

MIGHTY CABLES WHICH WILL SUSPEND THE GREAT EAST RIVER BRIDGE AT NEW YORK.

Ceaseless Weaving, Wire by Wire, Have Brought Them to Completion—The Wonderful Work Described—Dimensions of the Structure—Bridge Building of the Past and Future.

New York, Aug. 26.—Several months of ceaseless weaving, wire by wire and strand by strand, have brought to completion the great cables which are to suspend the East River bridge. The great supports and approaches in Williamsburg and above Grand street in Manhattan stand almost complete, while from tip to tip of the twin towers the four cables that are to be the greatest in this hemisphere are spun by a swarm of men, who crawl like flies in and out of the network of wire and scaffolding high above the river.

About 8,000 wires compose the four mighty cables. The wire of which the four cables are formed is three inches in diameter. Two hundred and eighty lengths of it bound and adjusted together make a strand and of these monster strands 37 are required for each of the four cables, which must uphold the bridge structure. The work which knit the cables in a graceful span across the river is such as has been done in the United States only a few times, and then in lesser magnitude. On a network of wires and scaffolding the work has been carried on by an expert gang of wire handlers, a class of skilled labor which is rare in any country. The carrying of the miles of wire

lengths to and fro over the bridge's path is not all that is required before the work is finished. Each length must be properly fastened at its extremes, and lengthened or shortened minutely until it hangs at exact harmony with its 207 neighbors. Then the weaving of the strand must be worked out, and the strand in turn suspended in precise accord with the cable of which it is to be a component part. There must be no misalignment or lurching by any one of the hands that fashion the wire from tower to tower.

The dimensions of the bridge as follows: Main span, 1,600 feet; entire bridge between terminals, 7,200 feet; width of bridge, 118 feet; minimum height of bridge above mean high water, 135 feet; height of centre of cables at top of towers above high water, 335 feet; width of carriage ways, each 20 feet; width of two foot-walks, each 10 1/2 feet; width of two bicycle paths, each seven feet; width of four trolley car tracks, centre to centre, 93 1/2 feet; width of two elevated railroad tracks, centre to centre, 11 feet.

On the New York side—North caisson, 51.8 feet below low water mark; south caisson, 70 feet. Brooklyn side—North caisson, 95 feet below low water mark; south caisson, 81 feet. The tower foundations are 23 feet above

high water mark, and the towers to be placed on top of them are made of steel. The cost of this monster bridge is estimated at \$12,000,000.

How Bridge Building Began.

The history of bridge building begins when the first savage threw a branch across a stream and walked upon it instead of wading through the water. He found his rude footway convenient and safe; but it had many limitations, for it was not sufficiently strong to span more than a few feet. Succeeding generations discovered that slender, rope-like vines hung from elevated points on each bank of a stream and allowed to droop in a natural curve would support considerable weights for considerable distances, and so the suspension bridge came into being.

