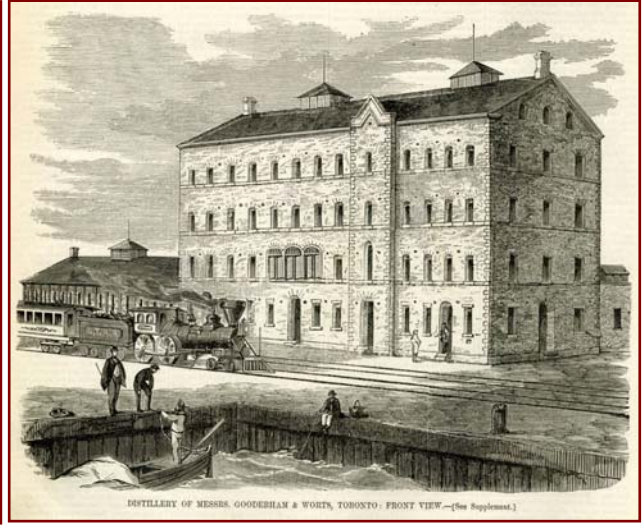


Building Histories

Building 5 (Stone Distillery)



Stone Distillery (looking east) today



Stone Distillery (looking west), 1863 TPL

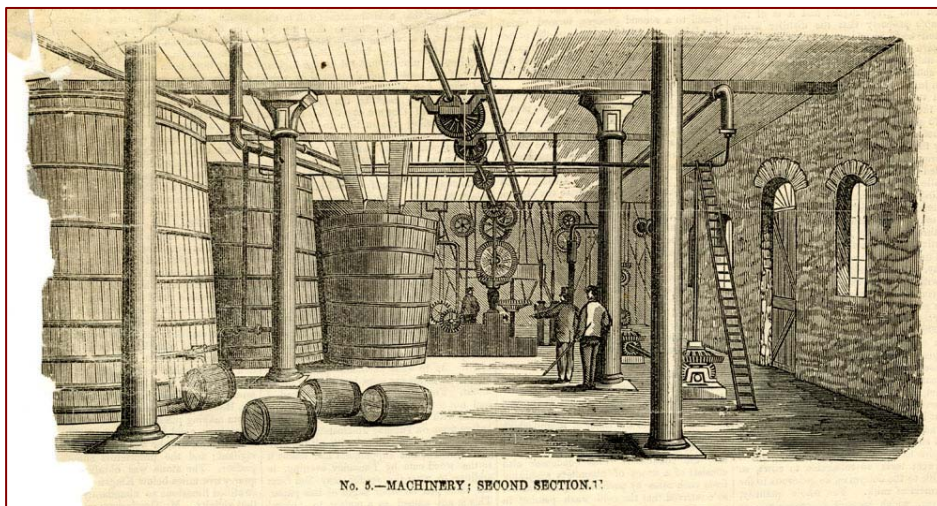
The largest and oldest building in the Distillery District is David Roberts, Sr.'s distinctive Stone Distillery that opened in early 1861. Built of limestone brought from Kingston by schooners, the Stone Distillery remained the only building of limestone built by Gooderham & Worts, although many other red-brick buildings designed by Roberts and his son, David Roberts, Jr., sit on limestone bases that help unify the site visually. Other distinctive features were its location on the edge of Toronto Bay, the proximity of railway tracks running along what is now Stone House Walk, and its tie plates, corbels, and double-timber-beam construction. All these have been discussed in earlier heritage snippets. The exterior of the building looked remarkably similar to today's ... except for the replacement of the lake by a (sometimes rain-slicked) parking lot. Interior spaces, however, changed extensively.

The five-storey main building contained four major functions that were located in distinct areas, each marked and entered by a large arched doorway. Over time, these areas were designated by different building numbers. These included: a grist mill in Building 3 (east end of the building); a power house in a narrow, projecting portion of Building 5; and mashing and distilling in the western two-thirds of the building. The related fermenting function was housed in the one-storey western extension of the building. And the essential boiler function that generated steam power was located in another one-storey building along the north side of the Stone Distillery, later designated Buildings 2 and 4. This article focuses on the western part of Building 5 where mashing and distilling occurred.

