material, has to be leached to extract the alum, requiring much water, giving weak liquors, and, consequently, wasting much coal in the subsequent concentration.

Recognizing these objections, Mr. Spiller proposes cryolite as the source of fluorine, in place of fluorspar.

This is an idea, if possible, still more unfortunate than the former one. In the first place, cryolite is expensive—exceedingly expensive when compared with the other materials used. In the second place, it yields the wrong alkali—soda, in place of potash. And, thirdly, even if the necessary potash were added (from Stassfurt salts), the resulting Glauber's salt—formed from the soda—would be left as a white elephant upon the hands of the manufacturer; all the whiter from the fact that it is contaminated to the saturation point with potash alum.

It is proposed to pass the fluoride of silicon, evolved from the above decompositions, into water, and to sell the resulting silica and hydrofluosilicic acid. As the alum industry is one amounting to hundreds of tons, whilst the most that can be claimed for the silica (for polishing powder) is that it can be disposed of by the hundreds of pounds, the odds against the silica are as 2000 to 1. Still less can be said for the hydrofluosilicic acid.

So it does not appear that there is much of value in Mr. Spiller's idea. It is true that his article was written for the English market. There the price for materials and labor is unquestionably lower than here. So also is the price the alum will bring. The argument against the process, therefore, will hold good in either longitude.

EDITOR JOURNAL FRANKLIN INSTITUTE:

The metal iridium has by reason of its extreme hardness and infusibility given great trouble to work. But comparatively recently Mr. John Holland, of Cincinnati, who had long been using the metal for the tips of gold pens, discovered how to drill and work it, and now he announces that he has made a 12-inch circular saw with teeth tipped with iridium—to be used for sawing hard wood. R. GRIMSHAW.