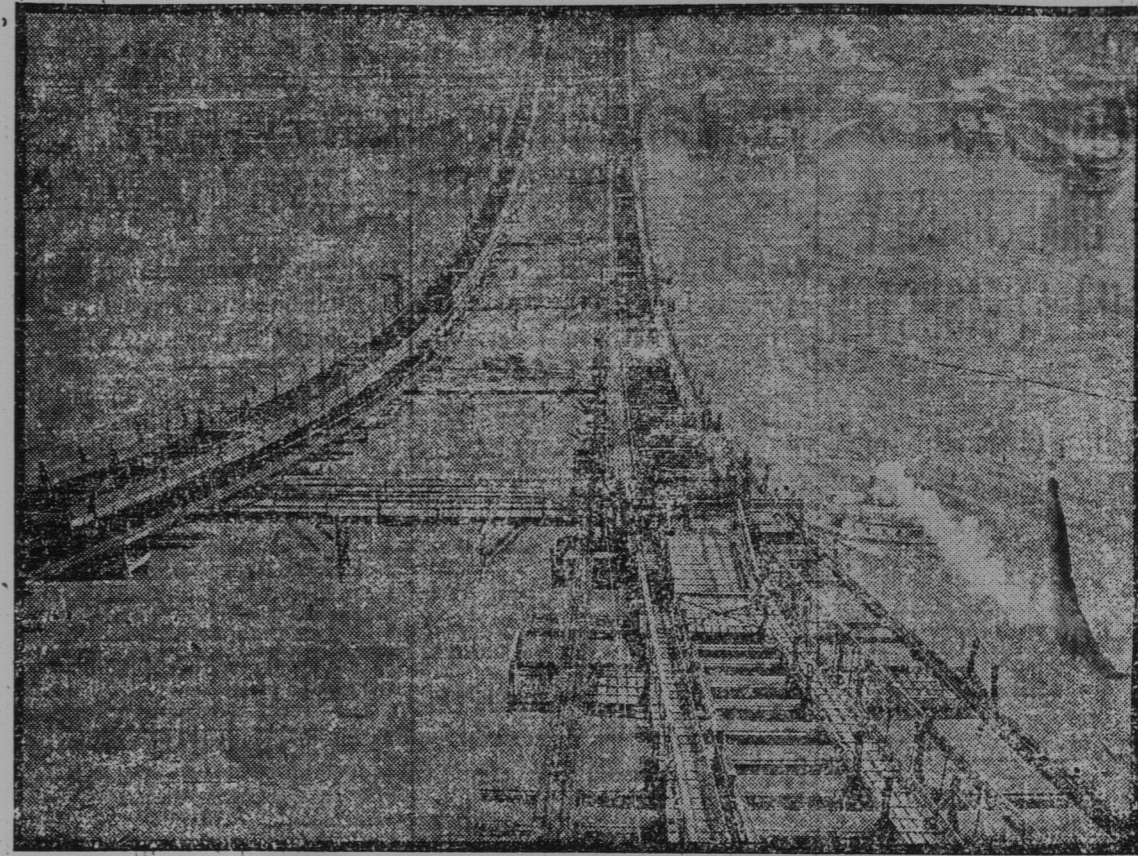
In nearly every branch of engineering, except those which deal with steam and electricity, we find a prototype of modern forms in the most ancient structures. The plate girder 100 feet long is the same thing as the beam of the primeval savage, though made of a different material and changed in its proportions. There was a long period in man's history, hundreds of ages, when a stone slab was always placed in a vertical or horizontal position. But then some one noticed that if two were set to lean together, so that they met at the

top, they would support a much greater weight than if laid flat. Finally the stones broke under too much pressure, and, in rearranging themselves, formed a rough imitation of an arch. This fell under the eye of an ingenious builder, was copied and became fixed as a practice, improving with each attempt.

