

P1 / HISTORIC UPDATE

The Peavey-Haglin Grain Elevator.

P3 / PRESIDENT'S LETTER

The Park has risen to past challenges in times of crisis, and will do it again for COVID-19.

P4 / EXPLOSIVE NEWS!

Explosion and fire at the Burdick Grain Elevator, 1977.

P6 / DISPATCH LOOK-BACK

We look way back, past the *Dispatch* to the *Herald*.



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EDITOR'S NOTE:

In the interest of bringing you more and better content, we have replaced our normal page 7 – our membership form – with historic photos and maps. The form is more easily accessed at our website, www.slphistory.org.

– Bill Beyer, FAIA

HISTORIC UPDATE

PEAVEY-HAGLIN EXPERIMENTAL GRAIN ELEVATOR

Sometimes, new information becomes available, some of it lying in plain sight for decades, and we need to update our understanding of Park history accordingly.

Our Society's recent publicity via the medium of television on KSTP's "So Minnesota" program, highlighted the Peavey-Haglin Experimental Grain Elevator and featured John Olson of the Society's board. It also sparked some discussion at our board meeting about whether that iconic Park structure had really been the world's first. KSTP reporters obviously thought so.

KSTP: "One such structure in St. Louis Park has a history that rises above them all. The world's first circular concrete grain elevator stands near the intersection of highways 7 and 100."

Norman Thomas' 1951 unpublished manuscript, our own SLPHS website, and even the nomination form for the structure's National Register naming are either not too clear or hedge their bets.

WEBSITE: "... the first circular grain elevator built of poured concrete in the US and possibly the world."

THOMAS, 1951: "One of the officials of the Peavey or Van Dusen Harrington firm had traveled in Europe in the 1890's and had seen a concrete silo type elevator somewhere in eastern Europe...This seemed like a means by which one could make an elevator fireproof ..."



NATIONAL REGISTER, 1978: "The elevator, the first circular reinforced concrete grain elevator constructed in the United States and possibly in the world, is significant as an example of the creative ingenuity of the American building arts. It is the prototype for a type of structure that is now ubiquitous throughout the grain growing regions of North America... Before beginning work, Peavy sent Haglin to Europe to examine the best in European elevator construction. Returning home Haglin reported that the European engineers and builders were not more advanced than their American counterparts. It was probably Haglin that recommended that they proceed with the construction of the present structure."

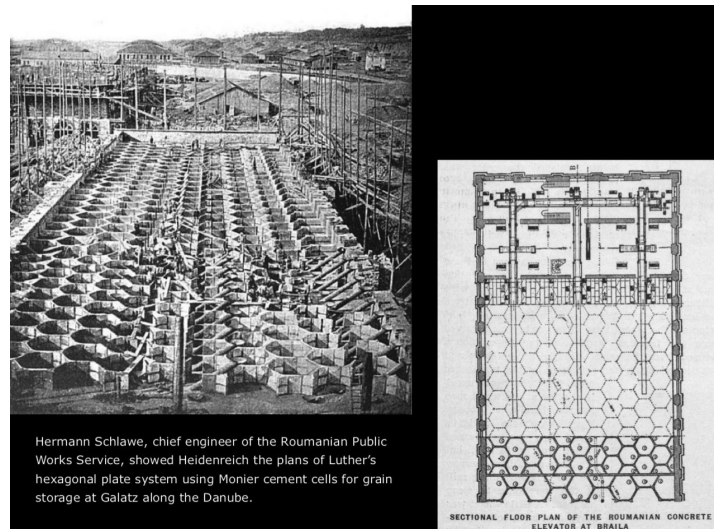
However, we've just found a March 1960 Minnesota History article by Ruth Heffelfinger, daughter-in-law of Frank Peavey's son-in-law, Frank Heffelfinger. Ruth summarized the timeline based on her father-in-law's actual diaries of his trip to Europe.

