

engineer of the United States' Navy, and their investigation extended over five months. They were instructed to report "the relative evaporative powers of the oil as compared with anthracite coal, the practicability of its use, if unattended with danger, and to set forth its advantages if any." As regards evaporation the reply was that it is 103 per cent. superior in power to anthracite coal, while the time required for generating steam to 20 lb. pressure was only 28 minutes against 60. The Commissioners accordingly recommended the Secretary of the Navy to introduce the oil on board one of the Government steamers, to determine practically its economical efficiency. The advocates for its introduction contend that in a vessel like the Cunard steamer "Persia" the saving, taking into account the smaller space required and all other advantages, would amount to £2,400 each trip. Experiments on a large scale, it is added, will speedily be made with an ocean steamer by a company to whom the present patentees are about to transfer their rights. In addition to the discovery of extensive deposits of the oil in Southern Russia, large quantities are alleged to have been found on the Pacific, in California. The calculations as to economy, however, seem to have been based on the assumption that the price would remain as now after the increase of demand, and also upon the cost of coal in America, and not in England. Should the results, it is added, "equal what may be fairly anticipated, steam navigation will be revolutionized. A war steamer with oil fuel could hold the sea thrice as long as now, and lines of commercial communication, now too far apart, from the difficulty of carrying sufficient coal, would then be formed with ease. Direct lines from New York to Australia and between California and China would be of easy accomplishment."

It is erroneous to imagine that experimental inquiry in this path of science is confined to America. Very recently a locomotive was being fitted, on the St. Helen's Railway, to burn coal oil, on a system proposed by Mr. W. B. Adams; the results have not yet transpired. Our neighbours in France, too, labour in the same field. A letter from Paris says:—"We have heard much lately of a plan for substituting petroleum oil for coal on board steamers. By experiments made here it has been proved that the oil will generate as much steam-power in 28 minutes as coal in an hour. Then there is the great saving of stowage, and an economy of expense by which it is asserted that 77,000 frs. would be saved in one voyage across the Atlantic." All this promises well, and, if the supply hold out, great things may yet be accomplished by the new fuel.

SUPPLY OF CANADIAN PETROLEUM.

The *Oil Springs Chronicle* of the 28th ultimo, on the yield of crude oil says;—

The present yield of crude oil in this place, as near as we can judge, is not over one hundred and fifty barrels per day.—This includes surface oil, about one hundred barrels of which is about the daily yield. The above fact is significant, and taken in connection with the fact that there is but very little oil of any kind in the markets of

Canada, we are bound to suppose that oil must advance very materially in value within the next sixty days. We have plenty of oil here—in the earth—but it will not be pumped out until there is a very material advance in price. Oil producers are tired of working without pay, and have made up their minds to let the oil remain in the ground until a remunerative price is offered for it. After this, people who want oil for consumption or speculation will have to pay for it.—The ten cent per barrel oil has "played out," and the sooner the people outside learn this fact the better. Oil in Pennsylvania is selling at the wells for seven dollars per barrel; and now if the oil dealers in Canada choose to go there and pay that price, import it into this country, pay freights and duties, &c., instead of paying a fair price for our oil, they are at liberty to do so; but they cannot force oil producers here to sink wells, pump oil, and sell it for a song. That game wont work any longer. Oil has got to come up or it will not be produced.

Miscellaneous.

The Standard Bushel.

By chapter 53 of the Consolidated Statutes of Canada, the following are the Standard Weight which in all cases are to be held equal to a Winchester Bushel of the Grains, Seeds, or other Articles opposite to which they are set:—

	lbs.		lbs.
Wheat	60	Carrots	60
Indian corn	56	Parsnips	60
Rye.....	56	Beets	60
Peas	60	Onions	60
Barley	48	Flax Seed	50
Oats	34	Hemp Seed	44
Beans.....	60	Blue grass Seed	14
Clover Seed	60	Caster Beans.....	40
Timothy Seed ...	48	Salt.....	56
Buckwheat	48	Dried Apples.....	22
Potatoes.....	60	Dried Peaches ...	33
Turnips.....	60	Malt	36

The *cwt* is 100 lbs.

The *ton* is 2000 lbs. •

The foregoing standard of Weights is obligatory upon all, unless otherwise agreed upon by both buyer and seller; but a bill is now before the Legislature to render it obligatory in all cases.

In the first session of the Legislature for 1863, an act was passed (cap. 3.) providing for the inspection of "Wheat and other Grain, in which the standard weight of the Winchester Bushel of *Extra Spring Wheat* is fixed at 61 lbs.; *No. 1 Spring Wheat* 59 lbs.; and *No. 2 Spring Wheat* at 57 lbs.

Economy of Fuel in Steam Boilers.

A correspondent of the *Scientific American*, on "Economy of Fuel," writes:—"I noticed in a late number of the *Scientific American* a few remarks of yours on the waste of fuel. I am satisfied, from my own experience, that this waste is the fault, generally, of proprietors—not of the engineer or fireman. If there is plenty of boiler, so that the fire will not need to be forced, the coal will be con-