

to extinguish a fire, when the thermometer stood a little below -50° F., had his fingers immediately frozen, and as it was found impossible to restore the circulation they were amputated. 3. That when it was extremely cold it was almost impossible to make the wood burn. I will come to these later.

Now for the experience of a Canadian surveyor. It was my privilege to be connected as instrument-man with a survey party which went out to the Canadian Northwest under the command of Mr. G. B. Abrey, D. L. S. (now engineer of Toronto Junction). The party consisted of fourteen men all told, and was out under canvas for twelve months, from June, 1882, to June, 1883. We were running standard parallels, and moved camp every day. This necessitated the employment of fourteen horses, two buckboards, and twelve carts, the wheeled vehicles being replaced in winter by the same number of toboggans. Winter commenced on the 1st of November, when snow fell to the depth of two feet and remained. We then left the plains south of Battleford and made our way to Fort Pitt, near which our winter work started. Our outfit consisted of four ten-ounce duck tents, in three of which were small sheet-iron box stoves, and in the fourth, the cook's tent, a sheet-iron cook stove. Our winter food was composed of pork, beans, dried apples, and bread, with tea and sugar; to which may be added eight hundred pounds of fresh beef, and the flesh of one elk or wapiti and one jumping deer. When we could we shot prairie chickens, but this was not very often.

For clothing I wore woolen underclothing, such as I now wear in the city of Toronto, a flannel shirt, and over these caribou breeches with long woolen stockings drawn over them, a cham-ouis-leather vest, and a small single-breasted tweed coat such as is worn in the city before overcoats become necessary in the fall. My feet were clothed with duffle and moccasins, and my head with a double, knitted, Hudson Bay tuque, which can be pulled right down over the ears. A pair of common woolen mits completed my outfit. At no time during the winter did I wear either overcoat or muffler. Indeed, neither the one nor the other was to be found in the camp. Mr. Abrey's dress was nearly the counterpart of mine, and the men wore woolen clothing altogether.

At night Mr. Abrey and I used two pairs of Hudson Bay blankets and two buffalo skins each. The blankets we sewed up into bags, and put one buffalo skin beneath and one over us. We slept on folding stretchers, which was, of course, not as warm as sleeping on the ground. Mr. Abrey, being slightly bald, wore a woolen nightcap, but I never covered my head the winter through. The men's sleeping outfits consisted of blankets only.

Our firewood was dry poplar sticks from one to two inches through. This makes a good hot fire, and *the colder the day the*