RUTH: "It is not known whether one of these men was the first to conceive the idea of using concrete in a hollow monolithic mass for the storage of grain, or if the idea came from another source. It was, however, the desire of Frank Peavey to build such a structure, and the conviction of Charlie Haglin that such a thing was possible. Up to this time even terminal elevators in the United States were squarish wooden structures similar to the country elevators so familiar today throughout the Middle West. The two men were faced with considerable opposition. Who ever heard of such a thing! Contractors and engineers throughout America argued forcefully that a tank of solid concrete would lack "give" and would therefore explode or, at best, crack wide open when grain was drawn off.

In spite of such misgivings, during the summer of 1899, construction was started. Round forms braced with steel hoops were built and concrete poured into them. As the concrete dried, the forms were pulled up, braced, and another layer poured...By fall the structure was ready...Grain transported in railroad cars was shoveled into a bucket elevator, carried to the top of the concrete tube, and dumped in. There it would remain through the winter, and in spring the condition of the grain would be tested. Whether or not this was a practical design was still in doubt, and since it was rumored that concrete elevators were used in Europe, Peavey gave his son-in-law, Frank T. Heffelfinger, the assignment of traveling overseas with Haglin to find out about them at firsthand.

Back in Minneapolis the following spring, the time to draw off the grain from the experimental elevator arrived. At the appointed hour a group of interested people gathered, attracting a small crowd of passers-by. The onlookers drew back, however, putting a good block between themselves and the elevator, for whether or not it would explode was still uncertain. Charlie Haglin, with perfect faith in his calculations, stood firmly at the foot of the elevator as the lever was pulled and the grain began to flow smoothly through the ramp at the base of the tank into a cement pit eight feet below the ground. Not only did the monolith remain intact, but the grain was in perfect condition. For further experiments, the elevator was increased in height to 125 feet. It was never used commercially, however, after serving experimentally in proving Haglin's theory.

The success of this experiment and the favorable impressions of European concrete elevators reported by Heffelfinger and Haglin influenced Peavey's company to undertake the building of a large concrete and steel mesh elevator at Duluth, Haglin designed the structure and received the contract for its construction, making use of "some inventions of his own, on which he has patents and which have never before been applied to elevator-building." Work on the Duluth project began in the spring of 1900. The Peavey firm regarded it "as the most substantial grain-storage house in the world, representing the most advanced ideas of elevator construction."



Hermann Schlawe, chief engineer of the Roumanian Public Works Service, showed Heidenreich the plans of Luther's hexagonal plate system using Monier cement cells for grain storage at Galatz along the Danube.

So, Peavey and Haglin had designed and built the experimental concrete storage cylinder **before** traveling to Europe to look for similar examples!

Another recent discovery, a 2014 presentation by professor Phil Jacks, PhD, M. Arch of George Washington University, clarifies the European state-of-the-art in concrete grain storage and Peavey's plans for Duluth. The hexagonal concrete cells of the Romanian storage structures were similar, but used other construction technologies.

Charles Haglin had become a draftsman in the office of a Syracuse architect after the Civil War, moved to Chicago for a year, then relocated to Minneapolis in 1873. He entered architectural practice with Franklin B. Long, which ended in 1876; he then entered into partnership with Frederick Corser for about five years until 1881 when he formed a contracting firm with Charles Morse.

Perhaps Charlie subscribed to *American Architect & Building News* magazine, the mouthpiece of the American Institute of Architects since 1876, and had read the following from that year's September 23rd issue:

"We are often asked what advice we should give to a young man or lad who would like to become an architect. Our first impulse is commonly to say, 'Don't do it;...'Architecture, then, is not to be considered a lucrative profession....Those who practise it must do so for the satisfaction they can find in doing it well, and be content with a moderate compensation in money....For one architect who acquires competence, half a dozen builders make fortunes."

Haglin and Morse built a number of large structures in Minneapolis, including the Minneapolis City Hall and Court House (1895-1905), designed by former architectural partner Frank Long (Long & Kees).

Haglin had been in the contracting business for 18 years by the time he and Peavey made their experiment in concrete, and by then certainly knew of the superior practical advantages of the cylindrical shape in evenly distributing fluid forces, and had been exposed to the

LETTER FROM OUR PRESIDENT

Dear readers,

This is a very odd time to be writing to our members as we all sit around the world in some version of quarantine due to the outbreak of the coronavirus, COVID-19. I am hoping that this issue will be printed and distributed soon and offers you a small diversion. It certainly gives me time to reflect on a few things.

