## THE ROUTES TO MOOSE FACTORY

According to Mr. J. G. McMillan in a bulletin published by the Ontario government railway, power boats cannot be used to advantage on the Mattagami, the Moose or the lower parts of the Abitibi. Transportation must be effected by poling or towing. There are three long stretches of the Upper Abitibi where small motor boats or steamers can be used, when warranted by the amount of traffic. These are from Frederick House River to the carrying place, 13 miles from Island Falls to Lobstick, 28 miles, and from New Post to Otter Falls, 14 miles. For the present the use of canoes only need be considered. These should be of large size and strongly built, to be safe in rough water and to stand considerable hauling over rocks in towing or poling, where there are no portages.

On the Abitibi route, the principal obstacle is the four-mile rapid on the Frederick House. The water in this river is very turbid, rendering it impossible to detect submerged rocks or other obstructions that are even barely covered by water. Great caution must be used to prevent accidents from this cause. Below the long rapids the portages are good and well marked, but the rapids must be carefully approached, especially in high water, as the portages are very close to the head of the falls and the landings are mostly in swift water. Except in very low water, the "Little Lakes Route" should be used in preference to following the river past Lobstick Falls. None of the Indians accustomed to the river use the latter route in high water.

The Driftwood River is easy and safe for canoes to four miles above the crossing. I do not know whether this river can be used up to the T.C.R. If it is navigable, it could be used in preference to the Frederick House. The Mattagami is easily navigated in low water. There are 20 miles of good canoeing on the upper part of the Red Sucker and two miles at its mouth, but the seven miles between these parts are mostly shallow rapids which would be very hard on canoes in low water.

French River can be ascended 80 miles without portaging. Then there are about four miles of rapids and falls. I did not go past these. These falls occur at the junction of the Archean and Palaeozoic rocks, which are here seen in contact. Resting on gneiss or in some cases on diabase, is a layer of sand, or greasy shale, a few inches thick. Then a layer of fragmentary limestone of varying thickness up to five feet, then horizontal layers of limestone that have been subjected to very little disturbance. This limestone strata was not over 50 ft. thick at any point along the river.

The Groundhog or Kapuskasing may be used if desired instead of the upper part of the Mattagami. The Kapuskasing has only two portages and very little rough water.

The Missinable is probably the safest of all routes to Moose Factory.

## HOLLINGER.

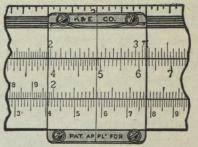
Foundations for the new plant on the shore of Gillies lake are nearly completed and the erection of the steel structure has been commenced. Three large compress-

ors have been ordered.

The twenty stamp addition to the mill is nearly completed and the new tube mills are being placed in position. When this section is ready increased output will be made. Part of the addition is, however, for the use of the Acme Company.

## SLIDE RULE IMPROVEMENT.

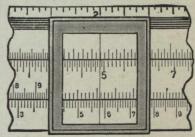
A new patented indicator or runner for slide rules, called the "Frameless" has just been perfected by Keuffel & Esser Co. Every figure on the rule is clearly visible at all times, there being no side pieces to the metal holder of the glass indicator, and, therefore, nothing to hide any of the figures on the rule. This is one of the most important improvements in slide rules—those indispensible instruments for rapid calculations. Often, after setting the old style indicator or runner, the user would find that he could not read



New Style Indicator

the result because important figures were hidden by the frame or holder of the glass. Frequently two, and sometimes four or even six, eight or nine figures would be thus hidden; causing more or less inconvenience and uncertainty in reading the slide rule. The new runner entirely obviates this difficulty.

Thousands of engineers and scientists in every profession and industry, as well as contractors, builders,



Old Style Indicator

architects and merchants have found the slide rule invaluable as a time and brain saver in quickly and accuracely making a great variety of calculations. In its various forms, it has been adapted by Keuffel & Esser Co., to the needs of practically every line of work, including all branches of engineering, as well as chemistry.

## A NEW DRAWING PEN.

W. F. Stanley & Co. have placed on the market the new swivel nib drawing pen shown in the accompany-



ing illustration. This pen is easily and quickly cleaned and can be afterwards set back to make a line of exactly the same width as before.