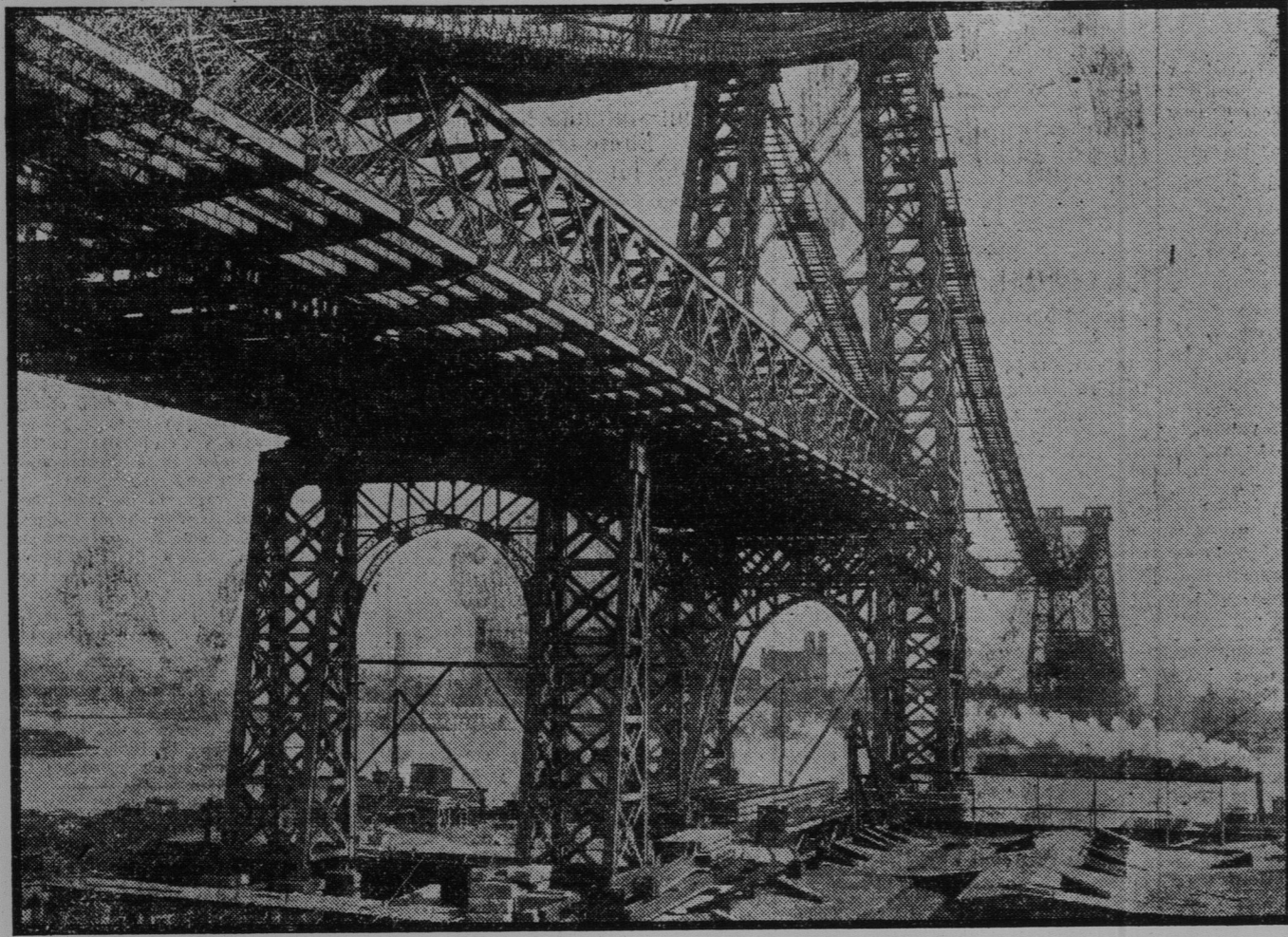
It seems a far cry from the original, accidental footpath over a stream to the steel plate girder or the pin connected truss, but it came by easy stages. Looked at in another way, they are really the same thing, with the material arranged in different forms.

The arch, however, is a more complicated matter, and there is still much to be done in getting a correct analysis of the strains which exist in it. Probably the day has passed when any more great arches of cut stone will be built, for we can now erect more beautiful forms of more economical design out of the comparatively modern material called concrete—a mixture of broken stone, cement and sand.

