



Mash Tun Time Machine

Beer and Brewing in the Quad Cities
– Now vs 130 Years Ago –



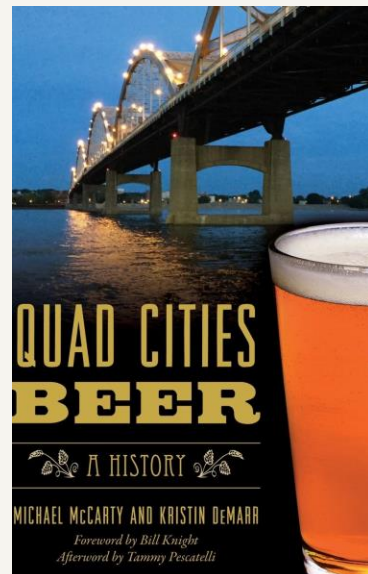
Who am I?

- Founding owner and head brewer of Twin Span Brewing - open since May 2020.
- Consumer of vast amounts of beer and beer media.
- Certified Cicerone.
- Brewer since 2006
- History nerd since 1990?

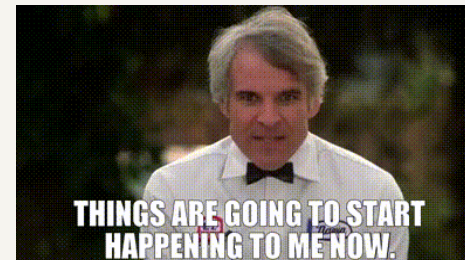
Why am I here?



- Let's talk about what people brewing and drinking 130 years ago (focus on the liquid)
- We won't spend much time talking about the histories of the breweries themselves
- Other people have done that already and they've done a better job than I could



< I'm in this!



Liquid Time Travel





The Goal

Brew a beer a Quad Cities resident would
have drank in 1894





The Goal

HARD MODE

Brew a beer a Quad Cities resident would have drank in 1894 **without any brewing records or documentation**





Source: Putnam Museum by way of <https://www.immigrantentrepreneurship.org/images/davenport-malting-company-davenport-iowa-ca-1895/>

Why 1894?


- Between prohibitions 🤔
- Peak "Pre-Prohibition" era for brewing
- A lot of local press (newspapers.com)
- Brewery consolidation

Quad Cities Beer Today

- 12 breweries
- 384k people
- 1 brewery per 32,000 people

- 10 breweries
- 60k people
- 1 brewery per 6,000 people

Quad Cities Beer 130 years ago

A large, ornate, teal-colored industrial machine, possibly a steam boiler or engine component, is the central focus. It features brass bands, pipes, and two prominent circular gauges with white faces and black markings. The machine is set within a dark, industrial environment with stone walls and large, arched windows in the background that let in warm, golden light. The overall atmosphere is one of a classic, steampunk-inspired setting.