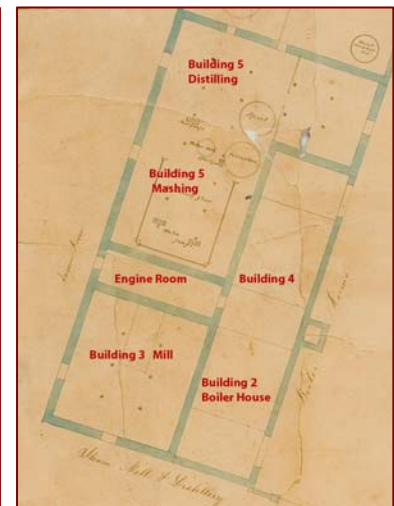
The actual lay-out of mashing and distilling equipment changed over time as technology and business required. For example, the earliest column still rose from the second floor, while later columns rose from the ground floor. And the original

mashing tuns on the second floor were replaced by “mash cookers” located on the ground floor.

The earliest illustrations and detailed descriptions of the Stone Distillery appeared in the April 1863 issue of the *Canadian Illustrated News (Hamilton)*. When augmented by plans dating from the mid-1860s, the original layout and operations in Building 5 become relatively, although not perfectly clear. (The reporter, for example, wrote part of his description prior to visiting the new distillery.) Essentially, fermented mash (or “beer”) from the neighbouring Fermenting Cellar was pumped under the floor of Building 5 and up to the top floor where it was fed into the wooden column stills. These rose forty feet from the second floor to the fifth floor, narrower at the base than the head, and were associated with steam for heating the liquid into vapour, a cooling system (“worm”) for condensing the vapour into liquid alcohol, receivers for capturing the liquor, and a separate rectifying system for purifying the alcohol further.



Ground floor of Building 5, 1863, looking east TPL



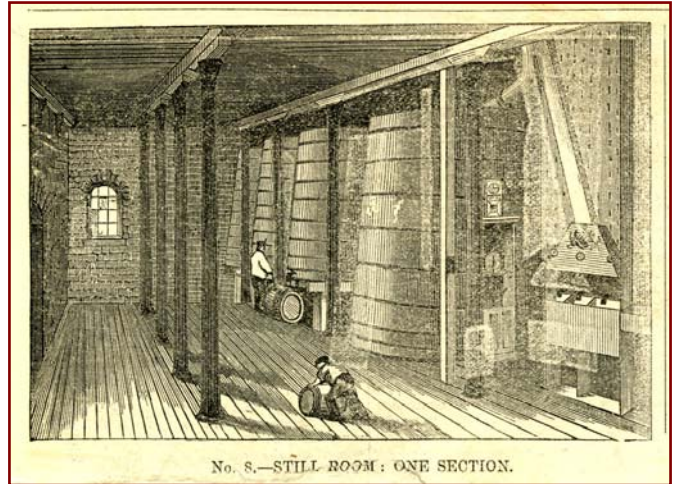
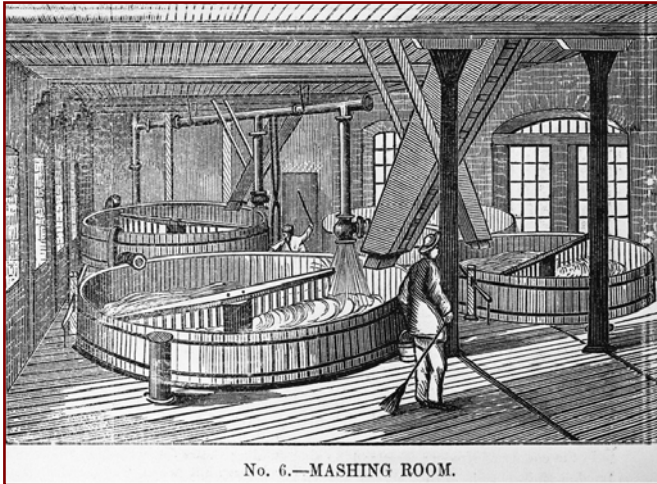
**Stone Distillery ca. 1865
(building numbers added)**