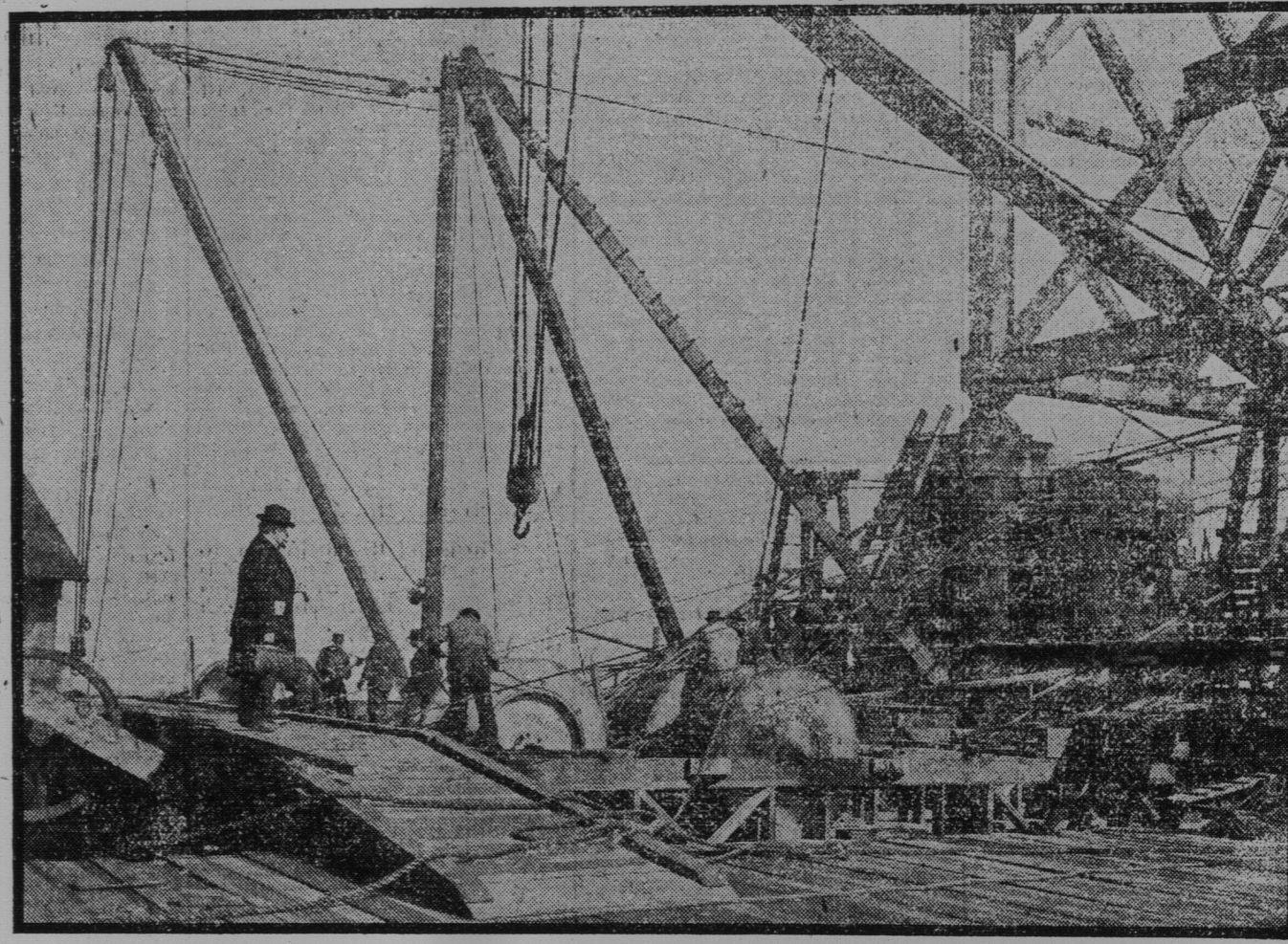
Concrete and steel are to be the two great materials which, alone or in combination, will give us structures in the form of arches so light, so strong, so graceful, that the most beautiful creations of the past will appear awkward and commonplace in comparison.



AT WORK ON THE FOOT BRIDGE.



THE NEW EAST RIVER BRIDGE, LOOKING TOWARD BROOKLYN.



PAYING OUT THE CABLE STRANDS.

PRINCE EDWARD ISLAND.

THE WEEK HAS SEEN IMPORTANT CONVENTIONS.

Oddfellows and United Workmen—Gathering of the Clans a Successful Event This Year—Report Showing Condition of Grain, Fruit and Potatoes on the Island.