*Let's go back
in time...*

An incredibly brief history of beer

11,000 BCE - earliest evidence of grain-based fermentation

3000 BCE - Mesopotamians first write about beer

500 CE - Monks start brewing

822 CE - first written record of hops in beer

1300 - brewing moves from the home to guilds

1516 - Reinheitsgebot goes into effect

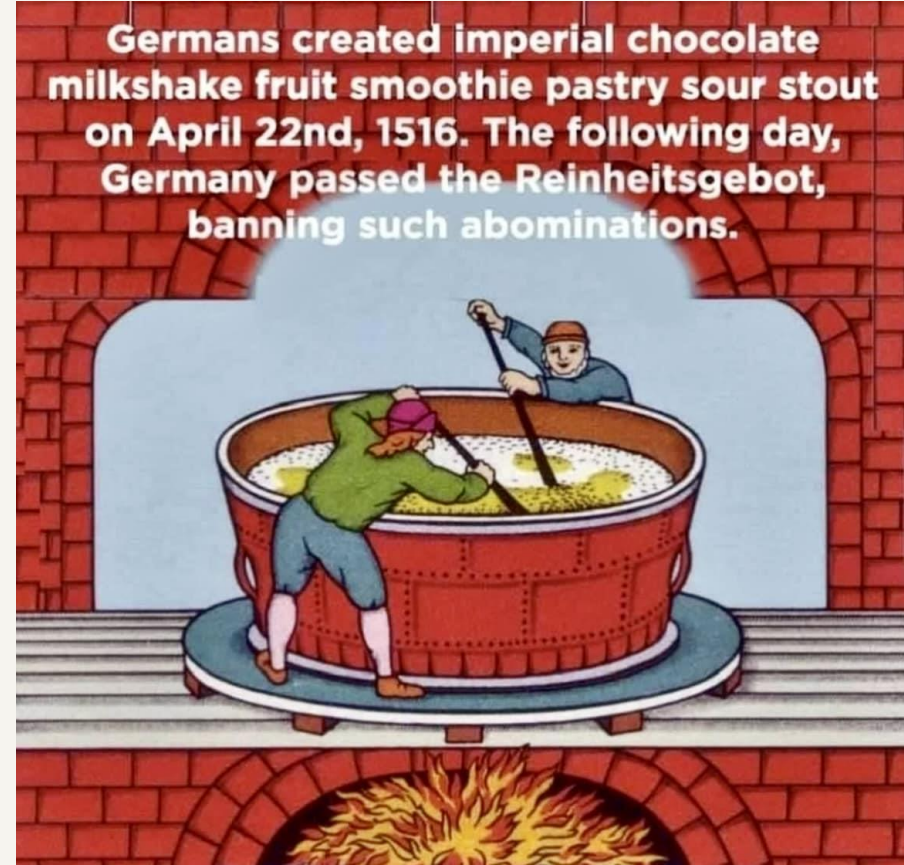
1817 - drum roaster invented

1842 - Pale Lager begins to take over the world

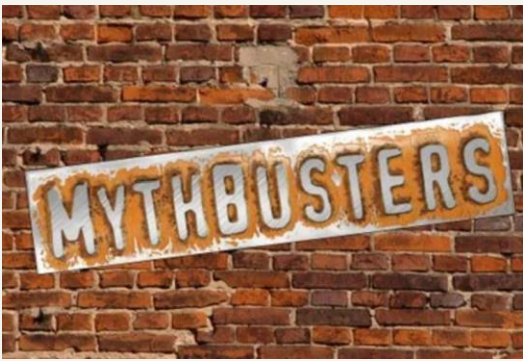
1857 - Louis Pasteur invents pasteurization

Was ist das Reinheitsgebot?

- Beer "Purity" Law
- Only use barley, water, and hops*
- Only enforced in Bavaria from 1516-1906
- Consumer protection, government overreach, or marketing ploy?



* Yes, yeast is missing from that list and yes, they knew its function in beer. Wheat is also missing from that list, but that's a topic for another day.



MYTH: All beers before Pale Lager were dark, smoky, and sour

- Dark? Air-drying malt pre-dates recorded history
- Smoky? There are good smoked malts, but oftentimes it's considered a flaw
- Sour? The speed breweries adopted pasteurization proves they wanted to avoid souring

mark of chalk.
The smell may after this be consulted; for sometimes malt, though well dried, has a scent from the fuel, or from foul water used in the steeping. It should be perfectly free from this; and if sweet, light, and answering to these several

From "The Compleat English Brewer" (1767)



"Davenport"
at Twin Span
Brewing

Brewing Origins in America



Colonists were more likely to drink rum or cider than beer due to lack of barley



English brewing traditions mix with German traditions as demographics change



Taxes and available material drove recipe design*



6-Row vs 2-Row and the magic of corn

* this is true everywhere

Beer and Locality (terroir)

- One half of the influence on any beer style
- Local water and local crops
- Water makes up 90%+ of a beer and is why stouts became popular in Ireland and not Bavaria
- Regional and annual differences result in different flavors
- Historically, brewers malted their own grain
- I can now order malt from anywhere in the world and match my water with any region

Beer and Taxes

- The other half of the influence on any beer style
- The UK
tax on the amount of grain used => low ABV beers are most popular
- Germany
tax on strength categories => nice diversity of styles
- Belgium
tax on size of mash tun => turbid mashes, reliance on sugar
- USA
tax on volume produced => anything goes! (yee-haw)



What styles were being brewed?

IMPROVEMENT.—In a ramble towards East Davenport yesterday, we noticed that our English friend, T. C. Carter, was largely improving the dimensions of his Ale and Porter Brewery building. He has excavated out of solid rock a large basement, some thirty feet below the level of the road, which he designs as a storehouse or cellar, in which to stow away his ale and porter during the heat of Summer and the cold of Winter. Brewers say that beer, ale and porter, has a far higher flavor and is in other respects more excellent after remaining in such an under-ground vault for six months. Carter commenced his ale establishment many months ago, and the demand for his ale and porter has not enabled him to do more than supply weekly customers, so that his ale could not attain that age which gives it its best quality.

The flow of the river by this place is so rapid that in times of high water there is danger of undermining, and Carter is raising the wharf in front two or three feet above its former grade.

The road to East Davenport is an excellent turnpike, and will be invaluable in times of rain and Spring thaws.

Morning Democrat - October 16, 1858

Lomas' Celebrated Bottled Burton Ale and Porter Brands. Vaults, corner of 3d and Brady streets. A prime article of Ale and Porter expressly brewed for nursing ladies and invalids; and agent for the Severn Brewery.

