

THE JOURNAL  
OF THE  
**Board of Arts and Manufactures**  
FOR UPPER CANADA.

MARCH, 1862.

THE FLOWING WELLS OF ENNISKILLEN, AND  
THE IMPORTANCE OF FINDING A MARKET  
FOR CANADIAN PETROLEUM IN EUROPE.

The successful tapping of the great subterranean sources of Petroleum in Enniskillen, has imparted a new and permanent interest to this extraordinary branch of industry and commercial enterprise. A great problem has been solved with respect to the sources of supply. Theoretically, the existence of deep-seated reservoirs of petroleum, occupying fissures and cavities in the rocks several hundred feet below the surface, has been predicted for some time past, but it was reserved for the energy and endurance of one or two individuals to prove their existence by actual and most successful experimental borings. Three "flowing wells" are now in operation, with a constancy and abundance of supply which surpasses the most sanguine expectations; and as yet we see but the beginning of these extraordinary fountains of oil, for there can be but little doubt that future borings in the vicinity of natural springs will reach the sources from which petroleum has been slowly oozing for centuries, perhaps for thousands of years, throughout the so-called oil region.

When the first petroleum spring was tapped at Titusville, Pennsylvania, in 1859, few persons conceived the vast importance of the discovery, or the astonishing commercial activity to which it would give rise in less than three years' time. In 1859, the Philadelphia and Erie Railroad carried 325 barrels of petroleum; in 1860 the amount swelled to 21,794 barrels, and in 1861 the seemingly enormous number of 134,927 barrels were transported along that line alone. This large quantity is exclusive of the supplies conveyed by the Atlantic and Great Western Railroad, and by the flat-boats, which float heavy cargoes to the Alleghany River, and thence to Pittsburgh. Large as these results appear to be, yet they fall into the shade when compared with the present yield, which in the Pennsylvania oil region is estimated at 75,000 barrels a month. No diminution has as yet been observed in the flowing wells; and so abundant and cheap is the yield from this source, that nearly all the pumping wells are now idle, and must probably continue so, unless the demand becomes

greater than the flowing wells can supply at a very cheap rate.

The Canadian wells now rival those of Pennsylvania. The difficulty that the "oil men" have to contend with is to control the astonishing abundance of the yield, and to store it until a market can be found. The question of supply having been most satisfactorily solved, men are puzzled to know what to do with the treasure they have been so industriously seeking, now they have secured more than the most sanguine ever hoped for. The same energy and determination which sought and won it, must now be exerted to find a remunerative market for the unexpected and rather embarrassing abundance with which it has suddenly come upon them. The European markets alone are promising, and it is to Britain, France and Germany that they must look for aid to help them out of their present dilemma.

The question naturally arises, to what uses can petroleum be applied? We propose to glance at some of the most important practical applications of this abundant natural product, and shall endeavour to show that its general introduction for many purposes in the arts, merely requires time for its properties to become widely known, and the certainty of an unfailling supply firmly established in the minds of those who will become our largest consumers.

Before proceeding to enumerate the different uses to which petroleum can be applied, let us examine the nature of those products which can be obtained from it by destructive distillation.

The following analysis of Canadian petroleum was made by that distinguished practical chemist, Dr. Sheridan Muspratt, a notice of whose able chemistry, in its application to the arts, will be found on another page.

Dr. Muspratt finds 100 parts of Enniskillen oil to yield, upon distillation,

Light-colored naphtha (S. G. .794) .....	20
Heavy yellow naphtha (S. G. .837) ....	50
Lubricating oil, rich in paraffine.....	22
Tar .....	5
Charcoal .....	1
Loss.....	2

— 100

The specific gravity of the crude oil is .835, the standard of specific gravity required in England for the best petroleum being .830.

The light-colored naphtha is the Benzole of the manufacturer. The heavy yellow naphtha is the illuminating oil.

The specific gravity of the Enniskillen oil is very nearly that of the standard. The Pennsylvania oil is considerably lighter, and does not yield so much illuminating oil on distillation. The Canadian oil contains considerably more paraffine than