

The Inspiring and Surprising History and Legacy of American Lager Beer

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ABSTRACT

The Inspiring History and Legacy of American Lager Beer is envisioned to be a nine-volume series of books covering the history of the American lager brewing industry from the 1840s to the 1940s and the evolution of adjunct lager beer as America's "national beverage." The "surprising" aspect of this history is that it ever happened at all, given the half-century-long assault on the industry between the 1870s and 1910s to impose an "American Reinheitsgebot." Unified in this objective were a plethora of the nation's political, cultural, and agricultural institutions—all seeking to ban to use of rice and corn-based products in the brewing of American ales and lagers. Equally united in opposition to this effort were the brewers and brewing scientists of

America. In battles that were passionate, highly public, and intense in nature, these brewing industry advocates successfully defended the right of American brewers to brew with the ingredients of their choice. It is a powerful legacy not only for America's first revolution in beer (the adjunct lager brewing industry) but also for the nation's second revolution in beer (the American craft brewing industry). In this article, an overview is provided of the scope, structure, and content of the nine-volume series, with historical vignettes provided to help illustrate these.

Keywords: adjunct lager beer, American beer history, beer standards, corn, malt substitutes, Reinheitsgebot, rice

Introduction: Adjunct Lager Beer, America's National Beverage

It is not uncommon to hear beer described as America's "national beverage." But it has not always been that way, not by a long shot. As we approach America's quarter millennial anniversary in 2026, the history of beer in the United States has been as diverse and dynamic as the very Republic itself. For much of the first century after our founding, beer as an alcoholic beverage was a relatively minor player, with distilled liquors and hard ciders being our predominant beverages of choice. During this first century, "American beer" overwhelmingly meant English-style ales, porters, stouts, pale ales, and India pale ales. But all that started to change when, beginning in the 1840s, lager beer was first brewed in the United States. Originally a beer produced by and for German immigrants from the 1840s through 1860s, this lager was the darker, sweeter, maltier, reddish-brown, all-malt Munich Dunkel style of beer. But then something profound took place when Pilsner-style lager beer was first brewed in the United States beginning the 1870s. This pale and translucent style of lager beer captured the imagination of the nation, so much so that by the 1890s it was routinely referred to in the press as the nation's "national beverage." The following quote from August 13, 1894, pulled from the *Indianapolis Journal* in an article entitled "American-Made Beer" (9) is typical: "The increase of the consumption of American brewed beer in the

United States during the past twenty, and particularly during the last ten years, is a most remarkable phenomenon in the natural life of a people which has ignored the customs and precedents of older civilizations."

But was this "most remarkable phenomenon" just due to the dramatic increase in America's population taking place during this period? After all, Ellis Island was an awfully busy place in the last half of the 19th century! To answer this question, the *Indianapolis Journal* reporter tapped into Internal Revenue statistics from 1840 to 1893, and the findings were telling. While the per capita consumption of spirits *declined* by over 50% during this period (from 2.5 gallons in 1840 to 1.2 gallons in 1893), the per capita consumption of beer *increased* an astounding 11.5-fold! David (i.e., lager beer) had truly slain the American Goliath of hard liquor in a remarkable transformation of a nation from one of hard liquor drinkers to one that loved beer. Statistics aside, perhaps one of the most unique—and visual—anecdotal examples capturing our transformation from booze to beer was a newspaper article published on July 28, 1904, in the *Salt Lake City Tribune* (19), entitled "Trailed by Beer Bottles." The writer compared American drinking habits during the military campaigns of the Civil War (1861–1865) with those of the Spanish-American War of 1898 and China's Boxer Rebellion (1899–1901). He wrote (19):

"Whenever an American army passed in the war with Spain," said the observant man, "its pathway was clearly indicated by a trail of empty beer bottles. There were enough beer bottles flung away along the line of march in Cuba, it seemed to me, to pave the streets of a city the size of St. Louis. I found the same conditions in the Philippines when I was sent over there, and afterward in China, during the Boxer rebellion. Now during our Civil War they used to say that the route of the army was marked by a trail of empty whisky flasks; beer was at that time a comparatively unknown beverage to Americans. But that trail of beer bottles in Cuba and the Philippines shows the change that has taken place in years. We have become a nation of beer drinkers."

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But what type of beer filled those bottles littering the fields of Cuba, the Philippines, and China from so long ago? Was it ale, all-malt lager, or adjunct lager? In this regard there are two things we can say with absolute historical confidence, namely, it was far more likely (1) the beer was lager, not ale, and (2) that it was adjunct lager beer, not all-malt lager beer. In fact, even *decades* prior to these historical conflicts, such a claim could be made with complete historical confidence, as evidenced by this 1886 quote describing the profound changes that took place in the American beer market between the 1860s to 1880s (25):

The public taste for beer has within the last twenty years undergone a great change. We constantly hear that the beer of the present day is not of the quality brewed by our fathers. Perfectly true. The beer of the present day, brewed under the supervision of scientific men, is infinitely superior to that turned out on the old-fashioned haphazard rule of thumb system. If there were any demand for the heavy gouty beers of the past, they would be immediately supplied in at least as fine condition as ever brewed by farm or college servants. But the taste for such beer is infinitesimal at the present time and confined to a few localities, where also it is rapidly dying out. The well-to-do classes demand a new, light, bright, brisk, bitter beer, which, if brewed from malt alone, would not meet the requirements of the majority of that class. It is well known that those brewers whose light beers are renowned use a percentage of rice or corn in their manufacture. The heavier pale beers, which require considerable storage prior to consumption, are alone best brewed from malt and hops only. These beers are consumed by all classes. The much-coddled working man has also an opinion of his own, and one, moreover, which carries much weight. He does have his choice, and he does know what he is drinking. The general experience of brewers is that the workingman prefers those beers brewed with a proportion of rice or corn.

Remarkable paragraph, is it not? The author was none other than the esteemed American brewing scientist Dr. John Ewald Siebel (Fig. 1), who wrote it under an editorial in the *Western Brewer* entitled “The Public Taste.” A staunch advocate for ad-

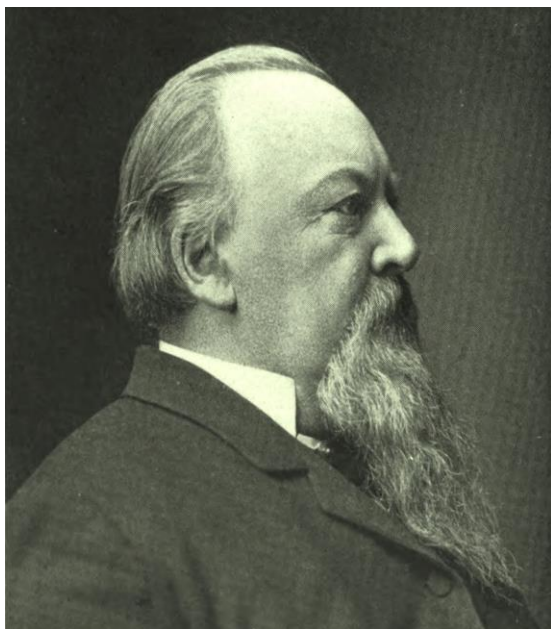


Figure 1. Photograph of Dr. J. E. Siebel in 1906 (24).

adjunct lager beer, Dr. Siebel had little time for period “connoisseurs” who claimed adjunct lager beer was inferior to all-malt lager beer. Just 12 years later, in 1898, Siebel would be even more direct in his praise for our national beverage (26):

For the reasons given, the raw grain beers may be looked upon as specifically American. Aside from the general inclination of the American people above referred to, there still remains a large number of people who prefer a malt beer of full body to a more vinous raw grain beer, and there are some with whom it undoubtedly agrees better. Among the latter must be reckoned more particularly those who use beer not as a stimulant and a supplement to their general diet, but rather as a principal article of food, as for instance, invalids, convalescents, women in confinement, children, etc.