Morning Democrat - April 21, 1862

The Proprietors
WILL DELIVER IN DAVENPORT OR
Rock Island, their
Cream and Amber Ales and Porter
At the following prices: Present use Ale and Porter by the bbl., \$7; halfbbl., \$3.75; quarter, \$2. Stock Ale and Porter by the bbl., \$8; half bbl., \$4.25; quarter, \$2.25.
feb12-dly G. & H. SEVERN.

Morning Democrat - April 30, 1862

Mid to late 19th century English brewing gives way to German brewing

PUT TO USE AT LAST.

Some thirty years ago came a gentleman from Canada to Davenport to make an investment in the interest of two sons. In their interest a large ale brewery was built in East Davenport, and the brothers, Severns, were set up in business, and pale ale was made accordingly. But Davenport was not an ale city. It was more at home with lager beer. The ale was ignored, and the brewery went to seed. Later it was turned into a malt house and worked that way until some months ago, when fire ruined it. It has recently been purchased by the Davenport Water company, and the unsightly ruins left by the fire have been removed. The Severns people are gone and the memory of their brewery plant will soon fade away.

Morning Democr, January 9th, 1893

"BOIES OR BUST."

A prominent prohibitionist out on West hill looked out of his window when he got up and saw a crowd in the street gazing intently at the front of his residence. Hastily donning his clothes he hustled down stairs and out into the yard to see the excitement. Clear across the front of the house was stretched a sign, and this was painted on it:

"BEER! BEER! BEER!"

"———'s Beer Garden is Now Open and Will Remain Open Until Closed.

"Step in and Drink Yourself to Death. Weiss Beer, Stale Beer, and a Special Brew of Growler Beer Always on Draught.

"Admission Free."

Daily Leader, November 8th, 1893



The Davenport

- Pre-Prohibition Porter
- Mostly 6-row barley and corn
- Some deeply roasted malt, but most color comes from molasses (or porterine)
- Fermented cold

*There were
other styles, but
not the diversity
we have today*

SERVING		TWIN SPAN BREWING	
NAME	ABV	STYLE	
PUMPKIN PYLON	6.0%	PIE BEER	
Field to TABLE	5.9%	SAISON	
ROCKEM SOCKEM	9.7%	ENGLISH-MEXICAN BARLEYWINE	
GATER DINE	3.6%	GERMAN LEICHTBIER	
UNCLE JUICY	6.4%	FRUITED SOUR	
ADAM'S APPLE	4.9%	WEISSBIER WITH APPLES & SPICE	
Offside IPA	6.4%	WINE IPA - BRUT IPA	
STRONG-ARM STROBBERY	5.3%	MILKSHAKE IPA	
80 EAST to SABRO	7.5%	HAZY-NEIPA	
SOME MORE SMORES	7.0%	EXPORT STOUT WITH S'MORES	
PILSNER	4.5%	GERMAN PILSNER	
TEN FORTY	6.3%	KELLER PILS GERMAN PILSNER	
MAI-TAI	5.0%	HARD SELTZER	

GUEST-TAPS

Winter Botanical 6.2% CIDER

Beer makes Everything Better

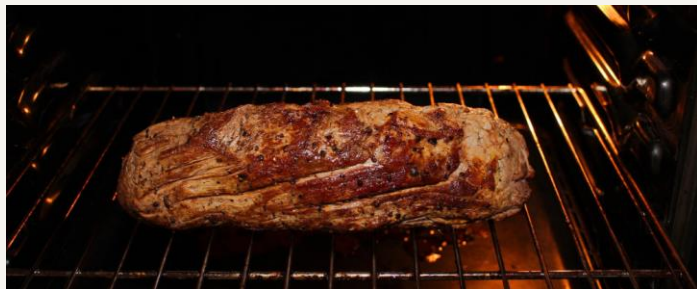
BEER

Lager

vs

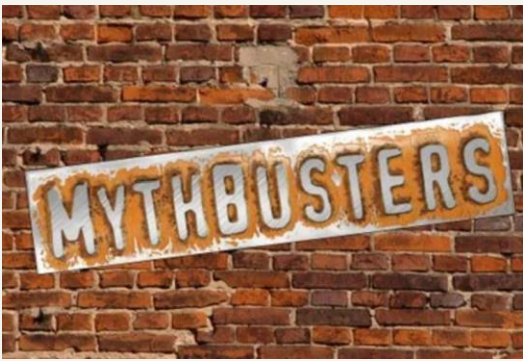
Ale

- *Saccharomyces Pastorianus*
- Fermented low and slow
- Slow turnaround
- Crisp and clean
- More shelf stable
- "bottom fermentation"



- *Saccharomyces Cerevisiae*
- Fermented warm and fast
- Quick turnaround
- Fermentation flavors
- More changes over time
- "top fermentation"



