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The History of Canned Food

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The History of Canning

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Canning Industry Facts

- Nearly 200 billion cans of food are produced in the world each year.
- Eight billion dollar industry
- 200 manufacturing plants in 38 states
- Creates jobs for 35 thousand employees.

(food facts & trivia)
Why did we need canned food?

- In 1795 Europe was fighting the Napoleonic wars.
- Soldiers needed a way to keep their food from spoiling.
- Sailors were developing scurvy at sea.

(*history of canned food*)
The Donner Party

- 1840’s – group of 80 people traveling from Illinois to California
- On the way get caught in a pass in the Sierra Nevada due to a terrible blizzard
- Due to starvation, they resorted to cannibalism
- Most died from starvation
- Only half of the group survived

*(Donner Party)*
Had there been canned food…

- The Donner party’s tragic occurrence happened just before the commercialization of canned food.
- Had they a way to easily transport food that was healthy and safe from spoilage this story may have had a very different ending.
Innovation out of tragedy

- Created by Gail Borden. Feeling the after affects of the Donner Party’s tragedy, Gail Borden created foods that would support travelers on their journeys.
- Borden Condensed milk
- The first factory was located just outside of New York City.
- City Dwellers had no access to fresh milk, and it was a very difficult item to transport safely due to spoilage.
- Borden’s Condensed milk made milk available to everyone.

(The Rise of National Brands)
Borden’s Milk quickly generated many loyal customers.
Before Canning

- Before canning there were limited ways to keep food from spoiling.
  - Drying
  - Smoking
  - Curing

- These methods drastically changed the freshness and quality of the food.
- These methods were very time consuming and often difficult to do correctly.

( history of canned food )
Smoking/Drying food

- A process of food preservation where all water is removed from food
- Lack of water stops bacterial growth allowing it to be edible for a long time

--------------------------------------------------

- The proteins in food are drastically effected in the drying process
- Though they still have nutrients, they are not as healthy as fresh foods
- The drying process is very tedious and time consuming as opposed to canned food, which can be mass produced

(History and Trends of Food Preservation)
Smoked/ dried Food
Curing/pickling Food

- Curing food stops the growth of bacteria and preserves
- By adding salt the food becomes dehydrated
- This process negatively affects the nutritional value of food causing it to lose vitamins, proteins begin to get broken down
- Consuming large amounts of salt can dehydrate the body and have a negative effect on the heart

*(History and Trends of Food Preservation)*
Cured/ pickled Food
Scurvy

- Sailors would eat a great deal of salt cured food
- Cured food loses many essential vitamins in the curing process
- Scurvy is caused by a lack of vitamin C
- Between 1600 – 1800 over a million men lost their lives to scurvy
- Canned food dramatically changed the lives of sailors giving them the opportunity to be out at sea for extended periods of time with access to fresh nutritious food

(Scurvy, the sailor’s nightmare)
Why canning is the best method

- Canned food does not lose fiber during the process
- Packed at the height of freshness
- Vitamins, potassium, thiamin and carotenoids are not lost
- Meats do not lose any nutrient value.
- Some types of fish will even gain calcium when canned.

*(The Benefits of Canned food)*
“An army marches on its stomach”

In order to gain the upper hand in the war, Napoleon wanted to make sure his troops were provided with daily rations.

a 12,000 franc reward was offered to the first person to solve the problem of preserving food for extensive periods of time.

(Maxims of Napoleon Bonaparte)
The Troops

- “An army marches on its stomach” - Napoleon
- Too bad it was difficult to get food to the troops.
- “30-40 tons of food to feed the soldiers in his Northern Italian army in 1795 on a daily basis.” – (To Feed An Army)
- Could not have it delivered, so soldiers were given money to purchase food from merchants
- When there was no food, soldiers often stole, ate spoiled food, or went hungry
- Napoleon’s army were often deprived of food.
- With the invention of bottled and canned food, food could be stored and stay fresh for long periods of time, fueling the army.
- (Napoleonic Era)
Nicolas Appert
The Father Of Canning”

- Before finding the perfect method, Appert tried his hand at several preservation techniques.
- Discovered: food does not spoil once sealed in an airtight container.
- By 1806 Appert had perfected his method of preserving food in glass airtight containers.
- Appert won the prize of 12,000 Francs in 1810, when he published a book explaining his process.
- He created a factory called “The House of Appert” to produce bottled food using his method.
- This factory was the first commercial cannery.

