1945 August 20-26

How Tin Cans Helped Win the War

The lowly tin can, or more properly the steel can with a tin lining has never invoked much respect. But during World War II, it was considered a valuable raw material for the war effort.

(Recycle Coach)

The tin can was created out of another wartime necessity 150 years prior to 1945. France was fighting wars in several countries in Europe and the Caribbean in 1795. Feeding soldiers and sailors far from home relied on preserving food with methods that were imperfect. The government of France offered a cash prize to anyone who could come up with a better way. Nicolas Appert, a French chef, packed food in champagne bottles sealed with cheese and lime. Appert refined his idea with other glass containers that were tried by the French navy starting in 1803. The following year, his factory started putting meat in tin cans that were soldered shut. Because there was no can opener at the time, the lids had to be chiseled open or pierced with bayonets to open the cans. Appert won the prize and published his innovation in 1810.[1]

Tin was an important material for the military. The United States had even larger armies and navies spread out all over the world that relied on tin in a multitude of ways.

Tin-coated steel cans fed most military personnel overseas. Food acids corrode most metals, but not tin. Tin cans were the most durable and safe containers for shipping food to where it was needed. The "10-in-one" K ration would feed ten men for one day. Each of those packages contained seven tin cans of food. Life rafts were stocked with square tins containing hard candy, chewing gum, and vitamin pills to sustain shipwreck survivors. One man was supposed to be able to live on this for five or six days. [2]

World War II Army K Ration
(kration.info)

Medical supplies also relied on tin packaging. Tin was used as containers for sulfa ointment and blood plasma, and it was the main component of individual morphine hypodermic syringes.[3]

Morphine syrette
(Epic Militaria)

Tin was important in military hardware. Each battleship built required seven tons of tin.[4] The United States built 10 battleships during the war.[5] Every submarine built needed more than three tons of tin.[6] The United States built 87 submarines during the war.[7] Just the electrical systems alone of each destroyer consisted of 490 pounds of tin.[8] The United States built almost 400 destroyers during the war.[9] Every medium tank needed three pounds of tin.[10] Multiply that by the 41,530 medium tanks built by the United States during the war.[11] The list goes on: five pounds of tin in every 1.5-ton Army truck, 13 pounds in every diesel engine, 48 pounds in every heavy bomber, and more tin in every airplane motor, as well as radar.[12]

It took a lot of tin to fight a world war; the problem was that the United States did not have any. Alaska, not yet a state, had a small amount of tin ore. All of the rest of the tin the United States consumed had to be imported. Before Pearl Harbor, that meant imports from the tin mines in Malaya, Sumatra, and the Dutch East Indies.[13] In 1937, the United States imported 338,240 pounds of tin ore. Imports of tin bars, blocks, and pigs amounted to 111,326,000 pounds in 1938.[14] After Pearl Harbor, the Japanese controlled all of that area.

Tin was classified as a *strategic material*, that is one that could only be obtained from overseas and whose supply could be curtailed by war.[15] Shut off from its main source of tin, the United States resorted to rationing, salvage, and recycling. One effect of food rationing was to reduce the number of cans needed for packaging domestic food supplies. Victory Gardens produced vegetables that could be eaten fresh or canned in glass jars. People on the home front had regular collections of tin cans and toothpaste tubes to recycle the tin in them. In 1944 alone, salvage drives collected 187,283 tons of tin cans and collapsible tubes.[16] Alberta Gund of La Crosse remembers crushing tin cans for local salvage and recycling all four years she was attending Aquinas High School.[17]

Toothpaste tube made out of tin
(AntiqueNavigator)

As the war went on, the enthusiasm for salvaging tin in the city of La Crosse waned. Tin can collections in 1945: (pounds)
January = 80,000
February = 62,000
March = 58,000
April = 36,000
May = 21,000
June = 39,000
July = 24,000
In August 1945, E. E. Tippey, district salvage chief for the war production board, warned that there was still a great need for tin. It would take at least two years to put tin mines back into production overseas, and the United States had "less than nine months' supply of tin on hand."[18]

Even after the Japanese surrendered, tin, as well as waste paper, salvage and collection continued.[19]

We'll Have to Pull Together— 'Till All the Boys Are Home!

