subsequently of 35,000 per annum was made to this great work; but judging from the past, and knowing how little trust is to be placed in public men who have been driven to the discharge of a duty, not by the impulse of knowledge, but by an overwhelming pressure from without, we fear that the necessities of war will be employed as an excuse for neglecting this and all the other works of peace.

We have already had occasion, in a previous article, to mention the honours and rewards which were conferred upon Sir Roderick Murchison by the Emperor of Russia, in consideration of his services in investigating the geological structure of that vast empire. The scientific institutions of Europe have equally recognised his services to science, and we find his name in the list of members of the Imperial Academies of Science of St. Petersburg, Berlin, and Copenhagen, in that of the corresponding members of the Imperial Institute of France, of the Royal Society of Edinburgh, of the Royal Irish Academy, and of the Trustees of the British Museum. In enumerating these honours, we may add that he has long been an active member of the Royal Society of London, and that he has received the honorary degree of M.A. from the Universities of Cambridge and Durham, and of D.C.L. from that of Oxford. In 1846 he received the honour of British knighthood—the cheap reward which an ungrateful country offers in exchange, to-day, for professional sacrifices and national benefits; to-morrow, for political subserviency and corruption. The last service which Sir Roderick has performed to geological science is the publication of the work entitled *Siluria*.

Important Improvement in the Manufacture of Iron and other Metals by the Introduction of a Liquid Purifier.

The advantages derivable from this new principle (the liquid purifier) are being fast appreciated. Among other establishments where the indefatigable discoverer has been, may be noticed the paper-mills belonging to the highest civic authority of the borough of Birmingham, who received him with his usual kindness and urbanity; and having listened attentively to Mr. Phillips's statement of its effects on metals, and of what he proposed doing at the paper-mills, the Mayor at once went with him to the mills, and whilst the machine was in operation, Mr. Phillips's introduced a small quantity of the liquid: in about a minute a piece of paper was produced of decidedly different texture to the bulk then making. This is, of course, not to be considered a fair test or experiment, but merely as showing the extraordinary power of the liquid purifier, whether applied to hard or soft substances. Instances of its effect on other articles can be equally well authenticated; but enough is here shown to prove that various sources of our national prosperity are likely to derive advantage from its introduction into the factories at Manchester and elsewhere, and to which, we understand, it is Mr. Phillips's purpose to turn his attention as soon as he has firmly fixed the practical application of it in the metal trade generally.

As respects copper, brass, &c., we beg now to state that on the introduction of the liquid purifier into the crucible or melting pot (either in or out of the furnace), whilst the metal is in the proper melted state, it brings up almost immediately all the dross and impurities, which the present imperfect mode of fluxing is incapable of doing; this, of course, renders the metal better, and the castings made, whether into ingot or work, are superior, being stronger, tougher, and more solid, consequently better for boring and turning. Its practical working and economical properties have been fully proved, and it may be stated that lighter or thinner castings will be equally strong, and much neater than those in present use; that wire and other things requiring increased strength, in proportion to size, may be made and used thinner than at present; and that ingot metal, being more pure, will be increased in value, and, consequently, will go further in manufacture. This has been frequently tested, particularly as regards the commonest sort of stuff, such as brass filings, which by the new purifier is rendered a good metal, and fit for use again; and although it loses considerably in weight by the new process as compared with the old, yet, on being valued for its metallic properties, after being cast into ingots by the old and new process, the advantage is always found to be on the side of the later, besides having a good metal to work upon; so that if the manufacturer desires to lower in quality, he can do so to suit his purpose and work. This advantage alone, independent of every other, must be of great benefit to the manufacturer and to the public, producing profit to the one and economy to the other.—*Mining Journal.*

New Zealand Flax.

The open hostilities in which this country is at present engaged with Russia, have rendered it incumbent upon us to seek substitutes for articles, the produce of that empire, on which we have been dependent, amongst them for Russian hemp. The demand for paper in this country has also so outgrown our usual sources of supply, that we are forced to seek for new fibrous substance suited for its manufacture, and the New Zealand flax seems to be one well calculated to meet in a great measure these requirements. The *Phormium tenax*, or New Zealand flax grows in great luxuriance in every part of the islands of that vast district, the flax being contained in the leaf of the plant, covered with green cuticle, which requires to be peeled off, and a viscous, gummy substance removed, the precise nature of which is as yet unascertained, before the fibre can be obtained. This cleansing has been as yet but imperfectly accomplished, although the highly valuable qualities of the plant have been long known to the colonists, and it has been used immemorially by the natives, who have only as yet attempted the operation of hand-scraping the leaves in a green state. It has been for the last twenty years an article of limited commerce; but the difficulty of preparing it for use, from the want of proper means and machinery, had been so great, and the cost so considerable, as to have hitherto rendered it unsaleable at a remunerating price.

Aware of these difficulties, and of its increasing commercial value, the Society of Arts at Wellington, New Zealand, lately proposed a premium of fifty guineas to any person who should furnish them with modes of operation, models, and specifications of machinery, by which the flax might be dressed at a cost not exceeding £5 per ton, and the Council expressed their opinion, "that the time may not be very far distant when the navy and mercantile marine of Great Britain will be supplied with cordage and sails from the hitherto comparatively useless New Zealand flax." This announcement naturally attracted attention and accordingly a small hand-revolving machine has been constructed, making 60 revolutions per minute, at each of which revolutions two green leaves are passed through, completely macerated, and forced on to a second part of the machine, which frees the fibre from the gum-resinous substance with