Additional evidence that our national beverage at this time was lager, not ale, is found in the following from the May 30, 1895, issue of the *Boston Post*. It illustrates how dominant the lager brewing industry had become in America, noting, “the fact that ale-brewing is confined to a comparatively narrow belt along the seacoast and is practically limited to the stretch from New Hampshire to New York, and goes no farther West than Pennsylvania, while the vast Western, Northwestern and Southwestern territory counts its lager beer breweries by the thousands and holds not a single ale brewery within its limits, is an astonishing one, at first view” (2).

Definitive empirical evidence that this lager was *adjunct* lager beer is shown in the following from the December 8, 1912, issue of Louisville, Kentucky’s *Courier-Journal* (7): “According to the Pure Food Board less than 5 per cent of the beer brewed in this country is an all-malt product. Ninety-five per cent of the article sold as beer contains in addition to malt unmalted cereals in varying proportion and other substitutions for malt.”

In terms of hard numbers however, no better source from this period can be found than the archives of the federal government. Fortuitously for brewing historians, when the \$1 per barrel beer tax was passed in 1862 to help finance Union expenses during the Civil War, a component of the legislation was that *every* brewery in the United States was required to keep meticulous records of the materials used to brew beer. Because of this, for every drop of beer brewed in America since 1862 we know *exactly* the quantities and kinds of materials that were used. A snapshot of this type of data from 1896 (not shown in this article) leaves zero doubt as to the ubiquitous nature of the use of adjuncts. Literally used in *every* state in the Union (28), brewing with rice and corn was clearly not limited to a handful of famous “shipper” breweries. No, the use of these was overwhelmingly *America’s* way to brew.

The following vignettes will help illustrate the people, technology, and circumstances of the time that made history as we know it.

Historical Vignettes

Milwaukee, 1839

In 1839 a German immigrant residing in the far western city of Milwaukee named Franz Neukirch wrote a letter to his wife then still living in Hessen-Darmstadt, Germany. From his words it is evident Neukirch was not just satisfied with his new life in America, he was truly quite thrilled to be living in a United States less than 65 years after its founding. Particularly revealing of his excitement was the following passage (5): “Everything here is still in the process of becoming ... I could write to

you at great length concerning this land of freedom, where all things seem so different from what they are in Europe, but my letter would become too long.”

If Franz Neukirch was enjoying a beer while writing his letter, it was most likely a top-fermented ale, porter, or stout—certainly not a lager, because lagers were still 3 years away from their first brewing in the United States. However, within just five decades of writing this letter, bottom-fermented lager beer would be the overwhelmingly dominant beer of the land. Such a seismic shift in the American beer market would likely not have come as a surprise to Neukirch, given his belief that America was a land where everything “is still in the process of becoming.” Indeed, it would probably not have surprised him that in “this land of freedom,” this lager would *not* simply be a clone of a German, Austrian, or Bohemian style of lager beer but instead be *uniquely American* in the method of brewing, taste, and appearance to the eye. For in the half-century following his letter, in a nation “where all things seem so different from what they are in Europe,” America’s national beverage would be a style unlike any in the western world—a lighter tasting, brilliantly transparent (especially when ice cold), physically stable, pale Pilsner-style lager beer brewed with about one-third of the malt replaced with rice or corn-based malt substitutes.

While it might have surprised Neukirch that this style would go on to enjoy a century-long run as essentially the nation’s single style of beer, the idea that a second revolution, producing an entirely different array of beers, would flourish after this run would likely not have come as a surprise to him. However, that this *freedom* to produce the adjunct lager beers of the 19th, 20th and 21st centuries and so many of the brands and styles of today’s craft brewing industry was within a hair’s breadth of being taken away in the decades just prior to Prohibition, now that was something that most definitely would have come as a shock to Neukirch. And it was close, so very, very close.

New York City, 1908 (and 1899)

On the morning of Wednesday, October 28, 1908, a 36-year-old master brewer named Frank William Rickers left for work from his home at 116 East 51st Street in Manhattan, living proof the American dream was very much alive. Born April 15, 1872, in the small town of Barlohe in Germany’s northernmost state of Schleswig-Holstein, he arrived at Ellis Island to start life anew in the United States on June 27, 1888, aboard the *S.S. Hammonia* of the Hamburg Amerika Line (17). Naturalized as a U.S. citizen on January 11, 1894 (13), in the 1900 U.S. census (15) both he and the woman he would marry on December 8 of that year (14), Sophia Weber, were listed as two of the multiple “boarders” residing at 116 East 51st Street, located just three blocks east of today’s Rockefeller Center. However, by the time of the 1905 New York state census (16), the residence was home to five people: the Rickers, their children Frank and Dorothy (ages 3 and 1, respectively), and a 20-year-old boarder with the listed occupation of “servant.” For an immigrant who had left Germany at the age of 16 with little more than just the clothes on his back, Frank William Rickers had indeed made the most of the next 20 years of his life!

Rickers’s short commute took him to his job as the head brewer for the F. & M. Schaefer Brewing Company. His focus that morning, as it had been since his promotion in 1905, was on producing Schaefer’s flagship brand of lager beer. But while Wednesday, October 28, 1908, was one of but thousands Rickers spent producing adjunct lager beer, it was Rickers’s role as the keynote speaker at a meeting of the American Brewing Institute that evening that makes this vignette so pertinent. Assem-

bled in the audience that night were many of the era’s most prominent brewers and brewing scientists, including Dr. Francis Wyatt, head of New York’s National Brewing Academy; Dr. Max Wallerstein, who in partnership with his brother Leo co-founded Wallerstein Laboratories in 1902; and Dr. Carl Rach, the Staten Island-based brewer and inventor whose “Rach Cooker,” while but one of many cooker designs available at the time, was responsible for *one-sixth* of all the beer brewed in America in 1908 (11). In the course of his lecture entitled “A Comparison of the Cellar Treatment of German and American Lager Beers,” Rickers had this to say regarding differences between the two nations (18): “the American public is far more exacting than the German in its demands for brilliancy, freedom from yeast and stability; and while beer is most generally served in mugs in Germany, we prefer glasses, that is to say, the German drinks with his tongue, and the American with his eyes.”

