

the matter, they were told that they had to buy crucible steel, acid steel, for the shells—that the other classes of steel would not do. They came to me and said: "We are up against it; we can get only 400 tons of crucible steel in North America." I said: "What about all our big steel industries in Canada?" "Oh," they said, "their steel will not do." Then we were given some scientific reason. I said: "This is all moonshine; get out and make the shells which we have undertaken to make." I went to the Prime Minister and I asked where I could get a man who could give me data on steel, and I was referred to Thomas Cantley, of New Glasgow, Nova Scotia, who happened to be in town at that time. Let me point out that Colonel Cantley undertook to experiment with basic steel for the Shell Committee, and at one time the Shell Committee had gone into the New Glasgow Company to the extent of upwards of \$500,000 through experimenting and work of one kind and another that Colonel Cantley had undertaken for the Shell Committee, without a dollar of security or a dollar of reimbursement up to that time. The result was that Thomas Cantley and the Nova Scotia Steel Corporation finally proved to the British Government that basic steel, Canadian steel, was just as good for shells as the acid steel from the United States or other lands, and to-day Canada has had eight hundred million pounds of steel produced by her own people within her own borders, and turned into shells to assist in smashing the Germans. All I have to say in connection with this is that there is nothing too good, in my opinion, for Colonel Thomas Cantley and the Nova Scotia Steel Corporation.

The next heading in my hon. friend's speech is the question of prices. I shall not go into the details of that to-day. On a former occasion I gave prices from manufacturers in Canada, in England, and in the United States, and, in every instance but one, the Canadian prices were better than those in either of the other two countries under similar conditions. I might point out that the early prices of these commodities would naturally be fairly high. In any new undertaking, by a Government or by a corporation, the cost of the new and necessary machinery is invariably added to the cost of the first few orders, which would naturally make the first few orders for shells expensive. Then the question of unskilled labour had to be considered in this case. At the beginning we had Colonel

Lafferty, Colonel Weatherby, and a few lads from the Dominion Arsenal at Quebec, who worked day and night going through the country trying to establish industries, and they did yeoman work in that respect. But they could not stay in these places all the time. They had to attend to their own duties, and it was absolutely impossible that two or three men could look after the scores of institutions in Canada then making shells. But little by little we trained up expert men to do this work, and, after the first order or two, the losses through the testing of the shells were reduced to a minimum.

And to-day Canada has within her borders thousands and tens of thousands of skilled men, whereas at the beginning she had only half a dozen or a dozen. That is a great advantage. The shells were tested, and if one shell out of 120 failed, the whole batch of 120 had to be thrown away. Only the other evening the officer in charge at Peta-wawa pointed out to me that 40,000 fuses had been thrown out because of the failure of a few to pass the test. In the United States 100,000 fuses were thrown out because they did not function properly.

With regard to the question of prices. On February 13, 1914, a requisition was made on the War Department, England, for 2,500 quick firing 18-pounder shrapnel shell fused complete in case.

The complete quick firing 18-pounder charge comprises shell, copper driving band brass socket, fixing screw, centre tube, tin cup, steel diaphragm, $\frac{3}{4}$ bullets, resin, powder bursting charge, perforated powder pellets, plug, fuse and fuse cover.

On the 18th June, 1914, the War Office placed an order with Armstrong & Whitworth for the empty shells only at £65 per 100, or \$3.16 $\frac{1}{2}$ each, to which would have to be added 5 $\frac{1}{2}$ per cent for War Office departmental expenses and inspection, bringing the price of the empty shells alone up to \$3.33 $\frac{1}{2}$ each.

On the 15th April, 1914, the price paid Vickers for quick firing 18-pounder cartridges complete with shells, etc., was £1. 17s. 6d. or \$9.12 $\frac{1}{2}$; adding 5 $\frac{1}{2}$ per cent for War Office departmental expenses and inspection brought the price up to \$9.63 at Woolwich.

On the 24th September, 1914, Vickers offered to supply quick firing 18-pounder shrapnel shells complete (case, shell, primers, fuse, etc.) at £248. 10s. per 100 rounds, or \$12.09 $\frac{1}{2}$ each, to which would have to be