Charlottetown, P. E. I., Aug. 21.—The departure of nearly 600 harvest excursionists to Winnipeg, the meeting of the Grand Lodge and Grand Encampment of the I. O. O. F., of the maritime provinces, and the maritime provinces A. O. U. W., the annual gathering of the Scottish clans and the athletic sports in connection therewith at Summerside, regattas at Georgetown and Summerside, the dedicatory services at St. Joachim's church, Vernon River on the occasion of the opening of a new pipe organ, and of the twenty-fifth anniversary of the laying of the corner stone, were among the chief events in Prince Edward Island this week.

The number of excursionists this year is about 70 greater than last, many of last year's men returning.

The number of delegates in attendance at the I. O. O. F. meetings was the largest in the history of the order. The anticipated pleasure of a trip to a province which offered such strong attractions in the shape of invigorating air and beautiful scenery, had much to do with record numerical strength of the contingent.

The A. O. U. W. biennial session closed on Thursday night with a public reception, at which the delegates were welcomed.

ed by Mayor Warburton on behalf of Charlottetown; by Hon. D. G. Mackinnon, M. P., on behalf of the province, and by Hon. J. F. Wear, M. L. A., on behalf of sister societies. Prof. W. H. Watts, M. W., president, addresses were also given by Rev. A. H. Moore, Sawerville (Que.); Hon. Webb McNair, supreme master workman, of Gaylord, Texas; Rev. Frank Charleux, of Montreal; A. W. Houn, P. G. M. W., of Montreal, and Mrs. McCormick, wife of the grand master.

The gathering of the clans, which, owing to the large Scottish population in the province, is always an interesting and characteristic event, was successful in respect to attendance and the keenness of competition at the athletic sports. The Celtic Club, under whose auspices the affair is held, has now a kindred juvenile organization in the form of the Boys' Highland Brigade, which are attached to St. James' church in Charlottetown. The lads, in full Highland costume, generally take part in all important parades and their presence at the gathering was an attractive feature.

Summerside leads the island in the interest taken in aquatic sports, and her yacht club has a long and enthusiastic membership. She has won the chief honors in the regatta open to the three counties and one of her boats captured a cup at Pictou on coronation day.

Charlottetown, however, is beginning to awake to the realization of neglected opportunities in this line, when she is surrounded by admirable sailing reaches, and next season will make a harder fight for yachting honors.

Georgetown, in the east of the island, with splendid boating facilities, held a successful regatta on the 20th, the chief prize being a silver challenge cup presented by Justice Hodgson, master of the rolls, who summers in the eastern town where he spends most of his vacation in boating. Next week the last of the regattas for

the season will be held in Souris, where Judge Warburton, whose favorite summer resort is here, has encouraged the sport by the presentation also of a suitable trophy.

St. Joachim's Roman Catholic church, Vernon River, is one of the largest and handsomest country churches in the province, and the pastor, Rev. Doctor Doyle, is famed for his wit and hospitality. The services on Sunday last were very largely attended and the collections amounted to \$800.

This week there was issued by the provincial department of agriculture, the first crop bulletin ever sent out by the province. It represents the condition of the crops the first week in the month. Taking 100 as an average crop, the following percentages in all sections may be taken as a fair estimate of the prospects of this season's yield:

Hay and clover, 76.9; wheat, 104.5; oats, 94.4; barley, 97.9; peas, 94.3; corn, 48.6; potatoes, 81.6; roots, 97.4; pasture, 64.7; apples, 83.8; plums, 71.4; cherries, 69.9; berries, 63.3.

Most of the loss in hay and clover is due to the failure of the clover which suffered much from drought in the season of 1901 and the light snowfall and cold spring weather which followed in the present year. Cutting was begun about July 21st. The crop was housed in excellent condition.

No injury to the wheat crop has yet been reported, and should the conditions continue favorable, more than an average yield will be secured.

The oat crop occupies by far the largest place among the cereals in this province. Smut is prevalent everywhere and will cause some damage. All things considered the crop will be a very fair one, the yield being nearly up to the average. Barley, like wheat, has made a strong growth of straw which also bears well

filled heads. All indications point to a full crop. The acreage under barley is small.