In the robust question and answer period following the lecture, numerous comments were made expanding on Rickers’s perspective, including Dr. Francis Wyatt, who stated all-malt German lager beer “would not fulfill the requirements called for by American consumers” (18). A brewing scientist, Dr. Wyatt (Fig. 2) was a passionate and vocal advocate in the American brewing industry, whose credentials included time spent studying in Louis Pasteur’s Paris laboratory.

Looking back, Dr. Wyatt’s testimony nine years before regarding the use of malt substitutes at hearings sponsored by the Pure Food Congress held at New York City’s Imperial Hotel exemplifies what the author considers to be the most eloquent explanation behind their use, including the following excerpt describing the evolution of American adjunct lager beer over the last half of the 19th century (22):

It is very possible that at the time that those beers were made they suited the public taste and were probably suited to the climatic conditions of Germany, but when those beers were

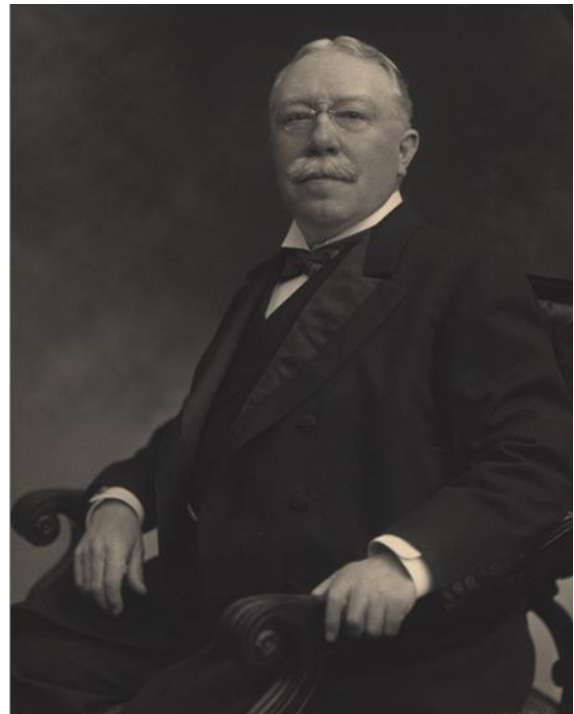


Figure 2. Photo circa 1910 of Dr. Francis Wyatt (1854–1916) posted on the *Chemical Heritage* web page (31).

introduced into this country and made in that way, as they were made originally some twenty-five or thirty years ago, they did not suit the climatic conditions of the United States, nor did they suit the palates of the American consumers. It was desirable to make a lighter beer ... it is a very difficult matter to make brilliant beer from the malts made in this country ... brewers now use, in addition to malt, various percentages, say from 20 to 35 per cent, of starch-bearing cereals, notably rice and corn ... it was also desirable to make a beer which should please the aesthetic as well as the epicurean sense.

So powerful was Wyatt's testimony at this hearing that this author believes the following exchange between him and Chairman Mason represented the *precise* moment an American Reinheitsgebot was avoided in 1899. The Chairman asked, "And then there is to be taken into account the aesthetic consideration—most people like to see their beer light?" Dr. Wyatt replied simply, "Yes" (22).

Chicago, 1911

Three years after Rickers's lecture, for much of October 1911, Prof. Dr. Adolph Cluss (Fig. 3), Director of the Royal and Imperial Brewers' Academy of Vienna, was in Chicago attending both the American Exposition of Brewing Machinery Materials and Products (October 12–22) and the Second International Brewers' Congress (October 18–22). Representing the technical pinnacle of the American brewing industry, these globally attended events showcased every aspect of Yankee ingenuity involved in the production of the world's then most brilliant and stable style of lager beer. This was, in fact, in the same year the United States became the world's leading producer of beer. The marvel of its time, even prominent members of the German brewing industry risked obloquy in publicly acknowledging this superiority of American lager to audiences in both Germany and the United States. Europeans had much to learn from America as to how to brew and package a lager beer that would remain brilliant and physically stable for months, regardless if served locally or shipped to any climate around the world. In the case



ADOLPH CLUSS, Dr. phil.

Figure 3. Photo of Prof. Dr. Adolph Cluss in 1911 as an attendee at the Second International Brewers Congress (3).

of Adolph Cluss, by 1911 he had already spent many months over the course of the past several years on behalf of the Austrian government researching and studying the American brewing industry. High-profile in nature, these visits even included being received at the White House in 1908 by President Teddy Roosevelt himself (20).

During his October 1911 visit to Chicago he provided a lecture to Dr. J. E. Siebel's Zymotechnic Alumni Association entitled "What Are the Most Prominent Characteristics of the American Brewery?" (4). The lecture represents what the author considers to be the most precise and concise pre-Prohibition (i.e., pre-1919) analysis ever written describing differences between the German and American lager brewing industries. Especially insightful were Cluss's conclusions as to *why* by then the overwhelming majority of America's lager beer included the extensive use of rice and corn-based malt substitutes. With regard to the varieties of six-row barley used at the time to brew beer in America, Cluss had this to say about why raw grains were an intrinsic part of American brewing (4):

By far the greater percentage of the barleys grown in America for the purposes of beer production—especially the various six-row varieties—differ from what we are accustomed to call by the name of brewing barley, not only vary remarkably in their appearance and in certain important physical properties which apply specially to the soaking and germinating processes, but also in their chemical composition. In the latter respect the much greater average albumen contents of the six-row American barleys is most striking. If the latter, which form the greater part of all brewing barleys were used exclusively, it would make beers of too great a content of nitrogen with all the well known disadvantages associated with the same. Therefore, quite apart from economic considerations, the qualities alone of the fundamental material compels the American to use at the same time raw materials which are rich in starch but poor in protein, such as are presented in rice, grits and in the various corn products generally. The raw grain is, so to say, the means of dilution, which is to counteract the high albuminous contents of the principal material, the barley.

With regard to consumer-driven preferences for lager beer in the United States, Cluss provided a candid assessment regarding Americans and our "misguided" preference for ice-cold lager beers lighter in taste (4):

Now, with regard to the second typical characteristic, the direction of the American taste. The American demands, besides, that even in the lowest temperatures the beer not only remains quite brilliant, but also "piquant" and prickling, and in no case soft, full-mouth bold and strong like our beers. For the American the beer is more a means of refreshment than of invigoration.

To begin with he will only drink it in icy cold condition, as his taste has already been trained or rather misguided in this direction by his beloved ice water. At the same time and in spite of the low temperature he insists that the beer should be brilliant. This leads to the consequence that the American brewer must do everything possible to make his product absolutely chill-proof. How he arrives at this end, I have no space here to explain in detail. But only with a view to this can we understand the extensive use of beautifying means prevalent in American breweries. But we may go a step further even and say, that the American not only demands a beer which has lost every sensibility against cold, but altogether a beverage that meets the most extreme resistance against influences, and which, if I may use a term popular in Europe, can stand any kind of maltreatment.