The end of the war finds many of our men and women in service still overseas, many of them facing a long period of duty as occupation forces. The millions, still in the armed forces must be supplied with food and clothing and industry must be supplied with critical materials for civilian production. That is why we will still need tin and paper salvage for some time to come.

Tin especially will be needed by the auto industry, which in the past has consumed approximately 100,000 tons per year, our present inventory is about 28,000 tons. To provide employment for the millions who have lost their jobs through cancellation of war contracts and to speed production of civilian goods, tin will be critically needed for some time to come.

Paper will be critical until such time as our pulp industry is again able to produce quantities sufficient to cover paper mill needs. To keep food and clothing going to our boys and girls in service we must continue to save and turn in waste paper.

The home front must continue to pull together in the post war era to help solve the problems that loom so large in the critical conversion period.

Double Salvage Collection

TIN CANS AND PAPER TOMORROW— Curb Your Paper and Cans TONIGHT!

Be Sure to Keep Tin Cans and Paper Each in Separate Containers!

This Page Is a Contribution to America's All Out War Effort by the Following Committee for Victory ...

A B C Potato Chips and Popcorn
Ahrens Oil Co., Gasoline Alley
American Legion Post No. 52
American Way Food Stores
Anderson Tire and Battery
Allis-Chalmers Mfg. Co.
Arms Shoe Co.
Arcade Bowling Alleys
Auto Parts Service
Avalon Ballroom
Badger Hide and Fur Co.
Badger Stamping and Tool Co.
Barron's
Batavian National Bank
Belmont Cafe
E. F. Benson Optical Co.
Berg Paint and Wallpaper Co.
Berman's
Big Shoe Store
Bodega Lunch Club
Boldman's Pure Oil Service
Bump Pump Co.
Byers Flowers
Cargill's
City Cab Co.
The E. C. Cheney Co.
City Home and Lumber Co.
Citizens Loan and Finance Co.
Clark-Bracken, Inc.
Community Loan and Finance
Community Sales Service
Conrad Fur Co., Inc.
Continental Clothiers
Convenient Credit Jewelers
Crescent Jewelry Co.
Dahl Motors
Dittman Hardware
Wm. Doerflinger Co.
Dolly Madison Dairies
The Elite
Erickson Bakery
Erickson Bros., Onalaska
Exchange State Bank
Fantle's
First Credit Co.
Field's
First Federal Savings and Loan Ass'n.
Federal Bakeries
Gantert's
Gateway City Transfer Co., Inc.
Gateway Motor and Auto Supply Co.
Gay Frock Shop
George Tire and Battery Depot
A. Grams and Sons, Feeds and Seeds
Groves and Bjoin
Gojo Lunch
Hammes Garage
Haraldson's Shoe Shop
G. Heileman Brewing Co.
Heiland and Wrobel
Hirschheimer Foundry Co.
Hirschheimer Tent and Awning Co.
The Hoeschler Drug Co.
Holmen Dairy
Holmen Canning Co., Holmen
Household Finance Co.
Howards Clothing Store
The Iris Cafe
D. Jahlen and Sons
Jordan's
A. A. Lissenfeld
W. C. Kaiz and Co.
Kay Cut Rate Drugs
Lottie's Ready-to-Wear Shoppe
Kewpee Lunch
Kiesnake Flower Shop
Kinney Shoes
S. S. Kresge Co.
Adam Kroner Company
La Crosse Garment Mfg. Co.
La Crosse Iron and Metal Co.
La Crosse Laundry and Cleaning Co.
La Crosse Novelty Box Co.
La Crosse Paper and Box Co.
La Crosse Printing and Engraving Co.
La Crosse Recreation Alleys
La Crosse Rubber Mills Co.
La Crosse Sign and Advertising Co.
La Crosse Telephone Corp.
La Crosse Tool and Die Co.
La Crosse Trailer and Equipment Co.
La Crosse Tribune and Leader-Press
La Crosse Trust Co.
Levy's News Agency
Joseph J. Leinfelder and Sons, Inc.
Linker Hotel
Salem Markee and Sons
Max's Auto Wrecking Co.
McKenzie Chevrolet Co.
Joseph Miller Co.
Mississippi Valley Public Service Co.
Mote Motor Garage and Equipment Co.
Modern Dairy
Modern Laundry and Cleaning Co.
Montgomery Ward
National Bank of La Crosse
Nelson Clothing Co.
Neuhauser's
Newman Monument Co.
Newburg's Men's Store
Carl B. Noelke Co.
Northern Engraving Co.
Northern States Power
N. Nustad Co.
Ora's Shoe Store
Oswalter Van Service
Oujer's Laboratories, Inc., Onalaska
Peerless Brewers
Penney's
Pepsi-Cola Bottling Co.
Ed. Phillips and Sons Co.
Geo. C. Phillips Appliance Co.
Pla-Mor Bowling Centre
Pure Food Ice Cream Co.
Randall-Ebner Co.
Roosevelt Co.
John A. Salzer Seed Co.
Schilling Paper Co.
Schultz and Nelson Cleaners
S. and H. Sport Shop
Sears-Roebuck Co.
Segelke and Kohlhaus Co.
Service Transfer
Seven-Up Bottling Co.
Servisoft Soft Water Supply
Sherwin-Williams Co.
Smale's Dairy Store
Snell's Pay Less Drugs
Spence-McCord Drug Co.
Speciel Office Supply
Star Cafe
Star Knitting Co.
State Bank of La Crosse
Stevenson's
Stuber's Floor Covering Shop
Swartz Office Supply Co.
Sweet Shop
Tausche Hardware Co.
Terry Music Co.
Frank J. Tighe Co.
Tillman Bros.
Tiny Tots and Young Folks Toggery
John Torrance and Son
The Trane Co.
Tri-State Credit Bureau, Inc.
Uptown Cigar Store
Used Tractor and Parts Co.
Vach-Warner Monument Co.
Voigt Auto Body Shop
West Salem Packing Co., West Salem
Whitebreast Coal Co.
Wisconsin Audit Bureau
Yerly Coal Co.
Ralph H. Young

