

yards from the first or easterly span, where a storage and sorting yard was established. The first span, 121 ft. deck girder, was erected after the temporary falsework was built, by using the same method as at Mississippi River. The next span was a 200 ft. through truss over deep water, running very swiftly, the bottom being rock with great boulders, making it very difficult to secure a safe footing for the piles. The piles used were 14 in. x 14 in. 50 to 60 ft. long, sawed British Columbia fir, with cast iron points. They were driven into the rock by the air hammer, sufficiently to get a good bearing. In addition to the deep water and swift current at this crossing, immense quantities of saw logs were constantly being floated down the river to mills at Hull, and other places, and it was necessary to keep watchmen day and night to protect falsework from destruction. On top of the falsework the bottom chords and floor systems of both the 200 and 290 ft. through spans were built, and the permanent track laid as the work advanced. From this track the trusses were erected by the use of the locomotive crane, the material being pushed in on cars by the railway locomotive from the sorting yard. The shop work on these trusses was such that on the 290 ft. span the end posts, which were erected last, did not even require a wedge to be driven in order to connect them to the top and bottom chords. As all of the girder spans in this bridge were of the deck type, without cover plates on the top chords, the greatest care had to be used in handling them. The work of erecting this bridge, which was 1,589 feet long, was completed on Jan. 16, 1915, the camp abandoned and the plant shipped away. The falsework and a large part of the erection equipment was shipped to Troy, N.Y., to be used in building the Congress St. Bridge, across the Hudson River.

The falsework timber used in the whole of the above work was British Columbia fir of the best quality, cut for the purpose. In addition about 200 piles were purchased locally. Throughout the whole work there was not a single serious accident, and the health of the men was splendid.

The contract for the fabrication and erection of the above work was let by Mackenzie, Mann and Co., to Canadian Allis-Chalmers Ltd., Toronto, who sublet the erection to the Terry & Tench Co. Inc. of New York. W. H. Grant, Manager of Construction, Mackenzie, Mann and Co., had general charge. C. T. Smith was Superintendent of the work for the Terry & Tench Co., and much credit is due him for the successful carrying out of the undertaking; Geo. Fisher was his assistant; Nicholas Dowd had charge of the locomotive crane. About 60 men were employed throughout the job, and were all hired locally. The contractors state that it would be difficult to get a better working force of men together. The weather in the summer was greatly in favor of the work, but storms in the winter caused some delay.

Concrete Ties.—A correspondent enquires as to the reasons why concrete ties have not been a practical success. One of the main troubles is the disintegration of the concrete caused by vibration and pounding under traffic. Some of them have cracked and fractured. The weight, the cost, and the necessity (in most cases) of special fastenings are other unfavorable factors. Some ties have given good service, however. Concrete ties of various designs have been proposed, and several of these have been tried in the track, but only in small numbers, so that the aggregate number of such ties is very limited.—Engineering News.

The Canadian Pacific Railway's Roll of Honor.

C. H. Buell, Staff Registrar and Secretary Pension Department, C.P.R., has issued two additional lists as given below, which are prefixed as follows:—

"Several thousand officers and employes of this company enlisted for active military duty with the Canadian Expeditionary Forces, and the majority of them are now in Europe, bravely battling for Canada and the Empire. As particulars of army reservists are not available, these lists of those who have given up their lives for their country, or been wounded in action, are necessarily incomplete, and do not therefore indicate fully the extent to which the company's officers and employes have participated in the great struggle."

List 5.