First, as a history buff, my mind wanders to other times of crisis in our city's history. The most obvious parallel is the Spanish Flu of 1918. The first case in Minnesota was reported on September 25, 1918, which means we were not impacted by the initial outbreak earlier in the spring which ravaged American troops fighting in Europe. But by October classes were postponed at the University of Minnesota, and the rest of the city was essentially shut down including schools, churches, and theatres. We don't have much that tells us of the impact on St. Louis Park, so if you have any further information, please let us know.

In 1932 and 1933, the St. Louis Park village council allocated funds for "make work" and other welfare programs, but the village didn't have nearly enough resources and had to rely more on state and federal agencies for relief. In 1934 as Highway 7 was being built through the village, trees that were removed were given to those who needed it for fuel. And the village council established 35 acres worth of gardens from which produce was given to those in need. There were also about one hundred St. Louis Park men who went to work with the federal Civilian Conservation Corps, and many others worked for the Works Progress Administration that built schools, roads, and sewers in St. Louis Park.

And in the early 1940s, local citizens were asked to sacrifice again as the nation went to war. Employees at Republic Creosoting worked an extra shift and donated their pay to the Red Cross; while students collected 2,675 decks of playing cards to send to servicemen. Park residents also purchased \$220,000 in war bonds which resulted in the naming of a bomber the "Spirit of St. Louis Park." Most significantly, 1,053 St. Louis Park men and women served in the war, and 45 of those died while serving our country.

So, as I write this I wonder how this crisis will impact us. How will our citizens rise to the challenge? How will they help their neighbors? And how will we remember this time? One thing our organization can do is to preserve and document the stories that emerge. We will record all the ways our teachers are transitioning learning to online methods. We will tuck away the various legislative records. We will take photographs of our city as it reflects these changing times – from signs in the parks announcing that play structures are closed to restaurants offering carry-out from entry vestibules.

I am hopeful that in the end our city's story shows a tight knit community coming together to persevere and that it leaves us stronger and more appreciative of our great city.

With hope,

Ted



CONNECT WITH US

Stop by: 3546 Dakota Ave. S., Suite C
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Saturdays, 1-4 p.m.,
and by appointment

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Email: history@slphis.org

Visit online: www.slphistory.org

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Founded in 1971, the St. Louis Park Historical Society collects, preserves and shares the history of St. Louis Park. The *ReEcho: Park History Today* is an official publication of the Society.

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rapidly advancing science of ferro-cement (reinforced concrete) construction.

In any case, immediately following their experimental success in St. Louis Park in the spring of 1900, Peavey and Haglin began grain elevator construction at a considerable jump in scale on the Duluth waterfront. According to substreet.org/duluth-grain-elevators/3/:

"When Peavey wanted to build a new grain complex in Duluth, he purchased a large plot near Garfield Avenue on Rice's Point called Grass Island...In 1900, the experimental silo design was copied onto Grass Island under the name Annex #1. It stood 112 feet tall and could hold a record-breaking 3.5 million bushels of grain, making the Peavey complex the first concrete terminal elevator in the world. Much of its capacity was owed to the fact that grain was not only kept in the tubular areas, but also in the star-shaped spaces between the silos; this way, every space that was not concrete could be used to store more grain.

In February 1906, concrete was put to the test as the conventional elevator alongside the still-experimental concrete silos caught fire. The 200-foot high flames never spread to the silos themselves while the nearby structure burned for four hours as firemen fought the flames in front of 10,000 spectators. Glass half a mile away cracked from the heat, and ice from the gushing fire hoses built up six feet thick around the outside of the glowing walls.

