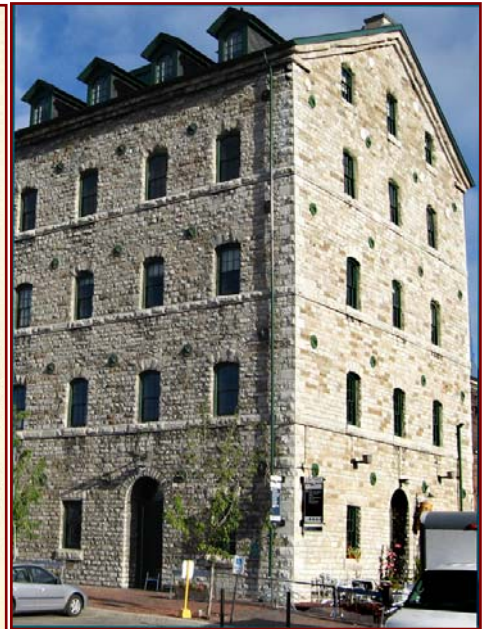
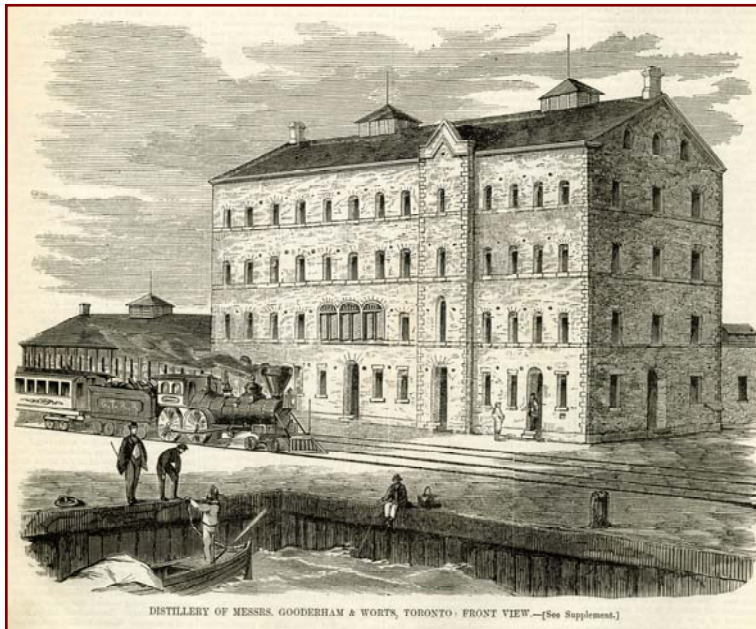


for November 30, 2008

Building Histories

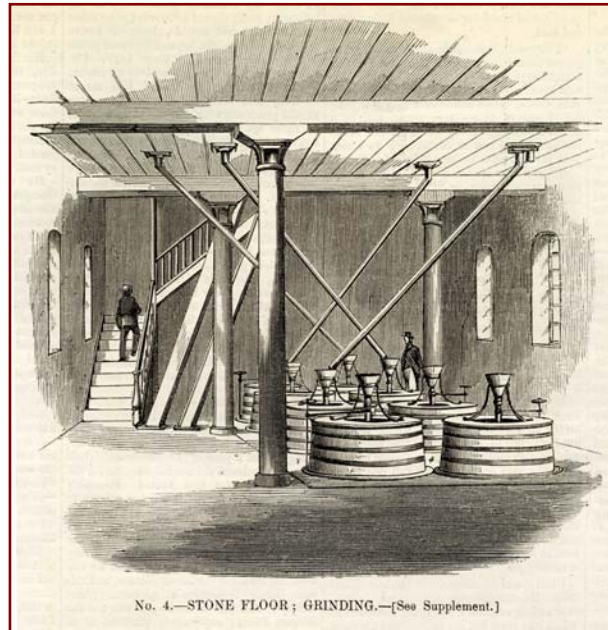
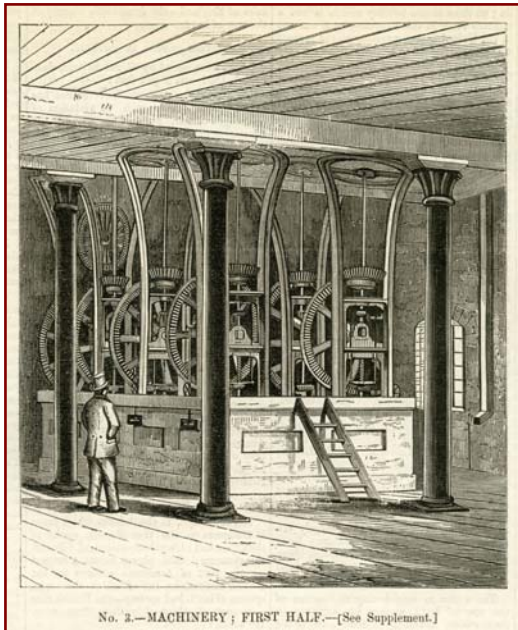
Building 3: Mill