The prospects at present are that potatoes will yield about 20 per cent. below the average crop. Many fields are thin, the seed having missed badly. In some instances planting was done the second time. The fruit industry received valuable assistance this season by the visits of travelling instructors appointed by the government and although climatic conditions were unfavorable, and a falling off in the yield will consequently result, the lessons taught in the care and cultivation of the orchard have not been thrown away.

SPORTING EVENTS OF A DAY.

Moosepath Exhibition Races.

All lovers of horse racing will have a chance of seeing some good events on Moosepath Park track Sept. 3 and 4, when the largest field of horses known to the track will be seen. The following are some of the horses entered for the events:

Free-For-All, Purse \$500.

Morley King, 2:16 1/4, F. C. Briggs, Boston.

Bell P., 2:19 1/4, J. H. McNamara, Rockland.

Joe Hall, 2:20 1/4, Chas. Dugan, Woodstock.

Itana, 2:10, J. M. Johnson, Calais.

Walter K., 2:14 1/4, F. Duncanson, St. John.

Kate Willard, 2:25, E. LeRoi Willis, Sydney.

Rock Farm Grace, 2:20, Fred. Warren, Springhill.

Samuel Prince, 2:21 1/4, S. A. Fowler, St.

John. Park Campbell, 2:20 3/4, Fred. Warren, Springhill.

George, 2:27, C. B. Keith, Berries Mills.

2:28 Class, Purse \$250.

Brown C., 2:31, I. C. Crabbe, Charlottetown.

Golden Gate, 2:29 1/4, Daniel Steele, St. John.

Zeta M., 2:30 1/4, S. A. Fowler, St. John.

Libena, 2:31 1/4, J. M. Johnson, Calais.

Tom Phair, J. M. Johnson, Calais.

Lady Lumps, 2:28 1/4, D. W. McKay, St. Stephen.

Tussock, 2:28 1/2, E. H. Barter, St. Stephen.

Ellie, C. H. Stone, Boston.

Sunset, C. H. Stone, Boston.

Nona Wilkes, 2:28, Fred Warren, Springhill.

Sousa, D. W. Wilbur, Moncton.

Maggie S., Edgar Holmes, Eastport.

2:24 Class, Purse \$250.

Lady Lumps, 2:28 1/4, D. W. McKay, St. Stephen.

Duncella, 2:26, J. B. Gilchrist, Greenwood.

Golden Gate, 2:29 1/4, Daniel Steele, St. John.

Alex. T., 2:25, E. LeRoi Willis, Sydney.

Zeta M., 2:30 1/4, S. A. Fowler, St. John.

Rev. 2:24 1/2, Fred. Warren, Springhill.

Bijon, 2:26, J. T. Prescott, Sussex.

Libena, 2:31 1/4, J. M. Johnson, Calais.

Maggie S., Edgar Holmes, Eastport.

2:40 Class, Purse \$200.

Blue Bay, Fred. Warren, Springhill.

Sunny Lora, Richard Hebert, Moncton.

Sunset, C. H. Stone, Boston.

Ellie, C. H. Stone, Boston.

Tom Phair, J. M. Johnson, Calais.

Patty Bangs, Thos. Hayes, St. John.

Miss Parkland, Malcolm Steele, Summerside.

Sousa, D. W. Wilbur, Moncton.

Louise M., S. H. Sterling, Fredericton.

Maud, W. H. Bowen, St. John.

Black Sheep Cigar, A. H. Bell, St. John.

Starlight, J. A. Johnson, Halifax.

Other entries are expected, and will be made to Dr. T. Fred. Johnston, Dorchester street. This is undoubtedly the finest field of horses ever entered for Moosepath races.

WENT BACK TO SAVE HIS COMRADES.

Gallant Action of a Nova Scotia Fisherman.

