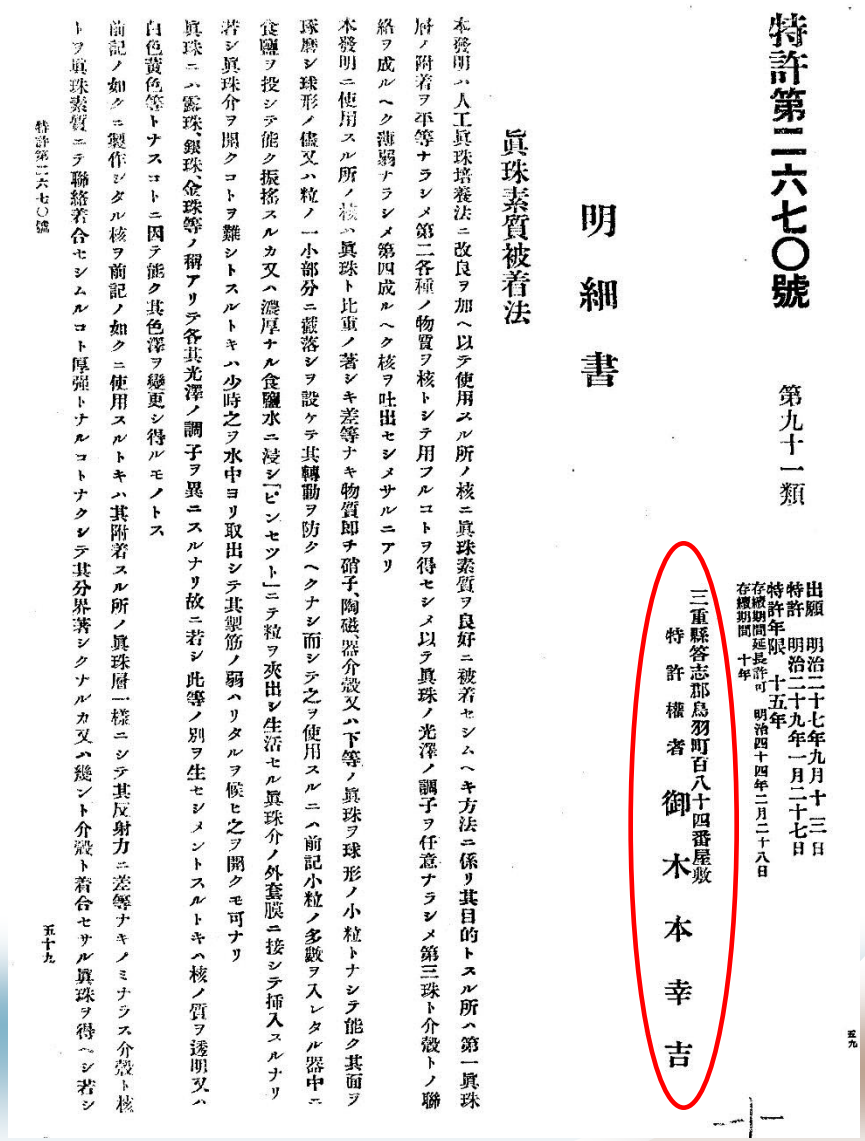
1888 Started a natural pearl farming

1990 Exhibited his pearls at the Third National Industrial Exhibition in Tokyo, where he took a hint of creating cultured pearls

1896 Obtained first patent for an invention of a method for creating cultured pearls

Thanks to his inventions, the pearl cultivating industry in Japan has grown enormously.

JPO's Official Gazette for Patent Granted to Kokichi MIKIMOTO in 1896



特許第二六七〇號　第九十一類

出願　明治二十七年九月十三日
特許　明治二十九年一月二十七日
特許年限　十五年
存續期間延長許可　明治四十四年二月二十八日
存續期間　十年

三重縣答志郡鳥羽町百八十四番屋敷
特許權者　御木本幸吉

明細書

眞珠素質被着法

本發明ハ人工眞珠培養法ニ改良ヲ加ヘ以テ使用スル所ノ核ニ眞珠素質ヲ良好ニ被着セシムヘキ方法ニ係リ其目的トスル所ハ第一眞珠層ノ附着ヲ平等ナラシメ第二各種ノ物質ヲ核トシテ用フルコトヲ得セシメ以テ眞珠ノ光澤ノ調子ヲ任意ナラシメ第三珠ト介殼トノ聯絡ヲ成ルヘク薄弱ナラシメ第四成ルヘク核ヲ吐出セシメサルニアリ