Mill at east end of Stone Distillery 1863 (left) and today (right)

Milling was the first business. English immigrants James Worts and William Gooderham built their 70-foot grist windmill on the edge of Toronto Bay in 1832 to grind grain for flour. It was only five years later that William Gooderham added distilling to the milling business. The steam-powered “windmill” continued grinding grain for both flour and whisky until the early 1860s when it was finally taken down.

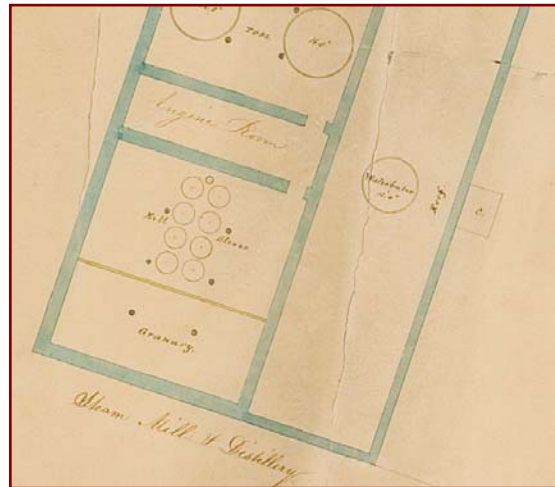
When the great Stone Distillery opened in January 1861, distilling whisky was definitely the main business, although general grist milling continued. Gooderham & Worts’ new mill, designed by David Roberts, Sr., represented a giant leap forward in scale and technology. In terms of scale, production capacity increased about 25-fold, from distilling 80,000 gallons to over two-million gallons of whisky per year, and from grinding 18,000 bushels to nearly half-million bushels per year.



Earliest views of mill interior, 1863: 1st floor machinery & 2nd floor millstones TPL

Stone hurst to drive stones above

Stones, elevators, spouts & stairs



Earliest plans of mill, mid-1860s: 1st floor machinery & 2nd floor millstones DHD/CTA

As for new technology, miller Lionel Limmer was in charge of an ultra-modern operation, whose “wheels, spurs and pinions, horizontal and vertical shafts all work as smoothly as a family,” according to the somewhat poetic *Canadian Illustrated News* reporter of April 1863. “Their swift, soft motion is like music.”

The reporter continued in a more prosaic fashion to describe the awesome machinery before him. “The massive iron frames in which they work, stand on platforms of solid masonry five feet in height; a solid iron

plate, four inches thick binding the masonry. An apparatus easy of reach and of action can at the will of the skillful attendant [*Mr. Limmer of 55 Mill Street*] throw the wheels and the whirling stones above into or out of motion in a breath of time.” Both mill machinery and millstones were powered by the great steam engine next door in the Power House.

The musical and powerful mill machinery was designed (at least in part) by engineer and millwright David Roberts, Sr., and was manufactured in Toronto by locomotive-manufacturer James Good. Good had emigrated to Toronto (then York) in 1832, the same year as William Gooderham. Like Roberts, he was an Irishman. In 1840 he had established an iron foundry to manufacture stoves, kettles, ploughs, boilers and stationary steam engines. During the 1850s, his Toronto Locomotive Works at Queen & Yonge built 23 locomotives, including Toronto’s – and Canada’s – first railway engine, the aptly named Toronto, in 1853.

