in Canada and in some sections the potash contents run from 10 to 14 per cent.

The cost of extracting the potash must be reduced by using other elements of the rock as by-products, and aluminium compounds, porcelain and Portland cement can do this in some districts. The making of potash as a by-product of the cement industry is now much talked of in Canada, but the claims made for the processes have not yet been demonstrated on a commercial scale; and, in any case, the output in this class is necessarily measured by the market obtainable for the cement.

Generally speaking, the areas of feldspar rock in the northern half of this continent yield a porcelain that is whiter and freer from iron, and for this reason large quantities of Canadian feldspar are shipped to the United States, ranging from 11,000 to 18,000 tons per year,—to be used in the pottery and porcelain industries, and for the manufacture of artificial teeth, etc., and there would seem to be room for further development of such industries and for aluminium in both countries in combination with potash production. When the nickel areas of Sudbury were opened up, the peculiar combinations of the ore presented a knotty problem to be worked out, but patience, skill and money solved every difficulty, with the result that to-day the Sudbury district now supplies 80 per cent of the nickel output of the world. There is every reason why all obstacles will be overcome likewise in the production of potash, and if so, the primacy in the manufacture of this most essential material will be restored to America.

DISCUSSION

Mr. Hugh K. Moore: Mr. Chairman, I made a few notes on this and it seems that for many of the processes described cheap evaporation is one of the most important conditions necessary for the success of the processes. If you figure out the interest on the investment and the amount of yield in multiple effect evaporators,—it oftentimes does not pay to have over three effects, sometimes four effects, under rare circumstances five effects. The reason for this is that you start with a cold liquor and most of the input of the steam is used in the first effect in heating the liquor up to the boiling temperature. So in a calculation that I made on some evaporators once I figured that an input of steam on a multiple