(Empire week I) (Nicolas Appert)
An excerpt from Appert’s book (translated from its original French to English). “The Art of Preserving all Kinds of Vegetable and Animal Substances for Several Years.”

This section of the book display’s Napoleon’s decision to award Appert the award of 12,000 francs.

(The Art of Preserving All Kinds of Vegetables & Animal Substances for Several Years)
A year after Appert’s discovery, another bright mind perfected the process. The first canning factory was built to execute his plan. Rather than glass bottles, metal containers were used to store food. By 1813 canned food became available to the public. The word “can” now became common knowledge. (Empire week I)
Perfecting the Method

- The excerpt to the right explains the method used by Appert to preserve food. As time continues on, the method continues to improve.

- Rather than glass jars, Durant used clean metal containers, which were then sealed and boiled to keep the food fresh and free of bacteria.

- (The Art of Preserving All Kinds of Vegetables & Animal Substances for Several Years)
The First Tin Canning Factory

- 1812 Bryan Donkin & John Hall: Created first commercial canning factory using Durand’s patent for tin cans.
- Canning food allowed the military to travel farther.
- Great improvement for sailors who were terribly malnourished from eating heavily salted food.

(Can Central)
Early Tin Cans

- The first tin cans were made of iron plated with tin
- Cans are easier to make, and less fragile than jars

(History of tin cans and can openers)
The Can Opener

- For over 30 years, tin cans existed with no can opener
- Experiences of the US military during the civil war led to attempts to design effective openers
- Tin can with key opener – what you find on a can of sardines
- The Invention of tin cans had not become popularized for home use until the invention of the can opener because there was no easy way to open them.

  (History of tin cans and can openers)
  (Nicolas Appert)
The First Can Opener

- Invented in 1866.
- Patented in 1870

(Early Can Opener)
What can food represents

- 1880’s: canned food made widely available
- Canned food represented middle class America
- Prior to canned food, meat was a luxury. The average person’s diet might consist of bread and potatoes
- In 1914: Average Family spent 60% of their income on food.
- By 1937: Average family spent 35% of their income on food
- This is due in a large part to canned food, for making food that does spoil, and is inexpensive.

*(A history of food)*
Soldiers of WWII ate the same canned foods as sold in stores.

When they came home from war, they still wanted to eat these foods:

- Underwood Deviled Ham
- SPAM
- Van Camp's Pork and beans
- Borden Condensed Milk

(A History of Food)
RECIPE FOR
UNDERWOOD
DEVILED
HAM-QUICKS
1 cup prepared biscuit mix
1 can UNDERWOOD Deviled Ham

THEY'RE COMING FOR LUNCH-WE'RE IN A JAM!

KEEP COOL-JUST OPEN A CAN OF SPAM

AMERICA'S FAVORITE SANDWICH SPREAD
UNDERWOOD
DEVILED HAM
Always look for the Red Devil trademark to be sure of top quality and finest flavor.
ROMANCE Of The TIN CAN

by Nelson H. Budd

Napoleon, defeated by Nature—his armies starved on retreat from Moscow, first dreamed of victories by preserving food to feed his men. Had canned rations been available he might have conquered world.

Miles of thin steel shears being rolled out to be formed and turned into “tin cans” destined to supply the tables of the nation with everything from soup and fish to beer.

CUT all the tin plate used annually to make the tin cans of America into a strip one foot wide and you can wind that strip around the earth fourteen times.

Or, to visualize it another way, take the five billion odd square feet of tin plate into which we put our fruits, vegetables, meat, fish, beer, paint, oil, candy, cheese and tobacco each year and it would be a simple matter to can the moon. You’d have the biggest cheese can ever made, and still have a lot of tin plate left over.