I have had frequent opportunities to observe beers, which had been lying for hours at railroad stations or piers in a burning sun and had then again been cooled down to the freezing point, without undergoing the slightest change so far at least as could be observed from outside appearance. Such treatment no European beer could withstand, even not if it had been specifically prepared for export. Least of all the light Austrian and especially Bohemian beers, would, according to experience, withstand maltreatment of this description. For this reason I—and I have no doubt many a European countryman the same as I—have often preferred the domestic American beer to the imported European brew, because the latter, if not totally spoiled, was at least quite turbid from the cold.

A Federally Imposed American Reinheitsgebot: How Close We Came (1887–1912)

Throughout 1887–1912 the American brewing industry fought off wave after wave of assaults by the U.S. federal government to impose what in essence was an “American Reinheitsgebot.” Then, as today, the politics essentially boiled down to money. During the 1840s to 1860s, the maltsters and barley growers of the nation were only too happy to enjoy the benefits of the dramatic rise in all-malt lager beer, but by the 1870s they were starting to feel the impact of rice and corn-based malt substitutes on their bottom lines. And what does an industry do in the United States when it needs federal legislation to improve its profitability? Why, it hires D.C. lobbyists of course! And this is *exactly* what took place in the battles that played out over the four decades preceding Prohibition between the brewers and the barley growers and maltsters of America (and, oddly enough, the hop growers of upper New York State as well!).

Often refreshingly open and candid to the media and the government as to the financial motivations behind their agitation—especially for assaults taking place after 1890—these foes of the use of rice and corn took full advantage of the systemic animus and bias of overwhelmingly Anglo-Saxon legislators against their use. For as “everyone” knew, the only “real” beer, the only “pure” beer, the only “genuine” beer, the only “unadulterated” beer was a lager beer made the Bavarian way. Everyone knew this except the millions and millions of beer drinkers in the United States who made it abundantly clear through their daily purchasing decisions that they preferred America’s adjunct lager beer over Bavarian all-malt beer. From the 1870s onward, these decisions were entirely *informed* decisions, because the brewers of America were overwhelmingly incredibly transparent, open, proactive, and passionate about explaining to the American public *why* they employed malt substitutes.

One of the mechanisms used by the industry to explain the reasons behind the use of malt substitutes was federal government hearings held in conjunction with legislative efforts focused on banning or severely curtailing the use of malt substitutes. One of the earliest of these was held during the spring and summer months of 1890 in Washington, D.C. Chaired by Representative William McKinley of Ohio, Civil War veteran and chairman of the all-powerful Ways and Means Committee, and future 25th President of the United States, these hearings were held to facilitate public input into bills dealing with the American brewing industry. Images reflecting the core of these two bills, as obtained from the Library of Congress, are shown in Figure 4. Senate Bill S. 3353 (23), drafted and referred to the Committee on Finance by Colorado Senator Edward Wolcott, mandated that “for the purposes of this act the words ‘lager beer’ or ‘lager bier’ shall be understood to mean the fluid, drink, or beverage usually known as lager beer, and which is made exclusively from hops, malt and water.” The House of Represent-

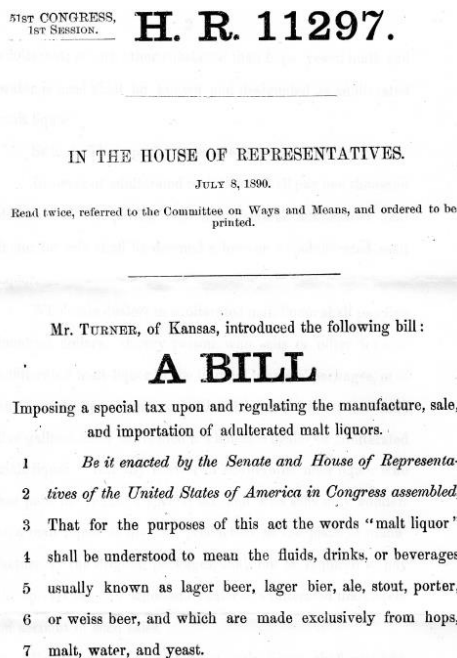
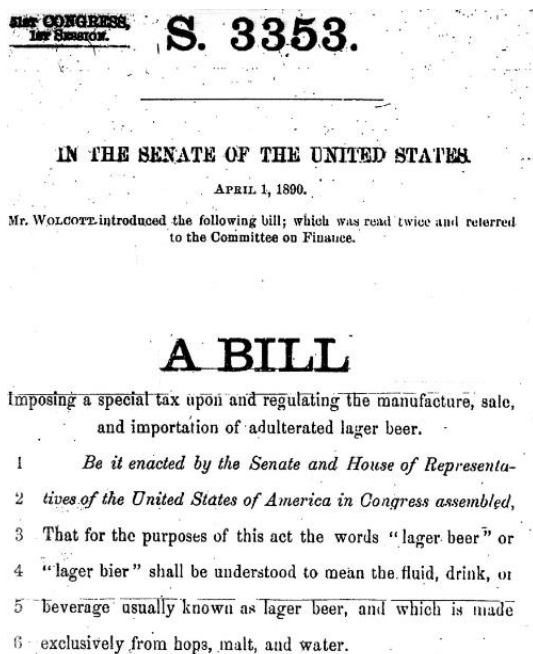


Figure 4. Cover pages of Congressional bills from 1890 equivalent to enacting an “American Reinheitsgebot.” Left, Senate Bill S. 3353 from April 1, 1890 (23); right, House of Representatives Bill H.R. 11297 from July 8, 1890 (8). Rodney A. Ross, Center for Legislative Archives, Library of Congress, is thanked for providing a gratis copy of H.R. 11297. The copy of S. 3353 was purchased by the author from the Library of Congress’s Duplication Services.

atives bill, H.R. 11297 (8), drafted by Erastus Turner of Kansas (Fig. 5), was even more sweeping in its wording, stating that “for the purpose of this act the words ‘malt liquor’ shall be understood to mean the fluids, drinks or beverages usually known as lager beer, lager bier, ale, stout, porter, or Weiss beer and which are made exclusively from hops, malt, and water.”

These bills were drafted at a time in America when the totality of Congressional laws passed in a year could be printed in a single issue of a weekend newspaper (yes, this was indeed a different time!) and were but a scant 9 and 10 pages, respectively, of double-spaced wording. Both bills outlined, with great specificity, the magnitude of fines and length of imprisonment brewers would face should they violate the requirements of the legislation. Essentially, the legislation was drafted to ensure a win-win outcome for the federal government (by placing a higher rate of taxation on any beer brewed using malt substitutes, that is, the vast majority of the beer sold at the time!) and barley growers/maltsters (who hoped to shift the marketplace back to all-malt beers by forcing all packages, and places of sales, to prominently state **ADULTERATED BEER**), but it was a lose-lose for the brewing industry and the American public.