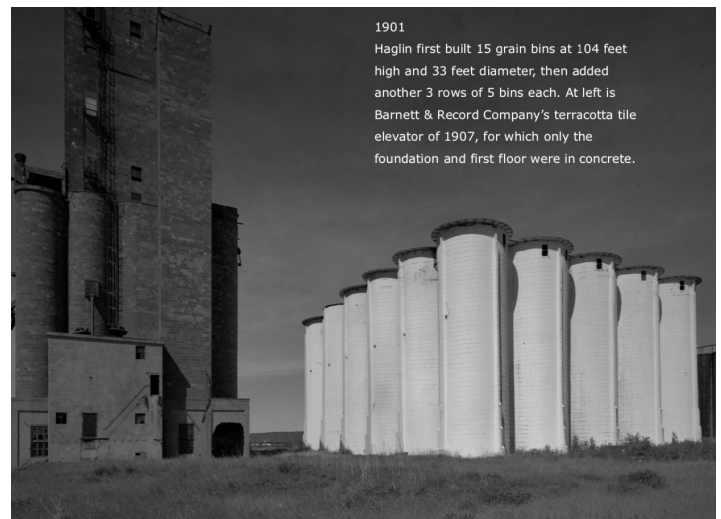
The elevator was destroyed, along with one million bushels of grain, mostly wheat. But the concrete silos of Annex #1 held. Though the silos had developed minor cracks near their tops, they were in good condition. As one reporter put it, "It was the first local test of concrete when exposed to terrific heat, and it may result in the use of more of it hereafter in grain elevator construction," a prediction that would prove to be an understatement.

That is not to say that the experimental elevator was without fault. In December 1909, in fact, one of the interior bins of the elevator burst from the pressure of its contents, triggering several more ruptures. The domino effect culminated in a destructive wave of concrete mixed with 75,000 bushels of flaxseed cascading through the walls of Annex #1.

Upon inspecting the concrete, which was made with a gravel mix dredged from Lake Superior, wood chips and other organic material was found. Ultimately, this 'foreign



The Duluth elevators are long gone, razed in 1996. Professor Jacks' presentation included the slide below, showing that Haglin increased the diameter and the height far beyond his SLP experiment.

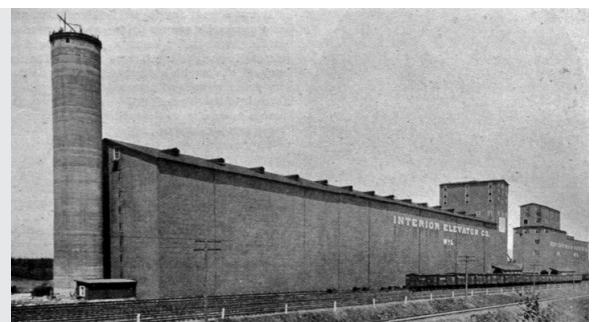


matter' was blamed for the structural failure. Engineers recommended that the star-shaped sections between the bins be reinforced with concrete curtains, a solution that kept these Peavey silos out of the news for 40 years."

As the Heffelfinger diaries note, the travelers had found several examples of concrete structures used to store grain. But the cylindrical form and the jump-form jacks developed and tested by Charlie Haglin and Frank Peavey in St. Louis Park deserve their claim to be the world's first, and the prototype for tens of thousands of concrete storage silos around the globe that still survive.

Charlie left his contracting business to his sons, who continued to do very well; while spending winter, an early snowbird in sunny Los Angeles, he died in 1921 at age 72.

The original concrete silo engineered by Charles F. Haglin known as "Peavey's Folly," on the grounds of Peavey's Interior Grain Elevator along the SOO rail line in Minneapolis.



EXPLOSION AND FIRE: ADVANTAGES OF CONCRETE STORAGE SILOS DEMONSTRATED IN 1977

It took 77 more years for a demonstration in the Park of the limitations of wooden structures for storing and processing grain. The Great Western Elevators were built in 1893, just north of the M&SL and Milwaukee Road tracks flanking Glenhurst Avenue at the eastern edge of the Park.

Renamed the Belco Elevators in 1939, and taken over by the Burdick Grain Company in 1950, the structures dominated the skyline for decades until a catastrophic explosion and fire destroyed them on May 11, 1977.

The aerial photo above from 1945 shows both the Burdick and Peavey-Haglin Experimental Elevator. The photo below, (courtesy of John Hill), looking east toward Minneapolis shows the massive scale of the structures.