Halifax, Aug. 22.—(Special)—Particulars of an accident which came very near being attended with fatal results, reached the city last evening, from Prospect, Obed Howard, James Little and Ed. Slanghenwhite had been out fishing since the previous day and the men were tired and sleepy. The boat, pretty deep in the water, was headed for home; the wind was blowing hard from the south, and while two of the fishermen were asleep the boat struck a rock some distance from an island of Lower Prospect, and began to leak.

Little started to swim ashore, but when he found his companions were not with him he swam back to the boat and helped them both to the shore of the island, the boat in the meantime sinking. The three men were taken to the mainland in another boat. Efforts at resuscitation of Howard and Slanghenwhite were not thoroughly successful.

Thirty thousand English women live on canal boats.

FIVE SUFFOCATED.

TERRIBLE FATALITY SUNDAY AT PORTLAND, ME.

William Kronberg's Four Children and Servant Girl Caught in Burning House and Rescue Was Impossible—The Dead Bodies Found.

Portland, Me., Aug. 24.—The four children of William Kronberg, and his servant girl were suffocated in a fire at 3:30 o'clock this morning and died before the firemen could reach them. The dead, Sadie, aged 17; Moses, aged 15; Edward, aged 13; and Charles, aged 8, and Miss Annie Marcus.

The fire was in a 2 1/2 story building at the corner of Franklin and Federal streets. When the firemen arrived they were greeted with a cry that four children were in the third story. From the upper windows dense clouds of smoke were pouring and at the second story window at the rear a sheet of flame had burst. There was no chance to rescue the children and the servant girl who were probably at that time dead from the smoke and flames.

Mr. Kronberg, the father, stood half clad on the sidewalk, calling piteously to the firemen to go to the aid of the children, but there was no chance for them. Several times he cried out in agony: "My God, my children are burned, my furniture gone and I have no insurance."

The Portland firemen raised their extension ladder against the front of the house and two men ran up, but they met a dead body.

The dead body of the servant girl was the first found when an entrance was gained to the third story. Two of the boys were lying dead on the floor near the front window.

Kronberg is a cigar manufacturer, aged 40. His wife was taken to the hospital for an operation Friday night and is in such a condition that the death of all her children has not been announced to her. The father of Mr. Kronberg is a well known Boston Hebrew.

Gloucester Man Hangs Himself.

Gloucester, Mass., Aug. 22.—John Larkin, a hostler, employed here, hanged himself in the stable this afternoon. It is thought he had been despondent.

Canadian Butter to Australia.

Ottawa, Aug. 22.—(Special)—A carload of creamery butter has been shipped from Calgary to Australia. This is on account of drought in Australia.

TWO LADS KILLED IN NEW GLASGOW BY EXPLOSION.

Halifax, N. S., Aug. 24.—(Special)—A most distressing fatality occurred at Thornburn, six miles from New Glasgow, Saturday afternoon, by which two lads, Charles McNulty, of Charlottetown (P. E. I.), aged 15 years, and Finley McDonald, of Thornburn, aged 17 years, lost their lives. The boys were employed by the Acadia Coal Company to carry powder, and went to the magazine. They took two young lads named Patraquin and McLeod, with them. Patraquin had a cartridge with him, and when he took a match from his pocket at the door of the magazine, McLeod became frightened and ran away. Instantly there was a tremendous explosion, and the brick magazine was blown to pieces. McDonald and McNulty were hurled 40 feet in the air. The latter was dead when picked up, but McDonald lived for an hour. Patraquin received only slight injuries, but his escape was miraculous.

Advertisement for 'Sunshine' Furnace by McClary's. Includes text: 'IMITATION IS EASY', 'The "Sunshine" Furnace has many imitators, but few equals.', 'Has been such a marked success that several Furnace makers are now trying to duplicate it.', 'When putting your Furnace insist on getting a "SUNSHINE"—do not be persuaded to try some other "just as good," because no other is just as good, and costs so little.', 'Sold by all enterprising dealers. Write for Catalogue.', 'McClary's', 'The "Sunshine" Saves Fuel.', 'London, Toronto, Montreal, Winnipeg, Vancouver, St. John, N. B.'