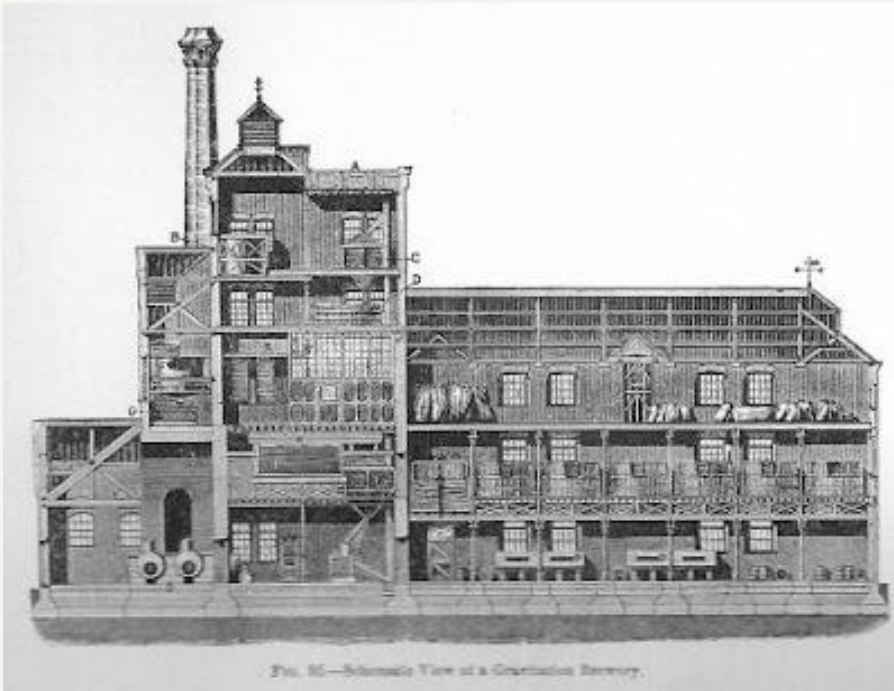


MYTH: Beers of the past were lousy with adulterants

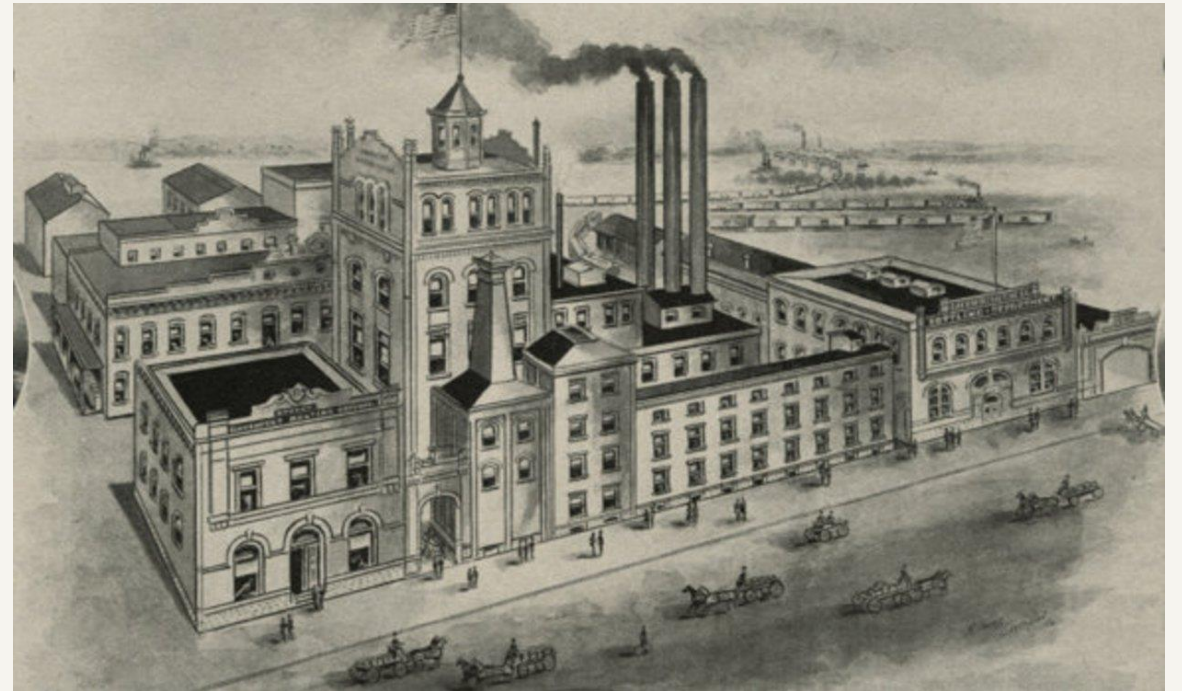
- The public is obsessed with food purity
- Prohibitionists start rumors about the contents of beer
- Some brewers use the rumors to their advantage
- "Lager is not intoxicating"
- American Reinheitsgebot
- Poisoning your customers is bad for business

Starch, grade sugar or glucose, glycerine, and molasses are not unfrequently introduced into beers to replace part of the malt, while pine bark, quassia, walnut leaf, wormwood, bitter cloves, aloes, etc., are sometimes used to neutralize acidity or conceal dilution; but our Davenport brewers disclaim the use of these adulterations, and say the purity of their beer is the secret of its popularity. but the immense shipments of glucose from the Davenport works makes it evident that the sweetening is used extensively in many breweries, wine vaults and vinegar factories abroad. However, this glucose is perfectly pure, it cannot do any harm, while it is as healthful as the best corn starch manufactured.