The vastness of tin can production has brought this familiar article into the lives of nearly every American family, for it is in this country that the greatest volume of tin cans is produced. A good year will find between eight and nine billion cans for the food racks of this country and this is the business that accounts for the major percentage of cans.

Yet, what we call a tin can is not a tin can at all. The lowly tin can—nemesis of the alley cat, object of fun and ridicule—is made of a thin strip of steel, with a film of tin on its outer surface. The tin can is slightly more than 98% steel; slightly less than 2% tin.

In America we refer to the “can” or the “tin can” and to “canned goods” or “canned foods”; in England the term is the “tin” or “tinned foods.” But “tin can” is decidedly a misnomer. We might as reasonably call our bathtubs “enamels.”

This is how it came about. Back in the early eighteen hundreds metal food containers were being developed—the ancestors of today’s tin can. They were known as tin canisters. Copies of the yellowed order books of the salesmen show that they almost always abbreviated their notes, as “tin cans” or “cans.” And thus the word got into the vernacular to stay.

Every now and then a new canned product seizes public acceptance and shoots the manufacture of cans up into the millions. Within the past two years beer in cans has swept the country. Since this has occurred, the consumption of packaged beer, which formerly stood at 25% of the total output, has risen to 35%.

The phenomenal success of beer in cans has led vineyardists to the conclusion that wine also can become a profitable and popular tinned product.

Nine wineries, alarmed at the present exorbitant prices of their product in highly-
canned foods, and increased their production so much as to inevitably shoot can can manufacture up into volume. About 5,000,000 cans were made at the beginning of the war. By 1870, the output had increased six fold.

And it was at this stage that several inventions of importance in canned foods processing acted to increase the volume of tin cans, even to a greater degree than did refinements in the art of can making itself, which were indeed negligible. Canners were still processing (cooking) by boiling the cans for long periods. A Baltimore canner named Isaac Solomon applied an English discovery to the process. He added calcium chloride to the boiling water. Its temperature was increased to 240 degrees plus. Overnight, the time necessary for sterilization was reduced from five or six hours down to half an hour. The canner whose kettle capacity would produce 1,000 cans was able to turn out 10,000. This occurred on the threshold of the Civil War, in 1861.

That great disturbance gave many people their first taste of canned foods. Soldiers ate them in their bivouacs; sailors on their gunboats; the wounded in hospitals. Canning was no longer confined to the seaboard—to centers around Baltimore and in New England. Canneries sprang up inland—at Cincinnati and Indianapolis. Borden found a market for his canned condensed milk, after having failed for 10 years to put it over.

Improvements and inventions in the field of canning machinery also played their part in this expansion. It wasn’t due alone to processing refinements and the sole outstanding can-making improvement of the time, namely, the invention of capping seals and a furnace with which a young boy could seal twice as many cans as could the master tinsmith with the old style of soldering iron. This inventor was another Maryland canner, Louis McMurray. He also was the first big corn canner, and a new product leaped into the market, one that was destined to become one of the “big three” packs of canning. Last year, corn canners alone used about 264,000,000 cans.

Peas had to be shelled and picked by hand. E. P. Scott and C. P. and J. A. Chisholm perfected a machine that would shell peas from the pod as fast as 1,000 hand workers. Then Scott went a step further and produced the pea viner which, by using a paddle principle, knocked the peas out of pods and sifted them. Nearly 600,000,000 cans were needed last year to hold all the peas packed in America.

Someone discovered and broadcast the fact that tomatoes, or Love Apples as they were called then, were not poisonous. Nearly 648,000,000 cans of tomatoes were put up last year, with another 192,000,000 odd cans of tomato juice on top of that. A machine was perfected that automatically peeled and cored pineapples. Again, volume production of tin cans soared. Improvements in

(Romance of the Tin Can)
In Conclusion

Lacquers, enamels and lithography have come along to adorn and beautify cans but their chief value has always been and always will be their practicability, utility and convenience. The perfect vessel for food—they cook and they carry, achieving Appert’s dream—to keep foods edible over long periods of time.

(Romance of the Tin Can)
Works Cited


Works Cited Continued…


