

bore northward. On Sunday, February 3d, we were at  $83^{\circ} 43'$ . The time for our departure approached, and the preparations were carried on with great activity. The sledges were completed, and I tried them under various conditions. I have alluded to the fact that we made maple guards to put under the fixed nickel-plated runners. The idea of this was to strengthen both the sledges and the runners, so that they would at the beginning of the journey, when the loads were heavy, be less liable to breakage from the jolting to which they would probably be exposed. Later on, when the load got lighter, we might, if we thought fit, easily remove them. These guards were also to serve another purpose. I had an idea that, in view of the low temperature we had during the winter, and on the dry drift-snow which then covered the ice-floes, metal would glide less easily than smooth wood, especially if the latter were well rubbed with rich tar and stearine. By February 8th one of the sledges with wooden guard-runners was finished, so that we could make experiments in this direction, and we then found that it was considerably easier to haul than a similar sledge running on the nickel-plate, though the load on each was exactly the same. The difference was so great that we found that it was at least half as hard again to draw a sledge on the nickel runners as on the tarred maple runners.

Our new ash sledges were now nearly finished and weighed 30 pounds without the guard-runners. "Every-