The fire took hours to bring under control and involved firefighters from several surrounding communities. The Minneapolis Tribune featured the fire on page 1A the next day, with additional full-page photo coverage on 9B. On pages 5 and 7, we duplicate those newspaper headlines and photos courtesy of Newspapers.com.



Minneapolis Tribune

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Explosion, fire level two grain storage elevators

By Tom Davies
Staff Writer

"We have a firestorm."

That's how a Minneapolis Fire Department dispatcher described a fire Wednesday that destroyed two grain elevators near the Minneapolis-St. Louis Park border.

With flames from the Burdick Grain Co. elevators soaring 100 feet into the air — and a 12-mile-per-hour wind sending smoke and

sparks four and five blocks away — police and fire officials evacuated hundreds of people living near the elevators.

Two people were injured, one critically.

"(Out of the backyards. You're just in the way!" News report and more photos, page 9B.)

Firemen from Minneapolis, St. Louis Park, St. Paul, Bloomington, Hopkins, Golden Valley, Eden

Prairie and Minnetonka had the fire under control by 10:45 p.m., more than five hours after it began.

The fire was visible from as far away as Jordan, Minn., and the large column of black smoke attracted thousands of spectators to the area around the tangle of Lake St., Hwy. 7 and Minnetonka Blvd.

The crowds caused problems for firemen, and police later closed

both Hwy. 7 and Minnetonka Blvd. to clear traffic from the area.

David Berscheit, 28, was in elevator No. 1 when the fire began with an explosion about 5:30 p.m. Berscheit was taken to Hennepin County Medical Center with third-degree burns over two-thirds of his body. He was listed in critical condition.

Fire continued on page 8A

Norton wins

Heavyweight fighter Ken Norton knocked out Duane Bobick of Bowls, Minn., in the first round of their fight Wednesday night at Madison Square Garden in New York. (Details—page 1D.)

Staff Photo by Duane Braley

Some spectators took cover from the heat behind a car; others stayed with their bicycles as the Burdick Grain Co. elevators burned Wednesday.



DISPATCH LOOK-BACK

We look back past the *Dispatch* to the short-lived *St. Louis Park Herald*, edited by F. A. Harvey of Robbinsdale, R.L. Blacktin of St. Louis Park, assistant editor. The paper ran from May 6 to October 14, 1915, and reported Park news by neighborhood. Before photos were widely used in newspapers, cartoonists played a role in representing local characters; the cartoon below from 1915, profiles some of the village's movers and shakers.

During the paper's brief tenure, the St. Louis Park State Bank was envisioned, touted, built and opened. The ad below appeared shortly after the new bank's doors opened. Sadly, the "actual result" of the bank was its closure amid charges of fraud in 1919. Editor Harvey was unable to convince the Village to publish its official notices in the paper, however, and the paper went under after he claimed he lost \$20/month, merging with the Robbinsdale Tellit.



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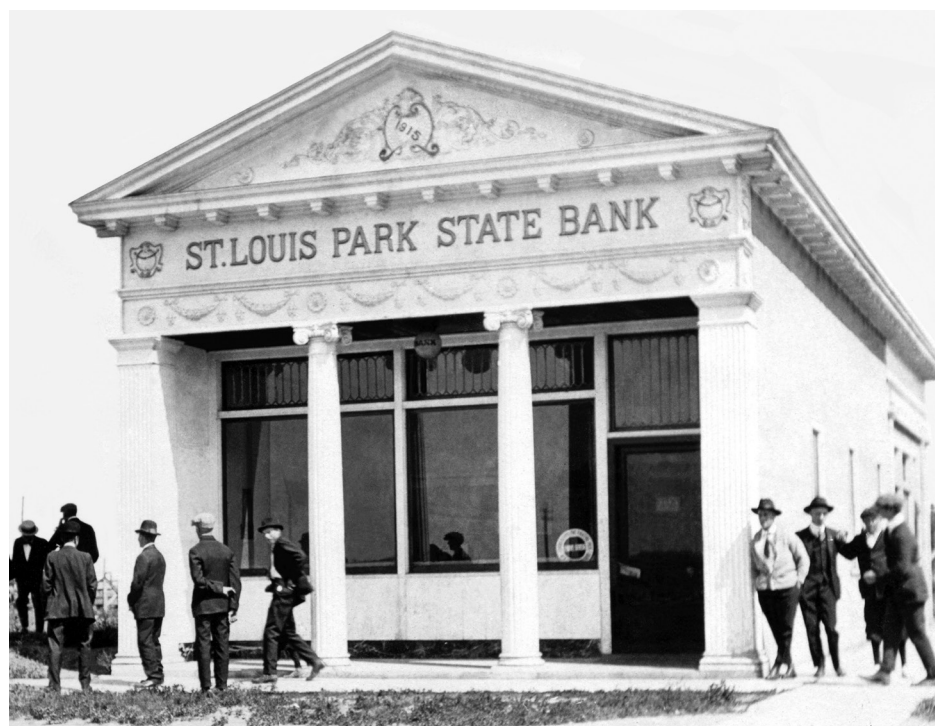
ST. LOUIS PARK, MINNESOTA.

