The principal work of the corps in Belgium was the building of a narrow-gauge railway behind the first line of trenches extending the whole length of the Belgium front. The train is drawn by a seven-foot gasoline engine, the cars being just over three feet high. Everything is painted the color of the earth, and when a German flare lights up the locality the train comes to a sudden stop and is practically invisible. By this train, food and munitions and everything needed in the trenches is conveyed during the night. One section the Canadians built is over flat country five miles in extent, and they were much exposed to shell fire, but as they only work at night the casualties were few.

The corps was also engaged in the construction of concrete emplacements for guns in the trenches, and these had been so strongly constructed that when the Allied drive took place the Germans shelled vigorously the Belgian lines, as a counterstroke, but the concrete and steel hoods, covered with loose earth and boulders, withstood all the explosives that were hurled against it, and as the machine-guns covered every possible avenue of approach the Germans had no chance of reaching the Allied lines.

It is of interest to note that while in England the corps was inspected by the King, who said that physically it was one of the finest bodies of men he had seen. The corps is the highest paid corps in the army. Privates get $2.90 a day (regimental and working pay) and a separation allowance of $20 a month.

Capt. H. Wellwood and Sergt.-Major Wood, members of the organization, are back in Canada at the present time to obtain 120 more qualified men to reinforce the original corps.

LETTER TO THE EDITOR.

"A Light and Useful Roof Truss."

Sir,—I have read with much interest Mr. Darling's criticism of the article which appeared in your issue of October 14th, entitled "A Light and Useful Roof Truss." The article was intended to describe a particular design of roof principal which I believed would suit many structures where more elaborate and costly designs are often used. I did not claim for the truss that it was a universal standby to be adopted indiscriminately, but simply what Mr. Darling himself concedes in his last paragraph, "that it has a place in construction, and that its utility and economy depend upon circumstances," which a designer should take into account.

Mr. Darling's criticisms may be briefly classified under two heads—those referring to certain local conditions affecting the use of this type of principal, and those applying to certain details of the design. With regard to the former, I agree with him that where a snow storm of such severity as he describes is a probability it should not be ignored, and I should expect an engineer to design accordingly, and provide tension and compression members to resist it. In the Prairie Provinces, where the snow is fine and dry, and never moistened by rain, a snow load of over 30 lbs. per square foot would be a superfluous provision and an unnecessary expense.

With regard to his criticisms of design, the distinct members in the truss are the string, the bow, and the lattices. Mr. Darling finds no material fault with the string, except that it is stronger than strong enough. The lattices pass unnoticed, so that I may assume we are in agreement regarding them. It can only be of the bow that he is thinking when using the term "skinned." As pointed out in my article, the roof load is applied to the principal at a great number of points where the ends of the lattices project above the bow, and fit accurately against the sides of the purlins, thus distributing the compression, which otherwise would have to be taken care of by the bow alone.

I think it best to omit any reference to the purlins, as they are to be found in every roof whether of wood or steel, and any discussion of them would only carry our thoughts from the real points at issue.

JAMES HAMILTON.

Edmonton, November 7th, 1915.

IMPROVED ROADS IN YORK TOWNSHIP, ONT.

According to E. A. James, C.E., engineer for the York County Highways Commission, there are 110 miles in the good roads system of South York. This mileage is spread over ten highways, radiating from the city of Toronto. These highways form the connecting link between the good roads system of Peel, Simcoe, North York and Ontario counties with the city of Toronto. Seventy-six miles of the system have been completed. Forty-two thousand dollars has been spent in culverts and bridges. Five hundred and fifty thousand dollars has been spent in highways.

The types of roads are: Brick, ½ mile; concrete, 2¼ miles; bituminous-bound macadam, 5½ miles; trap water-bound macadam, 2 miles; granite water-bound macadam, 18 miles; limestone water-bound macadam, 44¾ miles; gravel, 3 miles. Total, 76 miles.

In 1915, 12 miles were treated with tarvia, and over 45 miles oiled with an asphaltic oil.

The completed mileage on the various roads is as follows: Kingston Road, 6¾ miles; Kennedy Road, 13 miles; Markham Road, 3½ miles; Don Mills Road, 7¼ miles; Yonge Street, 13½ miles; Vaughan Road, 10½ miles; Weston Road, 13 miles; Malton Road, 1 mile; Dundas Street, 5½ miles; Lake Shore Road, 2¼ miles. Total, 76 miles.

NEW TYPE OF CULVERT FORM.

A description has been received of a new type of collapsible form for use in the construction of various sizes and types of culverts for concrete highways. It is built in but one size, but is adaptable to use in culverts of from 15 inches to 6 feet in width, with either arch, semi-arch or flat top. The form consists of four sections with arch tops, and is 24 feet long in all, 24 inches wide, and 27 inches high. It is equipped with two head walls, each being 48 in. x 84 in.; one set of wing walls; one parapet box; six cover plates, each being 2 ft. x 3 ft. To build culverts wider than 24 inches is accomplished by twinning two sections. The cover plates are placed across the arch tops, resulting in a culvert with a semi-arch top. Culverts may be built by the use of the arch tops alone, and have twice the carrying capacity of a 12-inch pipe with the same head room. A volume of water which would fill a 12-inch pipe would have a water level of about 4½ inches in the concrete culvert with ample allowance for flooded conditions.

This information regarding the Whalen form, as it is called, is from the manufacturers, the Concrete Form Company of Syracuse, N.Y.