Abercrombie, J. D.	Clerk	Angus	Wounded
Ainslie, G. M.	Draughtsman	Winnipeg	Wounded
Bartlett, C. N.	Clerk	Montreal	Wounded
Bond, Wm. A.	Billor	Regina	Died
Bowman, Isaac	Constable	Montreal	Wounded
Burch, Arthur	Carpenter	Winnipeg	Died of wounds
Butler, H. B.	Bell Boy	Victoria	Killed in action
Caister, W. V.	Loco. Engineer	Brandon	Wounded
Chalmers, Wm.	Yard Foreman	Outremont	Wounded
Downey, Robt.	Car Cleaner	Glen Yard	Killed in action
Figsby, Wm.	Loco. Fireman	Kenora	Wounded
Gilbert, W.	Loco. Fireman	Regina	Wounded
Green, Sidney	Loco. Fireman	Brandon	Gas poisoning
Greenman, Fredk. M.	Painter	Moose Jaw	Wounded
Griffiths, Thos.	Constable	Montreal	Wounded
Hambridge, Geo. W.	Machinist	Angus	Killed in action
Hitchcock, Geo.	Clerk	Moose Jaw	Suffering from shock
Hobin, Wm.	Checker	Moose Jaw	Wounded
Irving, Robt.	Clerk	Montreal	Wounded and prisoner
Jones, David	Car Repairer	Moose Jaw	Wounded
McChristie, Harry	Loco. Fireman	Schrieber	Suffering from shock
Mackenzie, John	Scrapcutter	Angus	Suffering from shock
McNaughton, Donald	Watchman	Shepard	Wounded
McRae, Murdoch	Boilermaker	Angus	Wounded
Maslen, Walter	Wood Machinist	West Toronto	Wounded
Miller, John	Chief Clerk	Calgary	Suffering from shock
Parsisson, Harry	Storeman	Angus	Wounded
Pollock, Geo.	Clerk	Winnipeg	Wounded
Shiels, Robert	Brakeman	Medicine Hat	Wounded
Steuart, Alan J.	Laborer	Vancouver	Died of wounds
Taylor, Geo. H.	Loco. Fireman	Outremont	Wounded
Taylor, Walter	Checker	Saskatoon	Gas poisoning
Wallis, Jas. H.	Transitman	Brownville Jct.	Wounded
Williams, Hy. J.	Helper	West Toronto	Wounded

List 6.

Alexander, John	Accountant	Moose Jaw	Wounded
Blades, Roland	Clerk	Winnipeg	Wounded
Carnill, Wm.	Loco. Fireman	Lethbridge	Wounded
Cleeton, Alf. J.	Shed Foreman	Rossland	Wounded and prisoner
Corrigan, Thos. H.	Conductor	Sutherland	Killed in action
Cousens, M. A.	Loco. Fireman	Farnham	Wounded
Degon, W. F. G.	Call Boy	Medicine Hat	Died of wounds
Dobbs, Samuel H.	Loco. Fireman	Lethbridge	Wounded
Frederickson, Carl	Watchman	Shuswap	Wounded
George, Ernest F.	Clerk	Kenora	Wounded and missing
Goodwin, Geo. A.	Brakeman	Calgary	Wounded
Guthrie, A. C.	Clerk	Montreal	Wounded
Hayes, Geo.	Yardman	Medicine Hat	Wounded
Holmes, Geo. A.	Clerk	Victoria	Wounded
Hoyes, Nicholas	Car Cleaner	Winnipeg	Wounded
Jaffray, Wm.	Wiper	Medicine Hat	Killed in action
King, John D.	Constable	Montreal	Killed in action
Kinman, Geo. I.	News Agent	Calgary	Wounded
Legg, Wm. N.	Loco. Fireman	Revelstoke	Wounded
McLaughlin, Milton	Trainman	B. C. Division	Died of wounds
Mills, Samuel	Trucker	Winnipeg	Died of wounds
Molt, Chas. M.	Constable	Montreal	Died of wounds
Morgan, Lewis T.	Apprentice	Winnipeg	Gas poisoning
Phillips, Jas. F.	Car Cleaner	Winnipeg	Wounded
Pope, Chris. L.	Stakeman	Athalmer	Wounded and missing
Quinn, Patrick	Constable	Winnipeg	Believed killed
Rateliffe, Jos.	Helper	Angus	Wounded
Reid, Francis J.	Porter	Winnipeg	Killed in action
Ritchie, Geo. C.	Clerk	Montreal	Killed in action
Roughton, C. G.	Checker	Calgary	Wounded and missing
Smith, Ernest	Car Repairer	Winnipeg	Wounded
Swann, Walter H.	Clerk	Regina	Wounded and prisoner
Thorpe, M. H.	Constable	Montreal	Killed
Turner, Thos.	Wiper	Moose Jaw	Wounded
Weston, Chas. W.	Brakeman	Sutherland	Wounded
Young, Claudius	Loco. Fireman	Lethbridge	Died of wounds