An 1890s Brewery

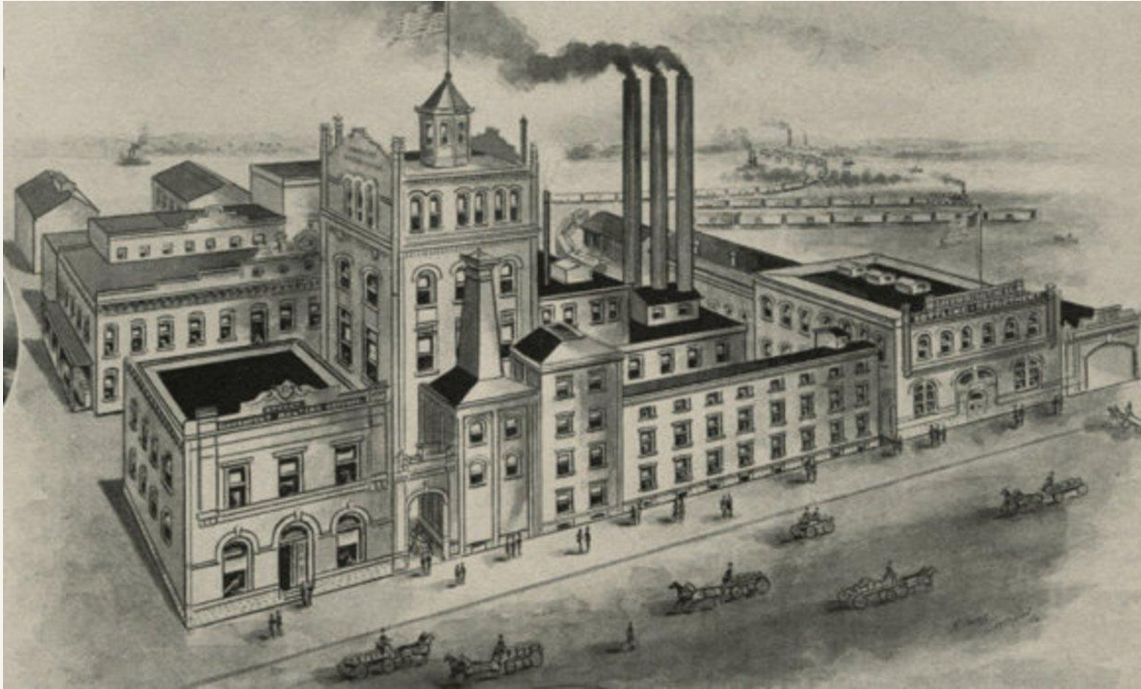


A typical tower brewery, c1880-1910 ([src](#))



The Davenport Malting Company, c1900 ([src](#))