The ground floor – now occupied by an art gallery and the deaf culture centre – was initially a single, L-shaped room. (It was partitioned later into two distinct rooms.) The western portion (shown in the foreground of the 1863 sketch) contained two huge, wooden tubs (10-feet high and 12-feet at the base) that held seven to eight thousand gallons of alcohol. This part of the ground floor was used for two primary purposes: racking alcohol off into barrels (as shown in the illustration) and being measured by the Excise Officer as part of the taxing process (15-cents per gallon of distilled spirits). According to the reporter, Gooderham & Worts then generated some \$150,000 per annum.

The eastern portion (shown in the background of the illustration) contained machinery for various purposes: to pump “beer” to upper floors to start the distilling process, to transfer energy from the main engine on the other side of the wall in the power house, and to drive the “rotary agitators” in the mashing tuns above. Note the iron columns supporting structural beams that can still be seen.

In 1863, the second floor was also a single L-shaped room containing mashing under the large windows (still visible on the southern exterior) in the eastern portion, and distilling in the western portion. These functions continued in these locations for

many years – until about 1920 in the case of mashing, and until 1990 in the case of distilling.



LAC

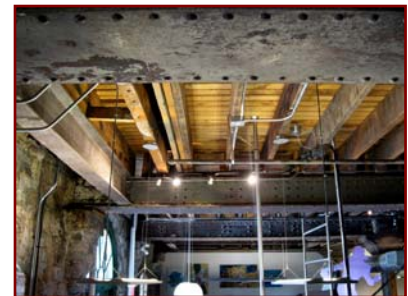
TPL

Second floor of Building 5, 1863
Mashing (left) and Distilling (right)

As shown in the left illustration, the mashing area contained four huge, copper-lined wooden mash tubs where starchy grains were converted into a sugary fermentable liquid known as “wort.” Each mash tub, measuring 15-feet wide and 7-feet deep, was fed by heated water pumped up from the lake, and ground grains (including malt) conveyed across the top of the building from the mill and dumped into the vats by large wooden chutes. The hot, grainy water was agitated for several hours by a rotating rake powered from below until it had been converted into the sugary liquid necessary for the next stage. Two tubs at a time were emptied into troughs that led to the [fermenting tuns in Building 6](#), while the other two tubs were being filled. And so the process continued.

Meanwhile, as shown in the right illustration, the western portion of the second floor of Building 5 was devoted to distilling. Three different pieces of equipment are illustrated. Of primary interest is the bottom section of a wooden still that rose forty feet, through two floors, to the top floor of the distillery. The still on the right is connected to a refrigerator or “worm tub” (12-feet high and 14-feet at the base) where vapour was cooled. Beyond the refrigerators stand three “receivers” for alcohol purified in charcoal-filled “rectifiers” located overhead on the third and fourth floors.

Many questions remain about the subsequent history of mashing and distilling in Building 5. When, for example, were many of the timber beams replaced by the riveted box-plate girders now in place – shortly after the [great fire](#) of 1869 or as part of later repairs or restructuring of the spaces? When were the 1860s wooden stills replaced by copper ones? And when did column stills and related equipment start to occupy the first floor where they remained from at least the late nineteenth century until 1990 ... and beyond for our viewing today?