Good was in and out of the railway business during the ’50s. In 1859, when the Stone Distillery was under construction, he stopped building locomotives altogether and returned to manufacturing stoves and other domestic iron products ... such as mill machinery for Gooderham & Worts. Almost certainly, one or more of Good-manufactured locomotives also served the new Stone Distillery.

Initially, the grain needed for distilling – mostly corn from Chicago – arrived either by ships (via Welland canal) landing at the new wharf and grain elevator, or by railway cars (via Collingwood) halting immediately outside the mill. Early observers marveled at how fast and how mechanically grain and meal were moved around as needed. For example, according to *The Globe* of February 7, 1862, one railcar could be unloaded in 20 minutes; and 1000 bushels could be elevated to the top floor per hour.

The grain was dumped directly into one of two large bins located under the ground floor of the mill. After being weighed, it was launched on its vertical journey to the top floor of the mill. The grain was lifted by “bucket elevators” composed of small metal buckets attached to a leather belt running through wooden chutes that rose through the first-floor machinery room, the second grinding floor (see 1863 engraving), the third and fourth hopper floors to the fifth floor. There it was screened, cleaned, and distributed into one of six enormous “stock hoppers.” These two-storey, tin-lined wooden hoppers could hold 2,500 bushels of grain, presumably sorted according to type or quality.



**Elevator buckets –
CDs not grain**

As needed, grain was then sent through metal spouts into the small “hoppers of the whirling, grinding millstones” on the second floor, eight runs [or pairs] of “the latest and most improved pattern” arranged in two rows, as seen in the 1863 engraving and the mid-1860s plan. After being ground, the meal was elevated back up to the top floor where it was distributed via “conveyor” screws lying in horizontal wooden troughs westward to another set of large hoppers positioned two storeys above the copper-lined wooden mash tubs where it would be converted into the sugary fermentable liquid needed to make alcohol from grain. As required, the meal would be released into a moveable hopper where it was weighed and trundled along a small railway track until it stood directly above the correct mash tun. With the delivery of the meal to the mash room, the job of the mill was done.



**Weighing meal for mash
1918 CTA 1583-73**

Legend has it that grain played an unusual role during the Great Fire of October 26, 1869. Although most of the Stone Distillery’s interior was destroyed during that dramatic night, the huge store of grain in the upper floors of the mill was credited with protecting valuable machinery below. When the timber beams and floors gave way, the grain dropped down, smothering the hursting mill and perhaps also the 100-hp steam engine next door. The grain smouldered for hours ... but apparently protected the iron machinery underneath and saved Gooderham & Worts the huge expense of replacing it.

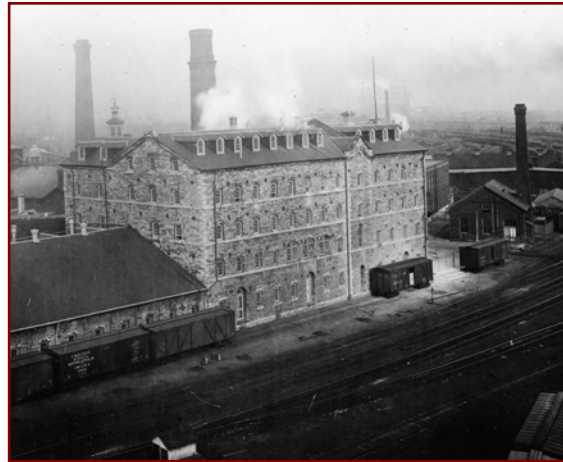
As milling technology changed, so did the equipment in Gooderham & Worts’ mill. During the 1870s, the first practical “roller mills” were developed. These mills, which used long steel rollers to grind the grain, provided greater control over the process. They were also less labour intensive than the stone-milling that required the millstones to be “dressed” by skilled workers every two weeks to maintain a good grinding surface. In the 1880s, probably shortly after George Gooderham took over as president of the firm in 1882, roller mills supplemented the millstones. Eventually, the grinding floor contained the original eight runs of millstones and ten roller mills of various