Despite the fact that there were two bills, one from each chamber of Congress, this 1890 push by federal legislators to enact an American Reinheitsgebot was universally referred to by the press and the American brewing industry as the “Turner Adulteration Bill.” If this legislation had passed, it would have *profoundly* altered the history of beer, not just in America but on a global basis as well. Overnight it would have had a radical effect on the brewing of the style of beer that by 1890 already represented the vast majority of the American beer market—adjunct lager beer. Fully aware the legislation had been initiated by lobbyists working on behalf of the American malting industry (especially those centered in Buffalo, New York) and drafted by politicians operating under the paradigm that the only good beer was Bavarian beer, the American brewing industry mounted a full-court press in their defense.



Figure 5. Kansas representative and Civil War veteran Erastus Turner (1846–1933), author of the “Turner Adulteration Bill” and the man who almost single-handedly changed the course of American beer history. Reproduced with permission, kansasmemory.org, Kansas State Historical Society (27).

As an aside, were he alive at the time, Phillip Best, founder of what would eventually become the Pabst Brewing Company, would undoubtedly have been fully behind this effort, given how in 1847 he had written thus to his wife’s family in Hessen-Darmstadt, Germany, as to why they should consider immigrating to the United States (6):

In Germany no one knows how to appreciate the liberty to which every human being is entitled by birth, only here in America can he experience it. Here the farmer may speak as freely as the nobleman and the scholar, everyone may express his opinion with his knowledge and judgment, for all the laws depend upon the people. . . . There is a tremendous difference, here the officials and priests are dependent upon the people, and in Germany the people are dependent upon the officials and priests.

The spirit of this conviction was never more amply demonstrated than in the two-prong strategy developed by the *people* of the brewing industry in addressing this legislative threat, specifically:

1. To educate Congress (and by default the American public) as to *why* the typical lager beer brewed in America by that time was two-thirds malt and one-third rice and/or a corn-based malt substitute.
2. To draw attention to the fact the legislation was spurred by the American malting industry, whose motives were purely financial in nature.

To facilitate these two objectives and strategies, the United States Brewers’ Association (USBA) prepared and published a booklet that this author views as being one of the most significant documents ever written in the history of the American brewing industry. Entitled “Arguments Against the Turner Adulteration Bill Submitted to the Committee on Ways and Means by the Representatives of the United States Brewers’ Association,” it consisted of three essays. The first, written by the esteemed Dr. Francis Wyatt, was entitled “Why Malt Substitutes are Necessary in Brewing of Pure and Healthy Modern Beers and Ales” (32). The second, written by the then-president of the USBA, ale brewer William A. Miles of New York City, was entitled “Summary of Reasons Why the Turner and Wolcott Bills Should Not Become Law” (10). The third, penned by none other than the father of adjunct brewing in the United States, Anton Schwarz, was simply called “Beer and Its Ingredients” (21). Twenty-eight pages in length, these essays reflected the arguments the three authors intended to present in person at the hearings chaired by Representative McKinley (which both Wyatt and Miles were both able to do—but not Schwarz—for reasons the author will comment further on in the forthcoming book series). [Author’s note: When I first read these essays, time and time again I found myself shouting out “Yes!”, so moving and powerful were their words in describing why America’s beer, our beer, the beer that made beer the U.S. national beverage, was *adjunct* lager beer.]

While volume V in the series will review these three essays in much greater detail, the following excerpts should provide readers with a sense of what to expect from the hearings and the extensive press coverage regarding the USBA arguments for the “rational demand” of American consumers for adjunct lager beer.

First, let us consider a Dr. Francis Wyatt’s “Why Malt Substitutes Are Necessary in Brewing of Pure and Healthy Modern Beers and Ales” (32). He urges readers:

bear in mind the fact that, like all other industries, brewing has been progressive. This improvement in brewing has been brought about by the studious and careful work of many distinguished chemists, who have raised brewing from an em-

pirical art into an exact science. If we look backward but a very few years, we shall discover that the almost universal trouble with brewers—the world over—was their inability to produce beers of brilliancy and keeping qualities.

Dr. Wyatt then expanded upon how the use of malt substitutes helped meet consumer demand, saying:

to meet this new and yet so rational demand, the brewer has been forced to study the technology of his trade, and the chief outcome has been the substitution for a portion of his malt of ready-made saccharine material, such as glucose, or of raw cereal grains, such as corn, or rice, etc. ... [which] does not, in any way, constitute an adulteration, but decidedly constitutes an amelioration. Is it the province of our Legislature to interfere with the discoveries of science, and to impede rather than to encourage its beneficent march?

What eloquence and passion in support of something as supposedly mundane and boring as American adjunct lager beer! Why, he argued, should the “beneficent march” enabled by the brewers and brewing scientists of America in producing the world’s first lager beer to remain crystal clear when ice cold be arbitrarily ended by politicians? While this attribute is taken for granted by lager beer drinkers today, for *decades* it was a property that could *only* be found in *American* lager beer. True, at the time, it was only Americans who gave a rat’s you-know-what about drinking lager beer ice cold, but today this is essentially the global norm (Germany, Austria, and Central European countries aside). It is but one of many innovations pre-dating Prohibition that is representative of American brewing history and traditions. That so many of the pre-Prohibition materials, processes, and technology developed by the American brewing industry in perfecting this style of beer are still in use *today* by brewers around the world is a legacy every bit as real as the use of an ingredient other than those listed in the opening lines of Senate Bill S. 3353 and H. R. 11297.

In an example of a proverbial “one-two” punch, William Miles’s testimony (“Summary of Reasons Why the Turner and Wolcott Bills Should Not Become Law”) (10) was structured in a manner to convince legislators to abandon their legislation. Complementing Wyatt, he used much of his time to highlight the merits of rice and corn-based malt substitutes, providing arguments as to why their use should not be viewed as an adulteration of beer. These included pointing out (1) how at the time rice was a *more* expensive source of extract compared with malt, (2) how rice was a popular ingredient used by European brewers, including the “celebrated Pilsner Beer,” (3) how their use enabled the production of a more physically stable beer, and (4) how corn and rice were as natural as barley, being as widely used as other grains in foods.