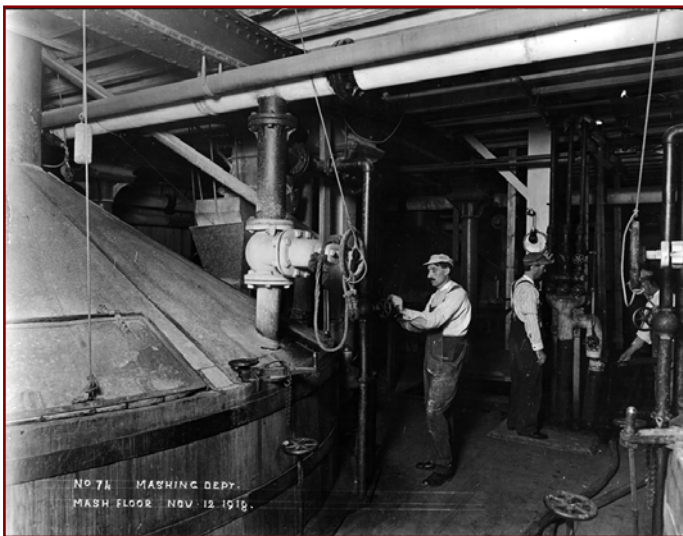
Riveted box-plate girders
Ground floor ceiling



Fairbanks scale tank *in situ*

Records suggest that the space continued to be used in much the same way as it had in the 1860s right through the 1880s, with distilling and mashing focused on the second floor. The classically elegant late-1890s Fairbanks scale tank that remains *in situ* at the north side of the ground-floor art gallery, however, suggests that major changes in the configuration of distilling equipment may have occurred around then.

Around the end of the First World War, two large riveted-steel steam mash cookers were installed where the machinery for the mash tubs had been located on the ground floor. On the second floor, the four mash tubs were removed and the great grain augur that fed the cookers below was installed. The mash cookers certainly ceased operating by 1957 when the production of grain alcohol was halted. Thereafter, molasses was transformed into rum and industrial alcohols without needing mashing. Elements of the mash cookers and the mash augur feeder are now on view in the Fermenting Cellar.



CTA



DHD

Second Floor of Building 5

Wartime workers at mash tub controls, 1918

White-coated worker at distilling controls

By the time of the First World War, when the distillery had been converted into British Acetones, column stills were definitely made of copper, although the mash tubs were still of wood, with metal covers added. Unfortunately, the photographs of wartime stills show only ones from the General Distillery that opened in 1902 and facilities built between 1916 and 1918 for the war effort.

Around 1930, Gooderham & Worts installed new distilling equipment manufactured by Badger of Boston. The 1937 photograph from a G&W book on *Industrial Alcohol* provides an excellent view of the densely packed, second-floor machinery (distilling columns, control panels, pumps and pipes) and the distinctive iron columns and double-beam construction of the Stone Distillery. Then, around 1950, more new equipment, manufactured by Vulcan of Cincinnati was installed. When the plant

closed in 1990, the company was using a five-column still, containing four primary distillation units and one rectification column.



First Floor, Building 5, ca. 1986 by Larry Turner
Badger distilling columns, southwest corner



Two mash cookers in eastern area

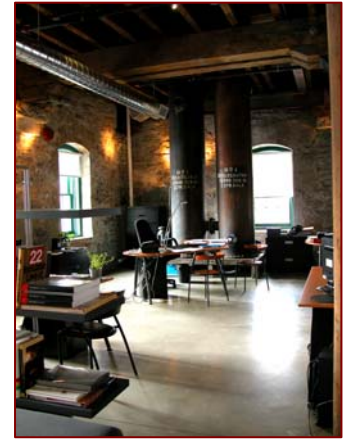
A mixture of equipment from various periods remains in Building 5. For example Badger columns can be seen in the southwest corner of the Thompson Landry Gallery and Vulcan control panels remain in offices on the second floor. Another section of a turquoise Vulcan control panel has been removed for general display in the hall on the fourth floor of Building 5. This is accessible through [the lobby](#) that now occupies the former power house and features a public sculpture of distilling equipment.



Ground floor door & still
for 1860s mashing



Fourth floor stills



Second floor window

The midi-1860s plan reproduced here is from a set of plans showing each of the floors. This enables modern researchers to determine how space was configured throughout the buildings. These plans show the Stone Distillery and Maltings, as well as the Rectifying House and Cooperage.

More information about the distilling process and equipment can be found in [Report 5](#) (heritage equipment registry) and [Report 6](#) (industrial heritage assessment) on the distillery heritage website.

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

For more about the history of the Distillery District, visit www.distilleryheritage.com.

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