Two 1880s roller mills, ca. 1986 LT

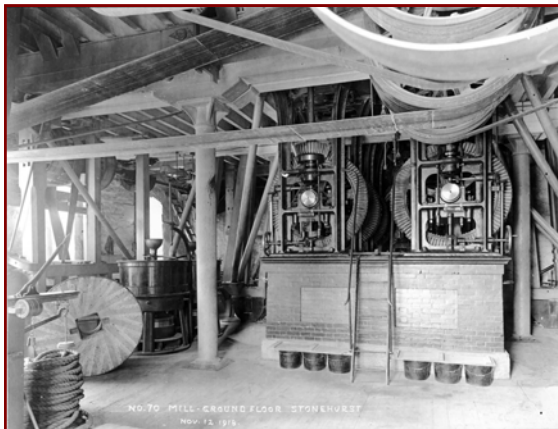
sizes. Two Nordyke & Marmon three-high-roller mills, manufactured in Indianapolis and patented in 1883, have survived ... along with a single millstone from the windmill era.

No alterations were made to the mill during the First World War when Gooderham & Worts was transformed into British Acetones from 1916 to 1918. Working 24-hours a day, six days a week, the mill ground through a prodigious amount of corn delivered by rail car directly to the mill and by ship to the grain elevator on the wharf across the tracks. (See view taken from the grain elevator in November 1918.)



Railcar delivers grain, 1918 CTA 1583-59

Two interior photographs taken at the end of the war document the inner workings of the mill. The ground-floor view focuses on the still viable old stone hursting mill (compare this with the 1863 illustration) and an elaborate system of belt-and-line shafting overhead. The view of the grinding floor above it shows millstones fed with grain by angled metal spouts (centre), high-roller mills (right), and hunched-over workmen carefully “dressing” worn stones by re-incising their surfaces with a carefully worked-out pattern (left).