But it is what Miles had to say about the role played by lobbyists acting on behalf of the American malting industry that this author fundamentally believes provided the nails needed to bury this legislation in a coffin—at least until 1896, 1899, 1908, 1911, and 1912 (as volume V will review!). Essentially, he patiently described how a Washington D.C., lawyer and lobbyist by the name of H. W. Brelsford had sent letters to a selection of the larger, more prominent malting companies in the United States offering his services, for a mere \$250 per firm, to “agitate” on their behalf for the very legislation eventually drafted by Senator Wolcott and Representative Turner. Unfortunately for Brelsford, one of these firms, the Charles Ehlerman Hop & Malting Company of Saint Louis, conveniently forwarded their letter to the attention of the UBSA and President Miles, which Miles read verbatim to McKinley’s committee. Included in this letter were nuggets like this one: “In order to keep the matter

entirely confidential, only a few leading maltsters, like your house, have been communicated with. If you will give \$250, and the others in the same proportion, it will, together with what is already subscribed, give us a fund which, it is thought, will be sufficient.” The letter continues: “The agitation in the press is already commenced, and we think public opinion will force it to a successful issue, and that, beyond the necessary counsel fees, expert testimony, printers’ ink, etc., very little money will be required. You will appreciate the business reasons which make it inadvisable for the maltsters interested in this bill to meet and confer together.”

Talk about a smoking gun! Building on this, it is clear from the following statements made by Miles how little he thought of Brelsford as a person and the conspiring malting firms supporting him: “That he must sail under false colors by appearing as counsel for medical authorities, when, in fact, he serves, for money, a special trade interest, too cowardly to appear openly and in public. Its true intent, by proponents’ own confession, is to promote the selfish business interests of the cowards who hide themselves behind their hired counsel.”

While Anton Schwarz (Fig. 6) was not allowed the opportunity to speak in person at the hearings, his arguments in “Beer and Its Ingredients” (21), which focused on consumer-driven preferences for beer, in large part supported those made by Wyatt. Schwarz pointed out to legislators that there was no means at the time by which regulators could scientifically *prove* a beer was made from solely malt or a combination of malt and malt substitutes. The consummate brewing scientist, he was in



† ANTON SCHWARZ. †
Born Feb. 2, 1839, died Sept. 24, 1895.

Figure 6. Photograph of Anton Schwarz (1839–1895) from his obituary published in the October 20, 1895, issue of *American Brewers’ Review* (1).

effect explaining that they were attempting to pass into law something they could not enforce through chemical testing. A highlight from Schwarz's argument was the following reminder: "It is a true proverb which says that there should be no dispute about tastes (*De gustibus non est disputandum*). One drinker may prefer what the other dislikes, and vice versa."

[As an aside, imagine being so proficient in Latin as to be comfortable quoting this proverb in its original form! For a time, the author was so enamored with Schwarz's philosophy of "*De gustibus non est disputandum*" it was considered for use as the headline title for the nine-volume series. While certainly a cool way to distill down the pros and cons of American lager beer into five words, the phrase focused solely on the beer itself—and not the legacy of the men who fought so hard to protect the right to produce it—so the idea was eventually abandoned in favor of *The Inspiring History and Legacy of American Lager Beer*. The author offers it, however, as respectful food for thought for the army of critics of light American beer around the globe (past, present, and future).]

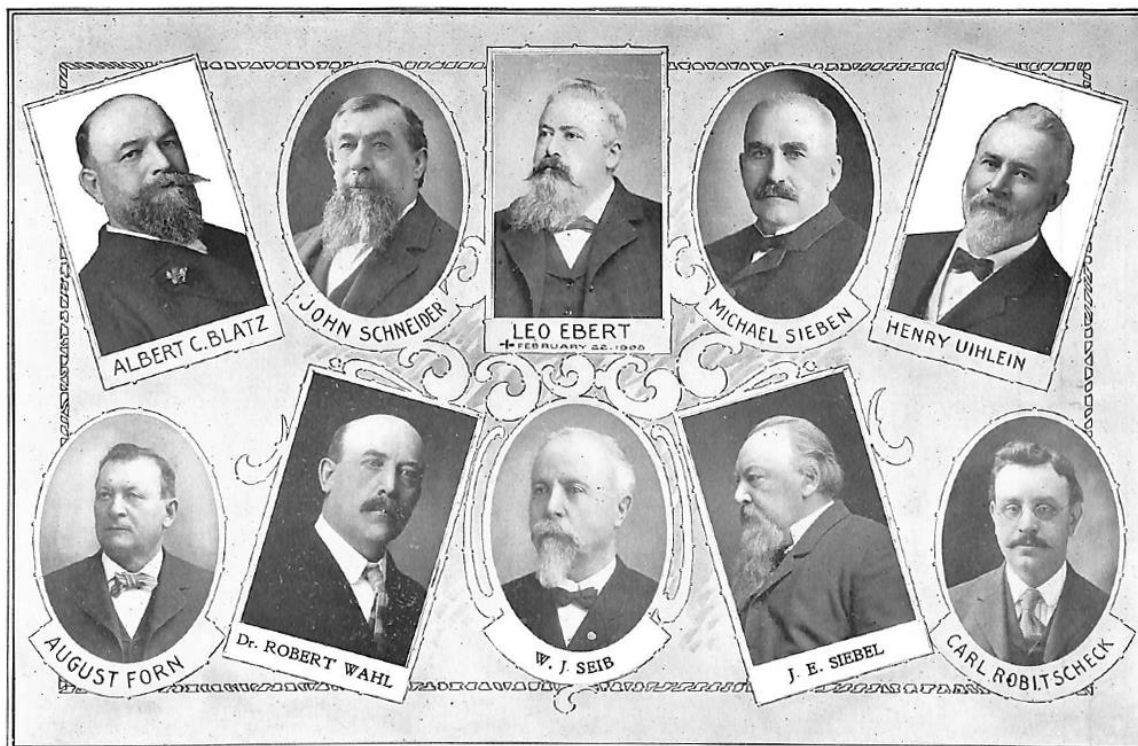
Schwarz went on to describe the importance of corn and rice in producing American adjunct lager beer as a style:

Corn and corn-products, which are used in the manufacture of beer in the United States, were introduced because the public demanded at one time (and continue to do so now) a beer of an extremely pale color, which could not have been produced from malt alone. The keeping qualities of beer are very essential. Practical experience, supported by theory, has taught that the use of corn and corn-products, rice, etc., as a part substitute for malt, has increased the keeping qualities of beer, and thereby improved the quality of the product.

American Brewing Science's Best Advocate

The final excerpt included in this summary is from Dr. Robert Wahl, probably the greatest American brewing scientist who ever lived. Given the attention already paid to other members of the industry of the time, assigning him these credentials is certainly saying a lot, right? However, throughout the 1890s and right up to Prohibition, no one in the American brewing industry was more engaged in the science, education, promotion, defense, and public advocacy of our national beverage than he—not even close. He is the central figure featured in the planned series of books, and it is sincerely hoped he will one day once again be widely admired and respected within the American brewing and allied industries.

First a visual of the man who has for so long been forgotten and who is so worthy of our industry's eternal gratitude. Rather than a solo depiction, Figure 7 depicts him second from the left in the lower row of portraits, surrounded by a cadre of impressive company, including the previously mentioned Dr. J. E. Siebel. In the first week of August 1908, Wahl was the designated lead spokesman for a coalition of American brewing industry representatives composed of brewers Gustave Pabst and Carl Hoster, as well as brewing scientists Dr. Max Wallerstein and Dr. Alfred Schedler (the leading chemist at Pabst). The committee was formed to represent the USBA at a meeting that took place on August 3, 1908 (held at, of all places, the Grand Hotel on Mackinac Island, Michigan). Sponsored by the Secretary of the U.S. Department of Agriculture (James Wilson) and chaired by Dr. Harvey Wiley, the nationally renowned federal government chemist and head of the Bureau of Chemistry, the purpose



Honorary members of the United States Brewmasters Association.