本發明ニ使用スル所ノ核ハ眞珠ト比重ノ著シキ差等ナキ物質即チ硝子、陶磁器、介殼又ハ下等ノ眞珠ヲ球形ノ小粒トナシテ能ク其面ヲ琢磨シ球形ノ儘又ハ粒ノ一小部分ニ缺落シヲ設ケテ其轉動ヲ防ク（クナシ而シテ之ヲ使用スルニハ前記小粒ノ多數ヲ入レタル器中ニ食鹽ヲ投シテ能ク振搖スルカ又ハ濃厚ナル食鹽水ニ浸シ「ピンセット」ニテ粒ヲ夾出シ生活セル眞珠介ノ外套膜ニ接シテ挿入スルナリ）若シ眞珠介ヲ開クコトヲ難シトスルトキハ少時之ヲ水中ヨリ取出シテ其製筋ノ弱ハリタルヲ候ヒ之ヲ開クモ可ナリ

眞珠ニハ露珠、銀珠、金珠等ノ稱アリテ各其光澤ノ調子ヲ異ニスルナリ故ニ若シ此等ノ別ヲ生セシメントスルトキハ核ノ質ヲ透明又ハ白色黃色等トナスコトニ因テ能ク其色澤ヲ變更シ得ルモノトス

前記ノ如クニ製作シタル核ヲ前記ノ如クニ使用スルトキハ其附着スル所ノ眞珠層一樣ニシテ其反射力ニ差等ナキノミナラス介殼ト核トヲ眞珠素質ニテ聯絡着合セシムルコト厚薄トナクシテ其分界溝シクナルカ又ハ幾ント介殼ト着合セサル眞珠ヲ得ヘシ若シ

濃鹽水ニ浸サヽル核ヲ介中ニ挿入センカ核ハ眞珠素質ヲ被スルコト遲緩ニシテ爲ニ核ノ面ニ眞珠素質ノ被ハルヽコトナクシテ介殼外ニ吐出セラルヽ所ノモノヽ割合增加スルノミナラス偶々介中ニ止マリテ眞珠層ヲ被ムルモノアルモ其介殼ニ接スル部分ノミ厚層トナリテ充分ニ目的ヲ遂スル能ハサルモノトス

特許條例ニ依リ本發明ノ特許ヲ請求スル區域ハ左ノ如シ

一　本文所記第一乃至第四ノ目的ヲ達セシムルカ爲メ硝子、介殼又ハ此場合ニ在テ硝子、介殼ト均シキ用ヲナシ得ヘキ物質ヲ以テ球又ハ一所切落シノ球ヲ作リ食鹽ヲ以テ之ヲ磨クカ又ハ濃厚食鹽水中ニ之ヲ浸シ然ル後生活セル眞珠介ノ中ニ挿入シテ眞珠素質ヲ被ラシムヘキ方法

(4) Kikunae IKEDA

Conducted researches to find out the main component of “umami” or “delicious flavor” of kombu seaweed;

Discovered that the “delicious flavor” he discovered in kombu seaweed mainly comes from monosodium glutamate; and

Patented the method for extracting “umami” and commercialized it, which is now the well-known seasoning called Ajinomoto.

Registered Trademarks of “Ajinomoto”

Trademark No. 39051
(Registered in 1909)

Trademark No. 34220
(Registered in 1908)