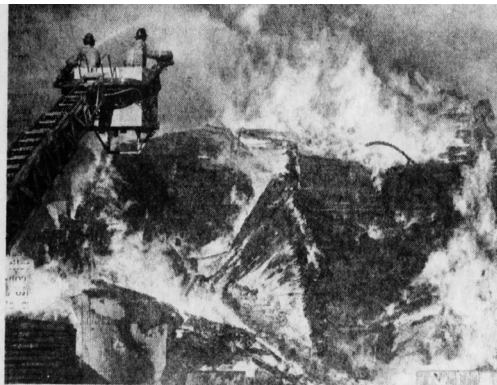
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OFFICERS.

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SAVINGS DEPARTMENT
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\$1.00 starts an account





Staff Photo by Kent Kobersteen

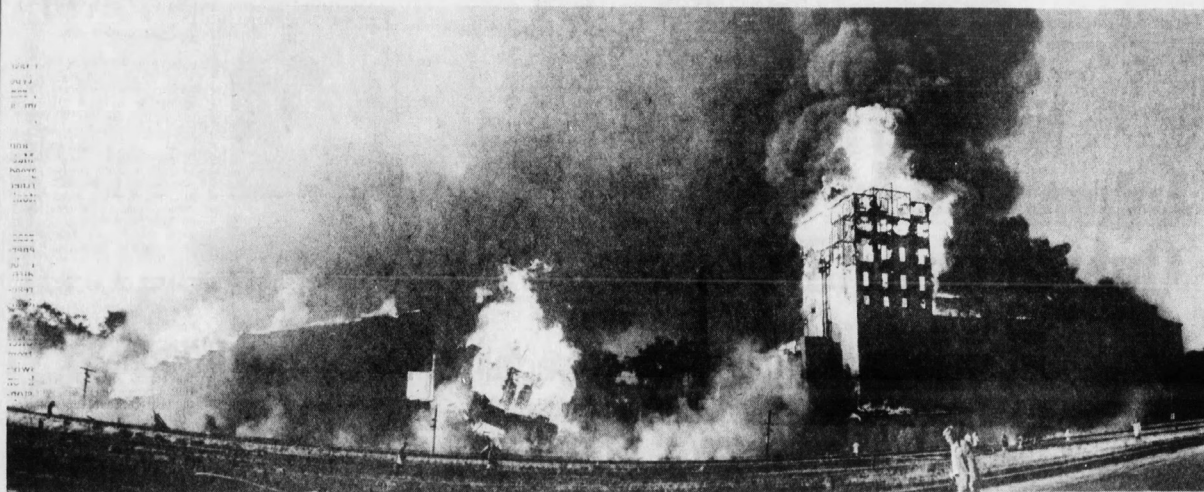
Hopkins firefighters got close to the flames in an aerial bucket.

Hot, dangerous, unexpected work



Smoke from the grain-elevator fire southwest of downtown Minneapolis was visible for miles in all directions. The view at left is from the top of the IDS Center, looking over Loring Park.

