

Please read and send in as full a  
discussion as possible at earliest date.

## The Canadian Society of Civil Engineers.

INCORPORATED 1887.

**ADVANCE PROOF**—(*Subject to revision.*)

---

N.B.—This Society, as a body, does not hold itself responsible for the statements and opinions advanced in any of its publications.

---

### NOTES ON SOME RECENT EXPERIMENTS

On the Magnetic Concentration of Iron Sands from the  
Lower St. Lawrence.

By JOHN F. ROBERTSON, M.Sc., S.Can.Soc.C.E.

(Read before the Mining Section, 30th November, 1905.)

In attempting to use the iron sands from the lower St. Lawrence in a blast furnace, three difficulties are met with:—

First, the low percentage of iron on account of the dilution of iron bearing minerals with ordinary sand.

Second, the presence of an amount of titanium much greater than that usually considered permissible in an iron ore.

Third, the fineness of the material.

The third difficulty can be overcome by briquetting and may be left to the metallurgist. This note deals only with attempts to cheaply overcome the first and second difficulties.

The apparatus used in the experiments described below is of special design based on the Heberli drum separator. It consists of a thin hollow brass cylinder about eight inches in diameter and six inches long, revolving loose on a hollow axle through which wires are passed to a set of eight electro magnets arranged radially around the axle, and together filling one-half of the drum. The pole pieces just clear the inside of the brass cylinder.