Mill machinery floor, 1918 CTA 1583-70,71

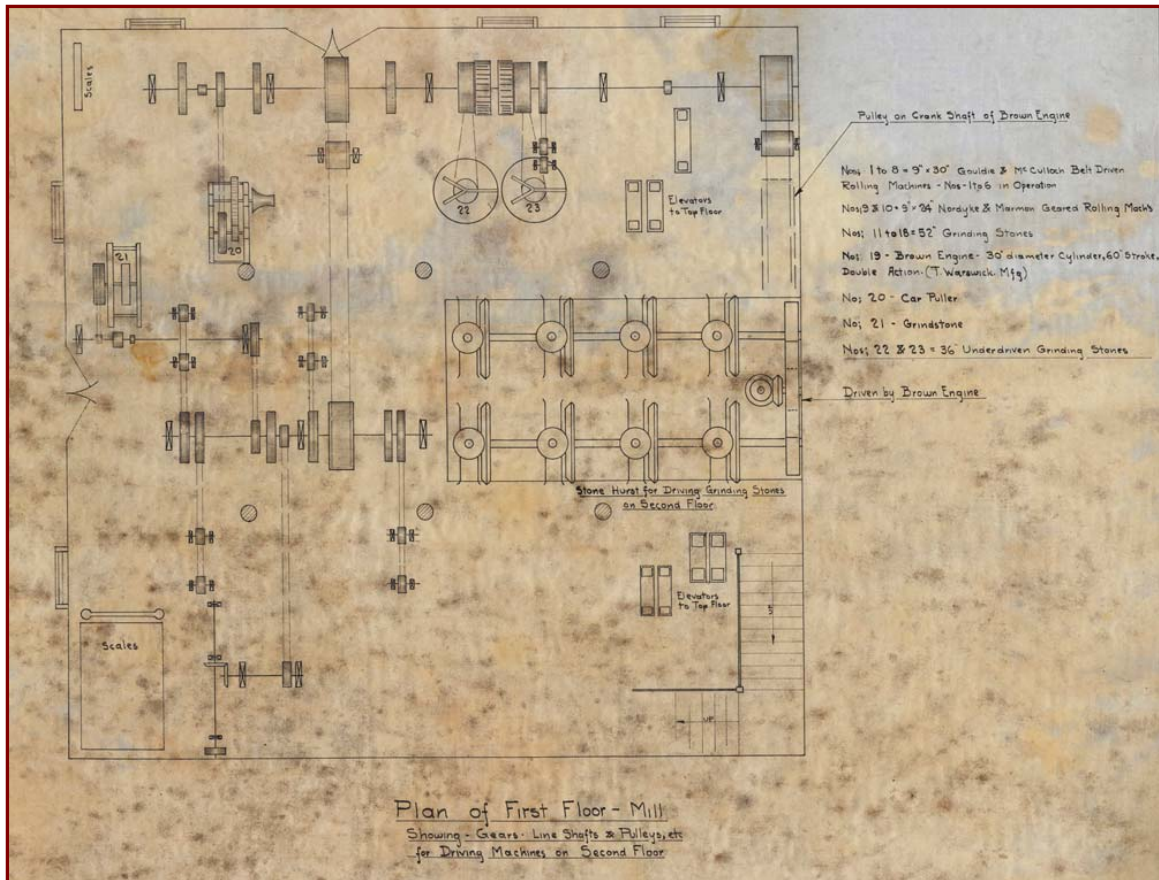


Millstones & high-roller mills, 1918

The most complete plan of the mill dates from May 1926, around the time that Harry C. Hatch, who had bought Gooderham & Worts in 1923, bought Hiram Walker and merged the two companies in 1927. Despite

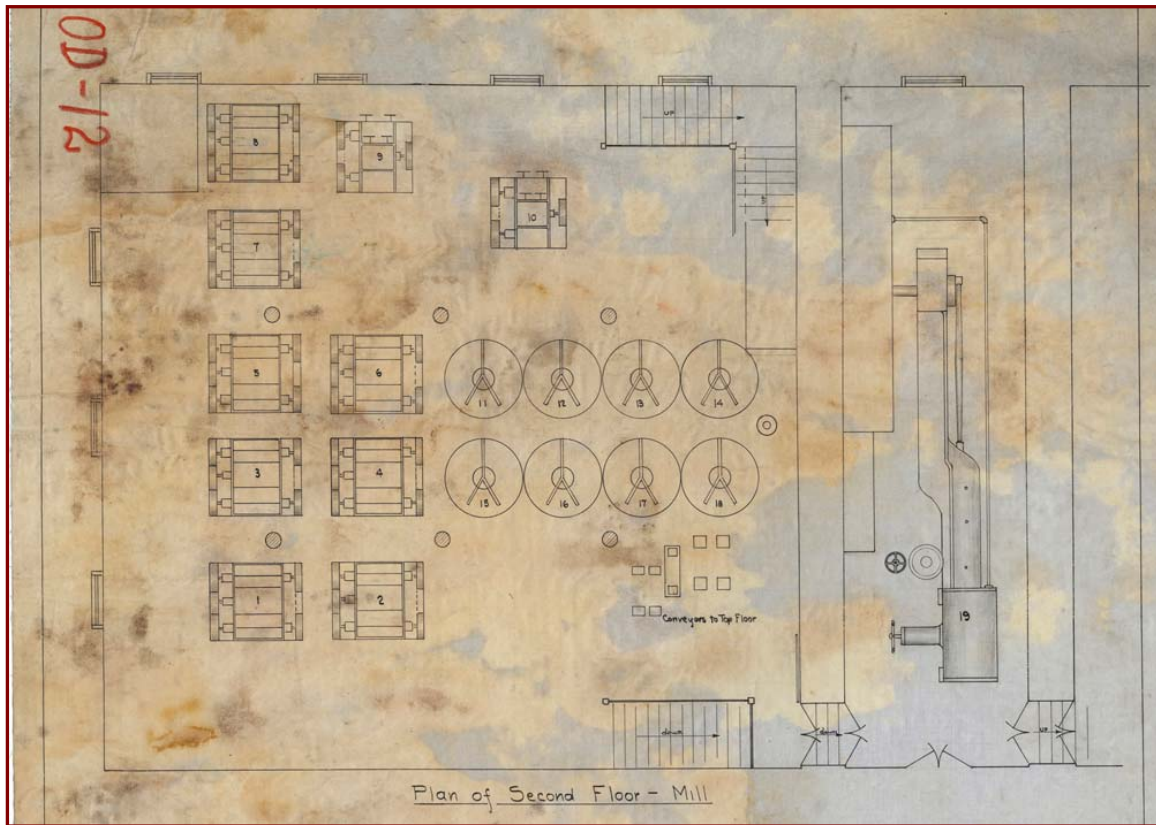
the discolourations of age, the plan shows the first and second floors in remarkable detail. Working with this plan and descriptions in the 1924

monetary appraisal, a clear idea of the equipment, its spatial location, and connections emerges. (For ease of discussion and presentation, the original, single-page plan has been split into two images.)