A Brewery Then and Now

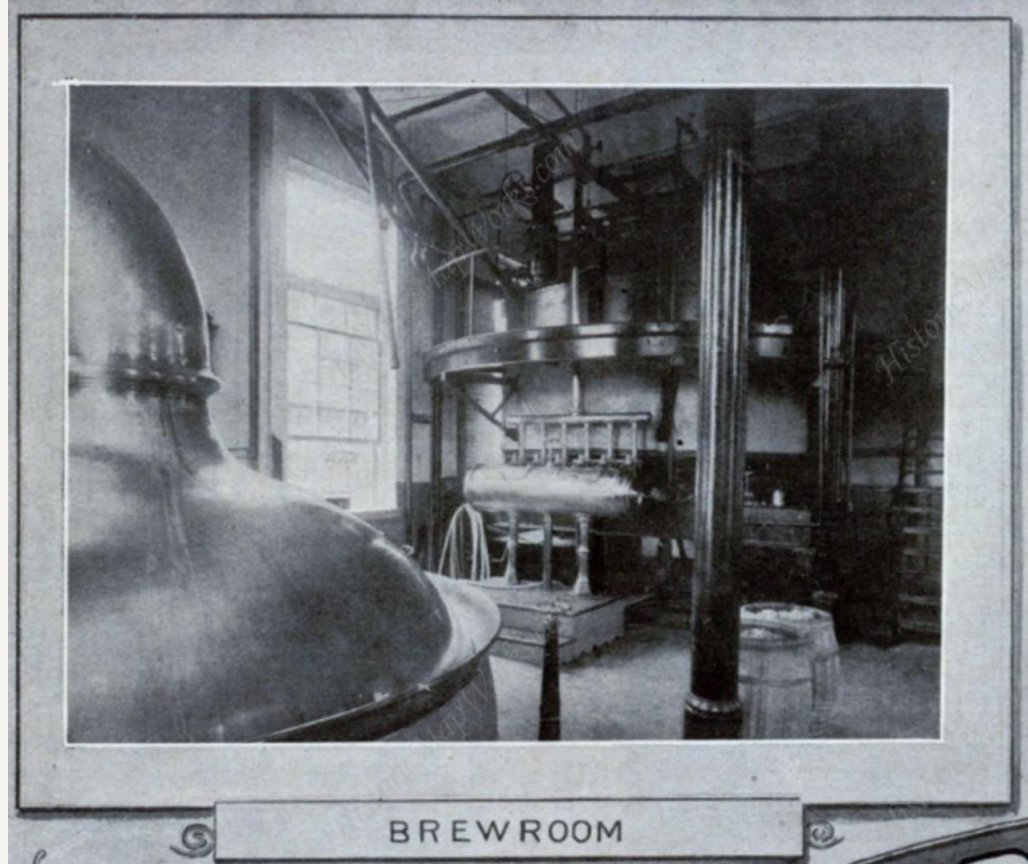


The Davenport Malting Company, c1900 ([src](#))



Twin Span Brewing, c2021

A Brewery Then and Now

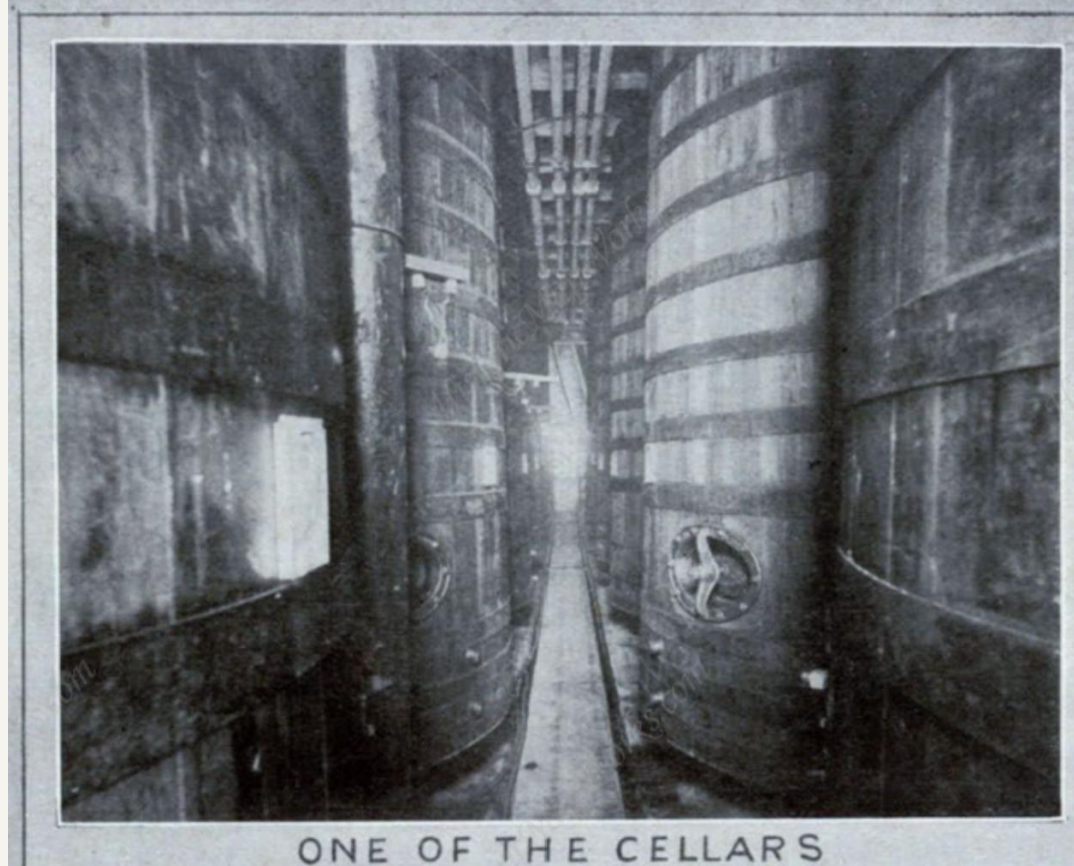


The Davenport Malting Company, c1905 ([src](#))



Twin Span Brewing, c2023

A Brewery Then and Now



The Davenport Malting Company, c1905 ([src](#))



Twin Span Brewing, c2022

A Brewery Then and Now



The Davenport Malting Company, c1905 ([src](#))



Twin Span Brewing, c2024

A Brewery Then and Now



The Davenport Malting Company, c1905 ([src](#))



Twin Span Brewing, c2023

How was it served?