(5) Umetaro SUZUKI

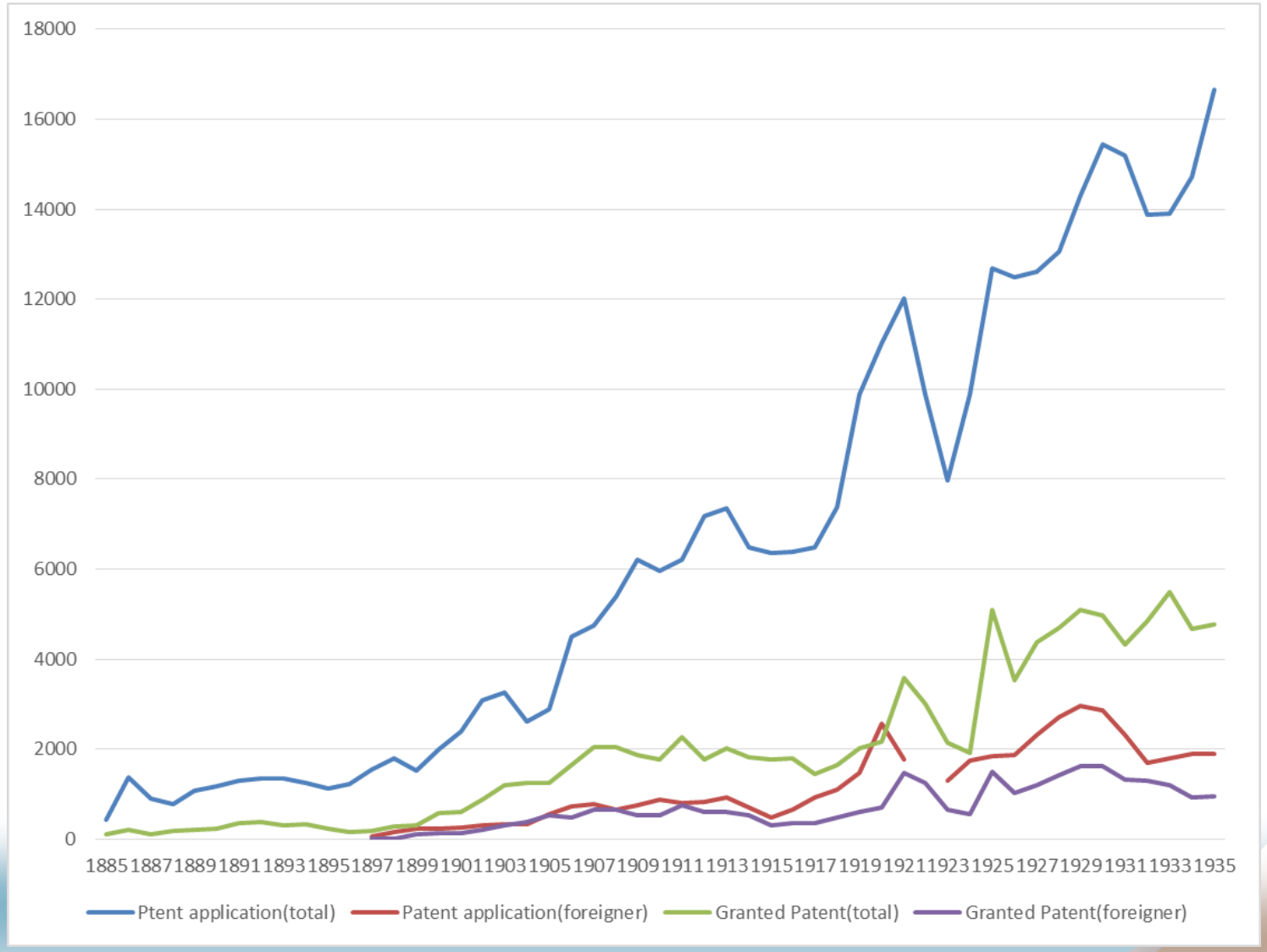
Many Japanese soldiers suffered from beriberi.

Dr. SUZUKI confirmed the effect of a substance from rice bran, which could be used to treat patients of beriberi; and

obtained patent rights for a process to isolate this substance from rice bran, which is now known as Vitamin B1.

This was the first extraction of vitamins in the world.

Changes in the Number of Patent Applications in Japan（for 50 years from 1885 to1935）



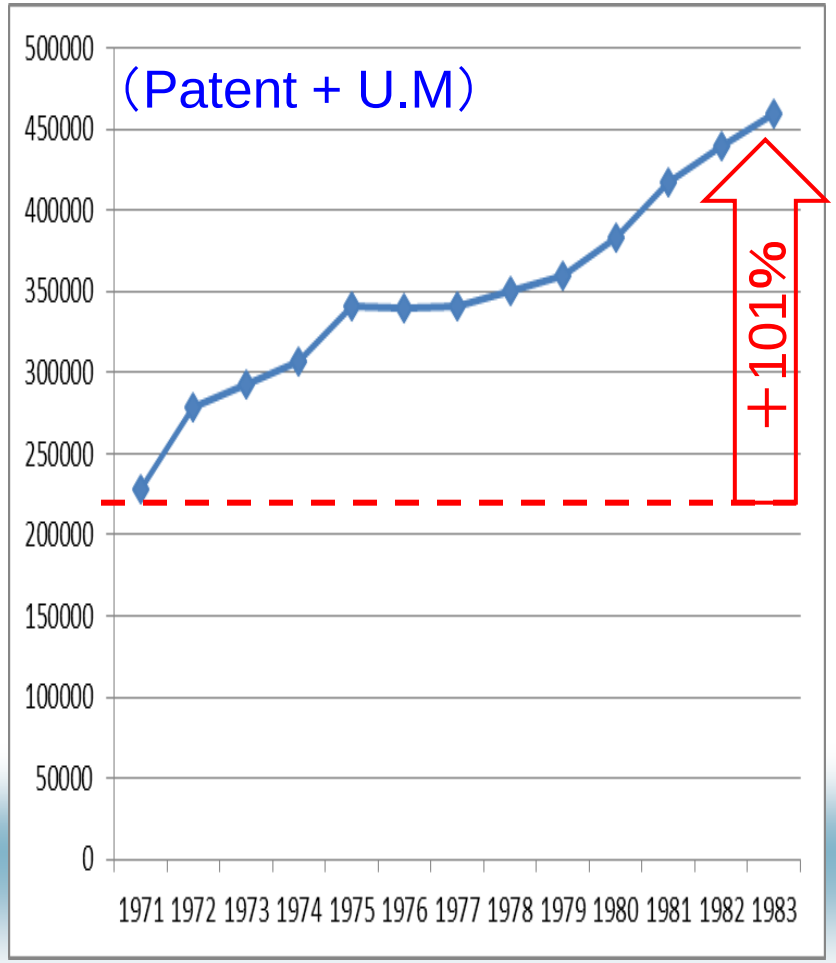
Main Factors that Foster Technical Experts in Japan