Staff Photo by Regene Radniecki



Staff Photo by Kent Kobersteen

'Out of the backyards. You're just in the way!'

"Get out of the backyard," the fireman said. "You're just in the way."

Spectators at Wednesday's grain-elevator fire kept trying to get the best view they could—and that usually led them closer and closer to fire fighters.

In the yards behind 31st., the view was perfect: Fire officials and emergency medical personnel walked amid the lilac bushes and the smoke to look at the fire. They had to share the space with spectators, some riding bicycles across flower beds and nearly across emergency medical personnel.

A fireman from Hopkins was joined by Minneapolis fire officials in clearing the yards, which were under the fire's smoke cloud and targets for burning debris.

After 10 minutes, the firemen got the last of the spectators off the lawn.

After 10 minutes, the firemen got the last of the spectators off the lawn.

The Hopkins fireman—wet with water and perspiration—looked over his shoulder, saw that the spectators were gone, and plopped down for a short rest.

"You find out what's happening, Harry."

Harry came with two women and another man to view the fire. He left the three near an apartment-house fence near Ewing Av. S. and approached closer.

First he talked with a young girl in a bare-shouldered red dress.

Then he talked to another young

women, Harry."

Joe Therrien and Steve Norby were ordering supper at the Lincoln Del when they heard an explosion.

"It felt like an earthquake," said Therrien. "We thought maybe a truck or something had hit the building."

Norby said he ran into an apartment building at 4001 31st St. to warn the occupants.

The people, he said, "seemed to be in shock. They wanted to do things like go back and get their favorite pillows."

Fire safety was among the subjects discussed at the Burdick Company's weekly safety meeting yesterday, which ended just two hours before the explosion occurred.

Burdick President Vernon Geiger said the safety meetings, attended by all elevator employees on a rotating basis, are part of "our very fine safety record." Yesterday's meeting was at Belco No. 5, a company elevator four blocks west of the two that burned.

A representative of The Mill Mutuals, the company that insures Burdick, told a reporter at the scene last night that he attended the safety meeting to discuss fire safety. He asked not to be identified.

The fire yesterday was the first in Burdick's 27-year history, "and it was a good one, wasn't it?" Geiger said sarcastically.



Staff Photo by Darlene Woyt

A resident carried some clothes out of an apartment building evacuated during the fire.



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SUPPORTING DOLLARS FOR SCHOLARS – RECOGNIZING *THE ECHO*

In our Spring 2019 issue, we profiled Margaret Fornell Maunder and Susan Linnee, two alumnae of the St. Louis Park High School's student newspaper the Echo. Here's your chance to recognize and support their heirs.



Fundraising now: the inaugural ECHO JOURNALISM ENDOWMENT at St. Louis Park High School through the Dollars for Scholars program. We're seeking donations of any amount from SLP residents, alumni, and former staffers of the Echo, the student-run newspaper at the High School. With the help of the Dollars for Scholars organization, we hope to financially reward graduating staffers of Echo for years to come. The scholarship will support one student every year by contributing to their tuition fund for university education. The application process is designed to reward an Echo student who demonstrated exemplary journalistic values such as editorial ethics and telling the stories of the voiceless while a member of the newspaper staff, and wants to apply those values further in life. Please donate through the Dollars for Scholars website and specify that you are contributing to the ECHO ENDOWMENT in the following link:

<http://www.stlouispark.dollarsforscholars.org/index.php?section=chapterWebsite&action=donate&fwID=924>

And tell your friends and family to contribute as well!

OUR NEW BOOK IS HERE

The Society's new book, "Places in the Park," is available for sale at the Rec Center, at City Hall and at the Hennepin History Museum, and through the mail at our website. Cost is \$20. The book will be the topic of presentations planned for the SLP Library from 6:30-7:30 on Monday, May 18th, as well as a three-lecture series at the Lenox Senior Center's Little Theater on June 16th, 23rd and 30th. Books will be on sale at each event. President Ted Ekkers, Treasurer Henry Solmer and Trustee, Bill Beyer presented the new book to the St. Louis Park City Council at their January 21st meeting.