- Kegs/barrels
- Gravity tap or hand pump
- Bottles
- To-go growler



An English Bar c1890 ([src](#))



[Quad Cities Brewing History \(facebook\)](#)

WHERE THE BEER KEGS GO.

One of the Important Items of Loss in the Brewery Business.

[Newark, N. J., correspondence St. Louis Globe-Democrat:] Quite a story can be told in connection with a beer keg. Apparently it is only a substantial and long-lived article. It takes a long while for one to wear out. It has a tough constitution, and is protected from internal decay by a coat of very pure and hard pitch. The pitch used on the modern keg is much superior to that formerly used. It is clear, tasteless and tough. An empty beer keg will stand a great many knocks before the pitch scales off. The kegs wear out, when they do wear, externally. They are wet and dry alternately, and this promotes decay. Then they get a great deal of unnecessary banging around between the time they leave the brewery and are brought back again. Everybody, from the driver and railroad and steamboat hands down to the barkeeper, seems to think the kegs are indestructible. A whole car load of empty beer kegs is frequently thrown from the car down to the ground. A single empty keg is often thrown 15 feet.

The Davenport Democrat, May 15, 1894



*Stale Beer
vs
Fresh Beer*

The Daily Times, November 8, 1890



*Let's build a
recipe*

Malt

- Brewers are malting barley grown nearby
- Conflicting reports on quality...
- QC brewers likely sourced from one of two local maltsters
- 6-Row and corn or rice

In 1889 the Noth family organized the Davenport Malt and Grain Company and commenced business with a plant of two hundred and fifty thousand bushels capacity, with an elevator capacity of about two hundred thousand bushels. In 1902 the plant was so greatly improved and enlarged as to increase its malt-ing capacity to seven hundred and fifty thousand bushels and storage capacity to three hundred and fifty thousand bushels. The officers of the company (1903) are as follows: Henry Klindt, president; Claus Stoltenberg, vice-president; Henry Bremer, secretary; Charles Pasche, treasurer; John Noth, manager, and H. Noth, superintendent.

100 Years of Brewing - 1901

American Handy Book of the Brewing, Malting, and Auxiliary Trades - 1901

The soil of the states of Wisconsin, Minnesota and Iowa is peculiarly fitted for growing barley, being largely made up of calcareous clay and rather sandy. Often, however, the barley suffers from sudden changes in temperature. The chinch bug has been gradually forcing the barley fields further north, and extensive regions in Southern Wisconsin have given up barley growing altogether on account of the bug.

Taking an average, Iowa barley comes first in color, form, and mealiness of the berries. Wisconsin gives a bigger berry of medium and often pale color with an inclination toward glassiness. Minnesota barley is smaller. Dakota barley is getting better

29

450

BREWING MATERIALS.

from year to year, but will have to undergo a more extensive test before its character can be considered settled. Wisconsin and Minnesota have a soil peculiarly suited for barley growing, whereas the climate is better in the latter state and Iowa. Ohio and Indiana play no great part as barley growers. Northern Illinois may be taken into consideration, but is losing ground fast in favor of more northerly regions on account of the chinch bug.

as is the case in Great Britain and Germany. Long experience has proven that the barley crops of those states, from whence the brewers derive their supplies, viz., New York, western Pennsylvania, Ohio, Illinois, Wisconsin, Iowa and Minnesota, are very unreliable as regards the quality of the grain; but not so of the Canadas, whose soil and climate are admirably adapted for the production of the best American barley."

100 Years of Brewing - 1901

Malt



Source: [John Gray Centre](#)



Source: [Maltster's Association of Great Britain](#)



Recipe: malt

- Use a heritage variety such as Chevalier
- Bulk of barley should be 6-row
- Similar kilning temp = similar color
- Significant corn or rice



Blend?



Hops

- New York was the center of hop growing in the US
- Whole cone/leaf rather than pellets
- Stored in large (200lb) bales



Hops

This is a familiar and oft repeated dialogue just now in many parts of the country, for the hop picking season is



HOP PICKERS AT WORK.

at its height. Especially is it heard in the counties of central New York, for there is the home of the hops.

Davenport Sunday Democrat,
September 5, 1897



A modern hop harvest ([src](#))



COLD STORAGE HOP ROOM

Davenport Malting Company, c1905

Recipe: hops

- Whole cone only
- Likely Cluster variety
- Only a bittering addition
- 40+ IBUs



Water

- You can't import water
- Influenced heavily by the Mississippi River
- Changes based on the seasons
- ???