- Education system: The compulsory education system has been fully implemented for everyone in Japan;
- JIII's role: Since it was established in 1904, the Japan Institute of Invention and Innovation (JIII) has conducted variety of activities to raise awareness of and respect to intellectual property; and
- Positive influence from the fact that Japan has produced many Nobel Prize winners in sciences.

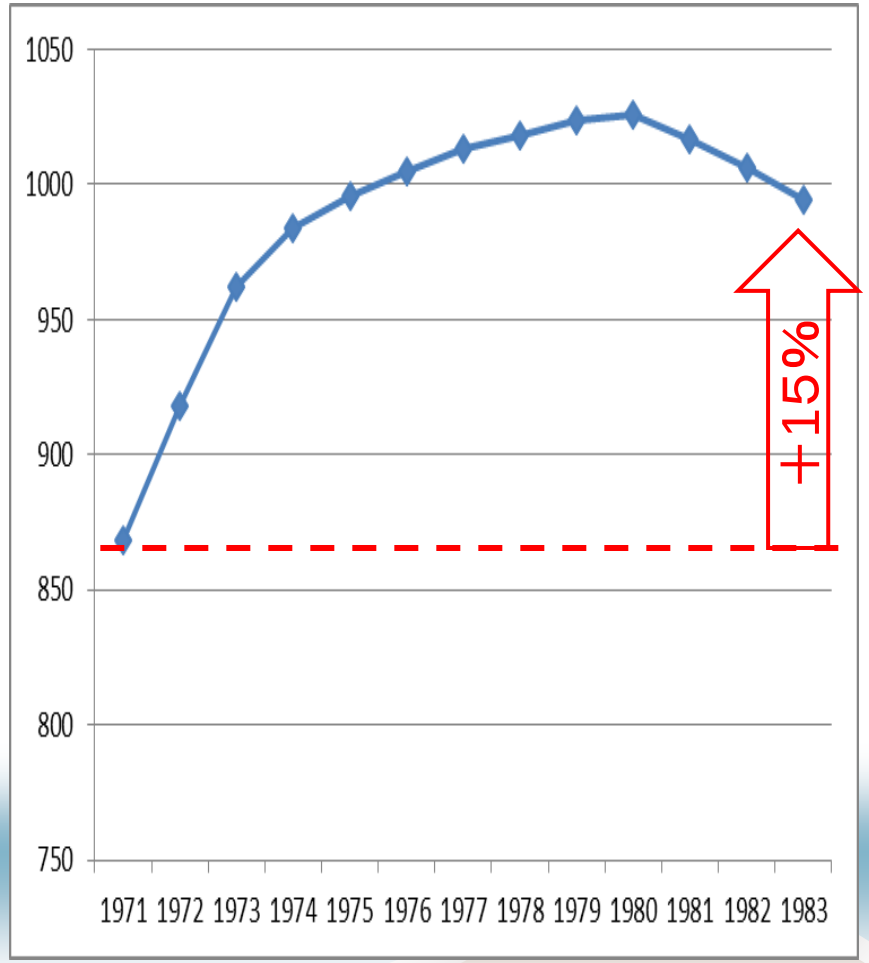
100 Years Have Passed since the Patent System was Established in Japan

Increasing Length of Time Required for Examinations

Number of Applications



Number of Patent Examiners



JPO's Plan of Establishing an Electronic "Paperless" Procedures

- In 1983, the JPO launched the project aiming for on-line filing and its electronic processing.

  -- The Patent Special Account was established for the JPO in 1984.

- Objectives and Achievements:

(1) On-line filing system ➔ Introduced in 1990

(2) Publication of official gazettes in electronic format ➔ Started in 1993

(3) On-line search systems by using the JPO's F-terms

➔ Introduced from 1989 in a step-by-step manner

➔ Expanded the use of outsourcing in conducting prior art searches (The Industrial Property Cooperation Center (IPCC) was established in 1985.)

Outline of IPCC
(Industrial Property Cooperation Center)

■Established in Dec. 1985

■Registered as a search organization under the “Act on Special Provisions for Procedures Related to Industrial Property Right”

■Main activity is the search of prior arts necessary for patent examinations by JPO.

■No. of employees (out of which no. of researchers): 1,808 (1,578)

Ref: No. of patent examiners at JPO: approx. 1,700

Thank you for your attention!

Yokohama Port