

# Refrigeration puts freeze on the traditional harvest of ice



The thickly frozen surface of Forge Pond creates a fertile harvest for ice workers at the turn of the century. Wooden rollers form a conveyor belt for the blocks of ice, lifting them into the storage facility at the site of what today is the town beach.

Photo courtesy of June W. Kennedy

## Big pond business slides into obscurity early in century

Compiled by Gordon B. Seavey and June W. Kennedy

**T**homas S. Hittinger of Belmont, who had been cutting ice on Fresh Pond at the Cambridge-Belmont line for a number of years, purchased an ice harvesting site at Forge Pond in Westford in 1864.

He was shipping ice to Caribbean ports by sailing vessels (often glad for the ballast) through Boston. Only 35 miles away from the Hub, also having good rail facilities, he built a second plant in Westford.

The new building of rough sawed pine timbers and boards, covered perhaps more than an acre and was 30 feet high with double walls. Sawdust, of which there was plenty available from nearby saw mills, filled the air space between the walls. This produced the necessary insulation to hold the ice from melting.

Small doors at floor levels on the pond side of the rectangular building allowed the newly-harvested ice to enter and be stacked, one layer on top of another.

Gravel was the only floor and there were no windows. Doors were placed on the opposite end of the building so when summer came, the cakes could be pushed out into freight cars waiting on the siding. Broken cakes were discarded in a pile so many a villager had free ice for the asking.

The late Fred Fisher said, "It felt good on your bare feet, too."

Notwithstanding the simplicity of design, the ice harvesting building on Forge Pond cost Thoms S. Hittinger \$65,000 in 1864 — a tremendous sum in those days.

For comparison of prices, the coal needed to fire a steam boiler could be shipped from Boston for 60 cents a ton. The boiler, the only mechanical power used in the entire process, was used to rotate a heavy link chain, with crossbars spaced every six feet, to pick the heavy ice cakes floating in the water.

Another \$3,000 went for tools and other equipment.

Even today a fisherman or scuba diver might find an old ice pike or chisel which some harvester accidentally let slip

through his hands into the icy water.

When the water had frozen to the desired thickness, best at 12-14 inches, urgent calls went out to crews patiently waiting orders. Things had to be organized quickly for nature is fickle and storms or mild weather could damage a harvest.

### Scraping by scoops

First an area, perhaps a dozen acres, would be marked off. If the ice had a snow covering of any depth, this would be scraped off by horsedrawn scoops. A driver would guide a plow-like tool, a steel blade about four feet long with descending teeth, along a straight line. This would gouge a groove about two inches deep the full distance of the field. He would then return parallel to the original groove, with a marker arm to guide him, cutting a new furrow two feet distant.

When the area was so grooved, a new set of furrows, four feet apart, would cross all the others (like marking a pan of fudge) producing rectangles 2' x 4'. Men

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with hand saws, pumping up and down would cut a narrow section through the entire thickness to open a channel through the middle of the field.

This would meet with a channel already cut leading out from the shore. It was to be through this "main" channel that the ice cakes would glide to the immersed portion of the powered chain. In the meantime, out on the field, men had been sawing the area into large sections, forming great ice floes.

Each furrow at the edge of the floe had to be caulked with snow so that water wouldn't enter into, freeze and seal the grooves. Furrows, when struck with a sharp pointed iron rod, would split the floe wide open, breaking it into neat, smaller sections. This was termed "barring off."

Long strips of two-foot ice, all properly grooved at four-foot intervals, would be poled into the main channel toward the shore and the waiting chain. They would be barred-off again (a favored chore) into the proper 4-foot length, then pushed over the moving chain. A crossbar would pick up a cake at a time, perhaps as many as 70 per hour, for the ride up the incline.

### Cakes afloat

It was no great problem to handle the cakes in the water because they floated with one-tenth of their weight above the surface, as every schoolchild knows. Small operators used horsepower attached to a block and tackle to raise the cakes up the ramps; Hittinger had the advantage of steam power.

The idea was to lift the cakes substantially above the level being filled, then release them onto chutes where the cakes would slide by their own weight along on wooden rails. Men along the way would steer the cakes around corners to proper resting places.

As the ice house filled, the cakes would be carried higher and chutes then raised. Each course had to be level so that gliding cakes would not snag on projections. Thickness of the cakes was standardized. As they rode up the incline, a crossbar knife would scrape off the surplus top, probably "snow ice," which was not too desirable.

### Weathered thickness

Ideal thickness was about 12 inches of clear ice, which did not melt as fast, but if a mild winter occurred, the icemen would have to reap whatever they could get,

particularly toward the season's end. The price of ice would go up the following summer.

Some years the water might freeze as thick as two feet or more before time permitted the harvest. This was not good, either, because flat cakes would not roll in handling where thick ones would.

Harvesting in the dead of winter was cold and wet work. Sometimes a man would slip and fall into the water. Fortunately for him if he had the warm engine room in which to dry out; otherwise, it was a long, cold trip home for a change of clothes. Horses often would slip, too.

For the year 1881, records show that Hittinger employed 175 men and 50 horses to fill his Forge Pond house. Later he sent 35,000 tons to Boston which John P. Squire used in processing and storing meat products. He also stored 50,000 tons for the southern market.

### Forge supplying Lowell

In its latter years the ice industry at Forge Pond was operated by the Daniel Gage Company of Lowell. Gage supplied the city of Lowell. In fact, they made their own ice wagons and had their own wheelwright and harness shop, plus numerous stables.

Bob Spinner recollected: "At the end of each harvesting season Gage sharpened all the equipment and put it away till the next year. So many extra men were needed for harvesting that an extra car was put on the train. It left Forge Village each night at 6:30 p.m. for Lowell."

"The regular drivers lived in the bunk house over the boiler room; they bunked there and had a cooking room. During its last year of operation 90,000 tons of ice were harvested from Forge Pond."

### Demise of ice man

By the turn of the century, mechanical refrigeration began to take its toll on the natural ice business. When General Motors introduced its household model, those who could afford this new luxury bought a "Frigidaire", a name which "froze" early to every make whether it be a General Electric monitor top or a gas-fed Electrolux. Folks found mechanical refrigeration clean, fast, dependable and usable every month of the year. Its ice was made from the purest of water.

No longer did the iceman leave a trail of water on the pantry floor, nor did the ice pan be-

neath the ice box overflow. In extreme hot weather, milk no longer soured nor did butter get soft.

And no longer could the person who caroused at night at the corner bar alibi his headache on "bad ice" the next morning!

All over, during and right after World War I, ice houses began to disappear from the landscape. The bright card left in the kitchen window to tell the man in the cart how much ice to leave was torn up. And kids, following the dripping ice wagon for slivers of ice, had to turn to lollipops. Eventually, natural ice was a business gone down the drain.

### Houses disappeared

Some ice houses were left to rot and tumble down, others were demolished. The complex at Forge Pond suffered a severe blow. Right at the height of the summer ice business, Aug. 2, 1920, somehow the huge building caught fire. The flames and smoke could be seen for miles; the best the local firefighters could do was to wet down the surrounding neighborhood and homes to prevent the conflagration from spreading.

The loss was set at \$111,000 with \$75,000 for the building. The insurance coverage was on \$30,500.

Even though the ice business was failing badly, Gage rebuilt on the same spot, but the set of buildings lasted only another decade. Another conflagration took place on July 14, 1931, with records showing that the building was torched by "unknown parties," which was the final demise of what once had been a big enterprise here in the town of Westford.

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