In 1870, Noth was operating a brewery near West 8th and Main streets, just up the block from Frahm's enterprise. Noth's plant originally was built by Dr. E.H. Dreis, and it was sold in 1881 to Baumeier & Henn for \$11,500. It burned that year.

Noth and Frahm were among the first to sniff out Davenport's environmental problems. The Harrison Street of their day was the "trysting place of grain sellers and buyers," noted August P. Richter, a newspaperman and chronicler of early Davenport history. Spilled grain rotted in the gutters.

"THE AIR WAS freighted with villainous odors, which attacked the nostrils of the passerby with great intensity," Richter wrote.

Frahm and Noth agreed to put up \$1,350 for construction of a sewer. They suggested the city assess a special tax on other area property owners for the remainder of the cost. The plan fell through, so the two brewers paid for the sewer themselves.

Recipe: water

- Use contemporary water reports
- Somewhere between London and Dublin profiles



Yeast

- Amount to use specified, but not not strain/characteristics
- Most definitely lager yeast
- Most likely mixed culture

THE FERMENTING ROOMS, or rather room, is what might be called a gigantic ice house, where the temperature never rises, being kept at 30 degrees the year round. Yet in this building men are constantly at work, and apparently not minding the cold. The floors are covered with huge eakes of ice, and the walls are covered with the same. In the center and on the sides of this big room are huge tanks, the space between them being packed with ice. Coming from the receiving tank in the cooling room, the fluid, which is now approaching the beer stage, enters these tanks. When a

The Times, July 24, 1888

Recipe:

yeast

- Low-attenuating German lager yeast



*But first...
an actual
recipe?*

Winter beer is prepared as follows:

Water.....	1 barrel
Malt.....	2 to 3 bushels.
Hops.....	1 pound.
Yeast . . .	About 1-2 pint.

“*Bock*” is somewhat different:

Water.....	1 barrel.
Malt.....	3½ bushels.
Hops.....	1 pound
Yeast.....	About 2-5 pint.

Bock beer requires two months in its preparation.

Lager beer is prepared in these proportions of ingredients:

Water.....	1 barrel.
Malt.....	3 bushels.
Hops.....	1½ to 3 lb.
Yeast.....	About 1-3 pint.

The Morning Democrat, May 1, 1881



Lager Dam #14

- Pre-Prohibition Pilsner
- Blend of 6-Row and Maris Otter
- Significant portion of corn
- German hops
- London water
- Fermented cold

*Can we get more
accurate?*



*What's
next?*

The New Product of the
DAVENPORT
BREWING CO.
Distributed by
DAVENPORT MALT-
ING CO.
Geo. Klindt, Prop.

Muenchener

Orders for "Muenchen-
er" or the unexcelled
"Pale Export" Bottled
Beer will have prompt
attention by 'phoning
number 169

3 FAVORITES . . .
. . . everywhere!

Zoller's
FULL GRAIN FAMOUS
BEER
A GERMAN TYPE BEER

**Topping
Beer**
Old English Type
EXTRA PALE - EXTRA MILD

Zoller's
PILSNER
TYPE BEER
IF YOU PREFER A Milder BEER

**TRY
THEM
Today!**

ZOLLER BREWING CO. DAVENPORT, IOWA

American Weiss



AMERICAN WEISSBEER. ✓

The process of manufacture of this beer may be copied from the German methods. However, the material employed and method of mashing is usually quite different. Wheat malt is sometimes, but not generally, used. Instead, grits are employed to the amount of about 30 per cent, together with pale malt. The grits are treated as usual, the mash is started at about 40° R. (122° F.), and temperature raised by addition of grits mash and water to about 58° R. (162° F.). The wort is boiled for a short period (about 30 minutes) with hops from one-half to three-quarters pound per barrel.

Strength of wort about 10 to 12 per cent Balling.

For treatment of beer during fermentation, see "Berliner Weiss Beer." Ale yeast should not be employed as is often the case but yeast from a Weiss beer yeast should be obtained in case of need. In America the fermentation is generally conducted in vats instead of casks, in which case the yeast is skimmed off.

After fermentation the beer is kräusened and filled in bottles.

Undoubtedly the American article could be much improved by employing the materials, as well as the mashing method in vogue in German Weiss beer breweries, especially the material, as grits will under no circumstances yield those albuminoids that give Weiss beer its character, as wheat malt does. Certainly there seems no reason why American Weiss beer brewers should not be able to procure a good wheat malt.

Weiss beer in America is sometimes stored, bunged, and fined like lager beer, but a brilliant Weiss beer does not seem to catch the fancy of the consumers, who are accustomed to the cloudy, lively article of Berlin fame.

American Handy Book of Brewing, Malting, and Auxiliary Trades, 1901

Q & A

Email me at: Adam@twinspanbrewing.com

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TwinSpan Chalkboard Group: <https://tinyurl.com/abmdex7x>