Plan of First (Machinery) Floor of Mill – “old layout” – May 12, 1926 DHD/CTA

The ground floor plan shows the “stone hurst for driving [eight runs of] grinding stones on second floor.” This, in turn, was still being driven by the 400-horsepower Brown engine installed in the adjacent Power House around 1882. It also clearly indicates where the extensive belt-and-line shafting needed for transmitting power was located. Seven elevators to upper floors, two scales for weighing grain, two first-floor (previously unmentioned) French buhr mills manufactured by Toronto’s own Greey Company, and a power “car puller” used to move railway cars over the dumping points, are also indicated. Look carefully at the plan and its notations. (Some of these items appear in photographs reproduced later.)



Plan of Second (Grinding) Floor of Mill – “old layout” – May 12, 1926 DHD/CTA

The second-floor plan places the millstones in the western (right) portion of the room and the roller mills to the east. According to the 1924 appraisal, the “battery” of eight “upper runner French buhr mills” were manufactured by the Wolf Company of Chambersburg, Pennsylvania, and contained stones 18-inches thick and 52-inches in diameter. (When these were installed remains an open question since no mention of the Wolf Company appears in the 1860s articles.) According to information found in the plan and the appraisal, there were ten roller mills, including eight “double roller mills” manufactured by the Goldie McCulloch Company of Galt and two “triple roller mills” manufactured by Nordyke and Marmon of Indianapolis. In addition to showing the metal spouts feeding the stone mills and elevators to other floors, the plan presents an exceptionally rare view of the 1882, 400-horsepower “Brown” steam engine (built by Thomas Worswick of Guelph) installed on the second floor of the Power House next door.

Gooderham & Worts’ mill in the eastern part of Building 3 ground grain for nearly a hundred years, until 1957 when G&W stopped distilling whisky. Distilling beverage and industrial alcohol from molasses requires

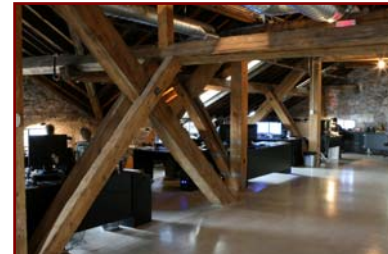
no milling so the grinding stones and high-roller mills finally fell silent. The five-storey mill was used for little except storage until the rebirth of the Distillery District as an arts and culture centre got underway in the early 2000s.



Gooderham & Wots Mill post-milling-era by Larry Turner, ca. 1986

1st floor without machinery 2nd floor without stones & mills 5th floor without grain

Much of the machinery and equipment had been removed by the early 1960s, such as the stone hurst, all the millstones, and all but two high-roller mills. Nevertheless, significant industrial heritage artifacts and original structural elements supporting milling remain and are featured in the modern spaces. Belt-and-line shafting overhead. Rising wood-encased bucket elevators. Two-storey grain bins turned into modern offices. Wooden levers once used to release grain into the (now gone) French buhr stone mills. Rail-car puller, grain-plough winch, and railway scale, all used for unloading grain. Finding and admiring these rare industrial artifacts within their (updated) 1860s surroundings will definitely add grist to your mill visit.



Industrial artifacts & mill surroundings today

Grain plough winch, 1st floor Dance studio, 2nd floor 5th floor offices *courtesy Groove Media*

Primary sources for early milling at Gooderham & Worts include: *The British Colonist* (Toronto), April 16, 1850; *The Globe*, February 7, 1862; and *The Canadian Illustrated News* (Hamilton), April 25, 1863.

Descriptions of the milling operation and industrial artifacts can be found in [Report 5, Heritage Equipment Registry](#) and [Report 6, Industrial Heritage Assessment](#), by David Nasby & Associates and Historica Research Limited, and published in 1994.

Please send your comments or questions to Manager of Heritage Services, Sally Gibson, sg@thedistillerydistrict.com.

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