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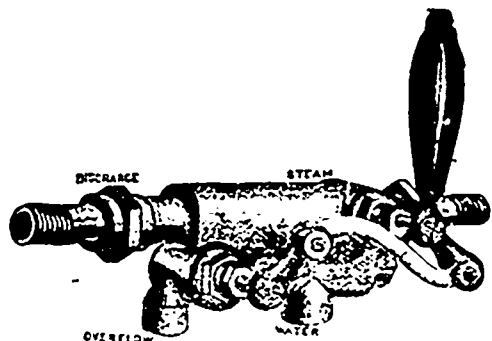
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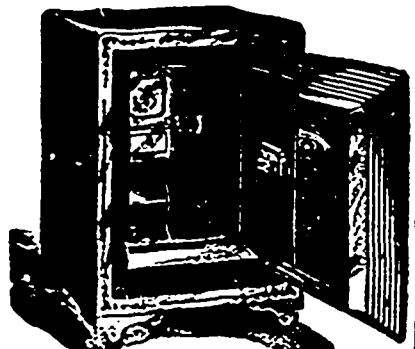
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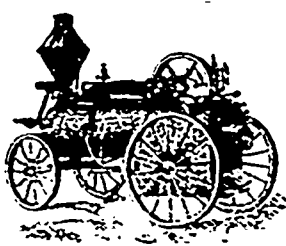
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## MINING.

THE DEVONIAN OF CAPE BRETON, BY E. GILPIN, JR., A. M.,  
F. G. S., INSPECTOR OF MINES.

Read before the Nova Scotia Institute of Natural Science 14th April, 1890.

In my last paper on the geology of this Island, I described the minerals of the carboniferous division, and have now to touch upon the horizon next in descending order. The exact delimitation of this horizon paleontologically speaking may yet be among the unsettled problems, and the knowledge so far learned of its relations in Cape Breton may perhaps be summed up by saying that it carries back a step the conditions so widely prevailing here at the opening of the carboniferous. No distinctive harvest of the flora permits the correlation of its divisions. It may, however, be asserted that the position is of more importance than the name, and that here it fills a gap, more or less completely, between the silurian and carboniferous. As exposed here it is a formation not of special interest from a geological or mineralogical point of view, and at present the most interesting field of study offered by it are the numerous dykes and their metamorphic powers.

Geographically speaking it begins at Loch Lomond, near the county line, and runs toward MacNab's Cove, having a solvage of carboniferous between it and the Pre-Cambrian felsites of East Bay. From MacNab's Cove it runs to St. Peter's, showing itself at the head of the various coves and indentations, the islands and points of land being covered by the carboniferous. From St. Peter's it fills the shore eastward as far as Lower L'Ardoise, where it meets the Pre-Cambrian, and skirting these measures runs northeasterly to the Grand River which it follows to the place of commencement. Several outliers of it are met on the east bank of the river, resting on the felsites which occupy almost all the shore as far east as Mira Bay. All Isle Madame (Arichat Island) is occupied by it, except a narrow fringe of carboniferous extending from Grandique westwardly along the north shore, and a few patches of felsites, etc., near Arichat town and Petite de Gras Harbor. It is met again on the Guysboro shore, and extends nearly to the mouth of the Strait of Causo, where it crosses into Cape Breton again. Here it stretches along the shore from Port Hastings to Low Point, and extends inland about six miles, among the spurs of the band of crystalline limestones, gneisses, etc., which is best known by its exposure at Whycomoh. From this it will be seen that the extent of these measures in Cape Breton is limited, and that they do not form mining or agricultural districts. They are most particularly presented to the traveler passing through Lennox Passage, where he sees the low, monotonous spruce covered hills of Arichat Island, broken by a few clearings and animated only by the huts and stages of the fishermen.

In the district lying east of St. Peter's the presence of great masses of igneous rocks has permitted of bolder outlines, and the Devonian is presented in rolling hills, with narrow irregular valleys. Prior to the surveys made by Mr. Fletcher, of the Geological Survey, these measures were generally referred, without much comment, to the lower carboniferous. In reporting on the field work of 1877, he says of the two basins of metamorphic rock running parallel to the great felsite series, that the first, stretching from Mira River to Upper Maria Joseph, is characterized by primordial fossils. The second, probably Devonian, is characterized by more recent shells and plants. It contains masses of granitoid and trappan rock, and the associated strata bear a close resemblance to the Cordaites shales and Dadoxylon sandstones of St. John, New Brunswick.

These strata, in the St. Peter's district, present numerous outcrops, but are so contorted that no continuous section can be given nor can any reliable estimate be formed of their thickness.

(To be continued.)

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