(*La Crosse Tribune*, 1945 August 24, page 7)

There was another incentive to continue collecting tin. As the public service advertisement above points out, the automobile industry required about 100,000 tons of tin every year. That had changed during the war with car makers producing Army vehicles, tanks, and airplanes instead. Now that production of civilian goods was resuming, manufacturing new automobiles required tin.

The tin can---essential in war and peace.

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Sources & Notes:

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[2] "Tin Is A Fighting Metal! Syrette Made Of Two Tin Cans Saves A Serviceman's Life," *La Crosse Tribune*, La Crosse, Wisconsin, 1945 March 27, page 8.
[3] *La Crosse Tribune*, 1945 March 27.
[4] *La Crosse Tribune*, 1945 March 27.
[5] John Ellis, *World War II: A Statistical Survey: The Essential Facts and Figures for All the Combatants* (New York: Facts on File, 1993), 295.
[6] *La Crosse Tribune*, 1945 March 27.
[7] Ellis, 301.
[8] *La Crosse Tribune*, 1945 March 27.
[9] Ellis, 299.
[10] *La Crosse Tribune*, 1945 March 27.
[11] Ellis, 303.
[12] *La Crosse Tribune*, 1945 March 27.
[13] *La Crosse Tribune*, 1945 March 27.
[14] United States Department of Commerce, *Statistical Abstract of the United States*, "Table 559 Imports of Merchandise, By Commodity Groups and Articles: 1926-1938," (Washington, D. C.: Government Printing Office, 1940), 577.
[15] *Summary of the Second World War and Its Consequences: An Alphabetical Reference Book*, (Chicago: F. E. Compton & Company, 1946), 34. The other materials classified as strategic were: aluminum, antimony, chromium, coconut shell, char, manganese, mercury, nickel, tungsten, quartz crystals, mica, manila fiber, opium, quinine, rubber, and silk.
[16] *Summary of the Second World War and Its Consequences*, 34.
[17] Alberta Gund, telephone conversation with the author, 2020 February 2.
[18] "La Crosse Falling Down On Tin Salvage, Aldermen Told," *La Crosse Tribune*, La Crosse, Wisconsin, 1945 August 8, page 3.
[19] "Waste Paper, Tin Collections Planned For City On Saturday," *La Crosse Tribune*, La Crosse, Wisconsin, 1945 August 22, page 9.