C. Birkhofer. I. C. Bechteler. Geo. Ehret. Henry Guenther. Dr. Max Henius. W. Simon. Dr. Francis Wyatt. Jno. Gardiner.

Figure 7. Photograph of Dr. Robert Wahl found in the publication *Souvenir of the 20th Annual Convention of the United States Brewmasters Association* held in Albany, New York, September 21-22-23, 1908 (29).

of the meeting was to seek input from the American brewing industry so as to draft standards for beer then being proposed by the federal government. Essentially based on the chemical analyses of beers produced by small-scale pilot brews of all-malt beers conducted at Wiley's Washington, D.C., laboratories, the standards proposed to define all-malt beer were largely based on levels in finished beer of residual extract, protein, and phosphorous. But it is the exchange that took place between Wahl and the committee during the course of his opening testimony that is most powerful and revealing. Rather than quibble over relative levels of nitrogen, phosphorous, or residual extract—and the science behind it—Wahl challenged the committee as to why the federal government was in the first place even proposing standards based on beer being all-malt. Fully aware that by this time well over 90% of the beer sold in America was brewed with the inclusion of malt substitutes, Wahl clearly thought it was absurd that the issue was still being debated at all. Adjunct lager beer as America's national beverage was, in his mind, without question, a *fait accompli*. Why keep flogging an issue that had already been clearly settled in the free marketplace since the 1880s? Perhaps to accentuate this perspective and give voice to his and the industry's frustration on being constantly under attack for using malt substitutes, his opening remarks at the hearing reflect what this author considers to be the most fascinating exchange ever to take place on the issue. Captured in Wahl's minutes from the meeting, he stated (30): "The all-malt beer has become, in the minds of the Brewers' Committee, almost extinct in America. The opinion of the Brewers' Committee was 'let these beers rest in peace.' Why resurrect them?" To this one of the Pure Food Commissioners replied: "Yet let us erect a tombstone and inscribe on it the epitaph: *Hic jacet cerevisia malti*."

For the 99.9999% of readers who do not read Latin, *Hic jacet cerevisia malti* essentially translates to "Here lies all-malt beer." Between Wahl's use of the word "extinct" and the Commissioner's response, this colorful exchange presents wonderfully descriptive imagery conveying to readers today just how far removed America's national beverage was in 1908 from being an all-malt lager beer. It certainly ranks right up there with Schwarz's "*De gustibus non est disputandum*," does it not?!

Following his opening remarks, Wahl went on to stress to the committee that because "the standard American beer" of 1908 was produced "with about 30 to 40% of unmalted cereals" the all-malt paradigm was simply detached from reality. Then, nearly a full century before the term "supply chain" had become part of industrial lexicon, Wahl summarized the scope of what the American brewing industry had accomplished in developing the marvel of American-style adjunct lager beer. He said, "Since there is not another country where the art of brewing is expected to satisfy demand so far-reaching in this direction, we Americans may make bold to have an opinion as to the causes producing beers sensitive to cold and as to the precautionary measures required during the lengthy progress from the purchase of the barley to the shipping of the finished beer in keg or bottle."

While history proves the standards proposed that day did not come in effect, the federal government was by no means finished with its assault on the industry over the use of malt substitutes. Far from it. Not until 1911–1912 would the matter finally be settled once and for all, including yet another climatic battle between the barley growers and maltsters and the brewing industry during the first week in August 1911. Ending with the assistance of a most unlikely source (when federal lawyers informed the FDA they actually did not need Congressional authority to prescribe specific standards), this final battle is the one that forever protected the rights of American brewers, both

macro and craft, to brew with any Generally Recognized As Safe (GRAS) ingredient of their choice. And for those who love beer in the United States and around the world—past, present, and future—that was a very good day indeed!

Conclusions

There are essentially three parts to this story of the surprising history and legacy of American adjunct lager beer. First, there is the evolution of American beer to meet the lifestyle preferences of the American consumer for a lighter, easier to drink beer that pleased the eye with its clarity when served ice cold in a glass (which Dr. Wyatt so wonderfully described in 1899 as meeting "the aesthetic as well as epicurean sense"). Often described at the time by Germans as a "nervous" people, Americans generally did not look to beer as a form of nutrition and component of lingering social interaction but rather as a means of relatively quick refreshment in a young nation where capitalism reigned supreme. A wonderful description of this was provided in 1912 by the German physician Dr. Albert Oliver, who while touring the United States had this to say about American drinking habits: "It makes my heart ache to see Americans drink beer at a bar. One gulp—two at the most—and the glass is empty" (12). As all-malt beer (especially using the higher protein six-row malts of the period) worked directionally against each of these requirements, the use of significant amounts of malt substitutes to overcome these shortcomings proved highly effective. The second part of this history and legacy is the politics over the deceptively simple question "what is beer?" To the American brewing industry, the answer was namely adjunct lager beer, which had outsold all-malt beer by anywhere from five- to 20-fold (and which in many cases was a *more* expensive beer to brew). To the innumerable foes of the industry, the answer was equally obvious, namely all-malt beer brewed the Bavarian way. Only through a highly spirited defense of the industry built around transparency and education did the merits of adjuncts become established—first in the United States, and then in the century that followed, around the world. Lastly, by successfully defending the right of American brewers to use the ingredients of their choice, they laid the foundation for the unhindered renaissance of beer we have today.

Recently, the author attended the Big Beer 20th Anniversary Festival in Breckenridge, Colorado. Time and time again he was struck by two thoughts. First was just how profoundly the legacy of the brewers from America's first revolution in beer existed in so many of the beers he tasted and enjoyed over the course of the three-day event. For example, many of the beers featured at the festival included ingredients other than malt, hops, water, and yeast. From the use of maple syrup and Madagascar vanilla beans in a stout, or Ugandan and Fiji vanilla beans and cacao nibs from Belize in another, the author repeatedly found himself thinking how beers such as these were not (and until fairly recently *could not be*) brewed in Germany—and how close America came in the 19th and early 20th centuries to following suit.

In retrospect, it is surprising how completely and utterly unaware the American public and American brewing industry are about how close we came as a nation to imposing an American Reinheitsgebot prior to Prohibition. It is evident from many conversations and interactions with innumerable industry professionals over the years that the inspiring and surprising history and legacy of America's brewing industry is completely unknown. While freedom comes in many forms (e.g., religious, political, cultural, racial, economic, educational, and so on), its manifestation can

also be found in *professional* freedom. As the pillar upon which creativity, imagination, and innovation is based, this author could not help but quietly celebrate and thank the legacy of the brewers and brewing scientists from America's first revolution in beer. Their blood, sweat, tears, and passion in protecting and preserving this freedom are reflected in so many beers today.

As *The Inspiring History and Legacy of American Lager Beer* series will make abundantly clear, the world of beer today would be radically different had America gone the route of Germany (or if Germany, a la the science-fiction hit series *The Man in the High Castle*, had won World War II and imposed its standards for lager around the world). There's a reason why the all-malt beers of Germany constitute but a minor fraction of global beer sales and the craft beer revolution emanated from the United States and no other nation. That reason is the *living legacy* of the brewers and brewing scientists from America's *first* revolution in beer who successfully protected the *freedom* of American brewers to brew with the ingredients of their choice. Building on the strength and traditions gained from their German heritage, some focused on brewing only all-malt lager beer, but the vast majority used their freedom to brew what the author considers to be the first example of American craft beer: adjunct lager beer. But none of this would have happened had the freedom to use rice and corn-based malt substitutes been legislatively snuffed out in the decades before Prohibition. While beneficiaries themselves, the marvelous manifestation of their living legacy is how it has played out in the century that has since followed. It is found in every can, bottle, glass, and keg of *adjunct* lager beer enjoyed today in the United States and around the world. But just as significantly, it is also and equally found in every brand of American *craft* brewed with the use of ingredients other than malt, hops, water, and yeast—and that, as we all know, is a lot of beer!

So what is next? The next article in this series will review Germany's extensive history with the use of malt substitutes and the profound influence this had on the birth of American adjunct lager beer. The fact that the German National Reinheitsgebot was terminated during the "chaos of the Weimar Republic" was but one of many revelations on this topic that surprised this author. The third and final article in this series will focus on providing readers with an overview of the upcoming Master Brewers publication entitled *The Inspiring History and Legacy of American Lager Beer: 1941–1949*. As with this article, vignettes will be presented so that readers will have a better sense of what to expect from this publication.

REFERENCES

- American Brewers' Review (1895). Obituary of Anton Schwarz. IX (4): 122-123.
- Boston Post (1895). Are American tastes changing? May 30, p. 2.
- Cluss, Alfred (1912). Portrait photograph. Proceedings of the Second International Brewers' Congress Held at Chicago, United States of America, October 18-21, 1911 (1912), p. 930.
- Cluss, Adolph (1911). What are the most prominent characteristics of the American brewery? Extract from "Reminiscences of America and its brewing industry". Second & Third Annual Reports of the Zymotechnic Alumni Association, 1910-1912, pp. 64-67.
- Cochran, T. C. (1948). The Pabst Brewing Company: A History of an American Business. Chapter I. The Bests Move to Milwaukee. 1839 Letter of Franz Neukirch, pp. 5-6.
- Cochran, T. C. (1948). The Pabst Brewing Company: A History of an American Business. Chapter II. Establishing the Business in Milwaukee. 1847 Letter of Phillip Best, pp. 24-26.
- Courier-Journal (1912). Would define standard beer. December 8, front page.
- House Resolution H.R. 11297. 51st Congress, 1st Session. A Bill Imposing a Special Tax Upon & Regulating the Manufacture Sale and Importation of Adulterated Malt Liquors. July 8, 1890.
- Indianapolis Journal (1894). American-made beer. August 13, p. 3.
- Miles, W. A. (1890). Summary of reasons why the Turner and Wolcott bills should not become law. Arguments Against the Turner Adulteration Bill Submitted to the Committee on Ways and Means by the Representatives of the United States Brewers' Association, pp. 16-26.
- Personal handwritten letter from Dr. Carl Rach to Dr. Robert Wahl (1908). September 16. Author's personal archives.
- Press and Sun Bulletin (1912). Makes his heart ache to see Americans drink. October 25, p. 18.
- Rickers, Frank W. (1894). Naturalization. Superior Court, New York Court, January 11, 1894.
- Rickers, Frank W. (1900). Massachusetts, Marriage Records, 1840-1915, December 8, 1900.
- Rickers, Frank W. (1900). Twelfth Census of the United States, June 5, 1900.
- Rickers, Frank W. (1905). New York State Census, 1905, June 1, 1905.
- Rickers, Frank W. (1906). United States of America Passport Application, January 11, 1906.
- Rickers, Frank W. (1908). A comparison of the cellar treatment of German and American lager beers. Western Brewer and Journal of the Barley, Malt and Hop Trades 33(12): 637-644.
- Salt Lake City Tribune (1904). Trailed by beer bottles. July 28, p. 2.
- San Francisco Chronicle (1908). Americans drink beer too cold. June 26, p. 5.
- Schwarz, A. (1890). Beer and its ingredients. Arguments Against the Turner Adulteration Bill Submitted to the Committee on Ways and Means by the Representatives of the United States Brewers' Association, pp. 27-34.
- Senate Report No. 516 (1900). Adulteration of Food Products. Committee on Manufactures. 56th Congress, 1st Session. Testimony of Francis Wyatt. November 15, 1899. Imperial Hotel, New York City. Washington, D.C.: Government Printing Office, pp. 400-411.
- Senate Resolution S. 3353 (1890). 51st Congress, 1st Session. A Bill Imposing a Special Tax Upon & Regulating the Manufacture Sale and Importation of Adulterated Lager Beer. April 1, 1890.
- Siebel, J. E. (1906). Compendium of Mechanical Refrigeration and Engineering. Front cover.
- Siebel, J. E. (1886). The public taste. Western Brewer and Journal of the Barley, Malt and Hops Trade XI (7): 1463.
- Siebel, J. E. (1898). Historical outlines of brewing in the United States. Western Brewer and Journal of the Barley, Malt and Hops Trade XXIII (2): 279-282.
- Turner, Erastus (1887-1891). Card cabinet photograph circa 1887-1891 of Representative Erastus Turner. Photograph from the personal archives of the author. Published with the permission of the Kansas State Historical Society. The kind assistance of KSHS Keys is greatly appreciated.
- Twelfth Annual Report of the Commissioner of Labor (1898). Economic aspects of the liquor problem. Tables of material used in breweries, by States and Territories, for the year ending June 30, 1896. Washington, D.C.: Government Printing Office, pp. 30-33.
- Wahl, R. (1908). Photo as honorary member of the USBA. Souvenir of the 20th Annual Convention of the United States Brewmasters Association, Albany, New York, September 21-22-23, p. 9.
- Wahl, R. (1908). Standards for malt liquors. Meeting of the committee on standards for food and drugs. American Brewers' Review XXII (9): 482-485.
- Wyatt, Francis. Portrait photograph. *Chemical Heritage* web page.
- Wyatt, Francis (1890). Why malt substitutes are necessary in brewing of pure and healthy modern beers and ales. Arguments Against the Turner Adulteration Bill Submitted to the Committee on Ways and Means by the Representatives of the United States Brewers' Association, pp. 5-15.