

tically be regarded as a new one, has a great future before it, and bids fair to rival iron in its wide range of adaptability. For many purposes it must certainly supersede all metals in present use, and if the price can be reduced low enough to bring it within the reach of the practical trades it will give iron and steel a hard race for supremacy. The manufacture and development of this metal is still in its infancy, and we await with a great deal of interest, its introduction on an extended scale into the manufactures of the world. Manufacturers have long been looking for some such metal, and if this fills the bill its success is assured from the start. In this connection we clip from our esteemed contemporary "The Watchmaker and Jeweler," of London, England, the following account of this metal, which may prove of interest to our readers:

"Aluminum, with one exception, is the most abundant metal known. The material, alumina or clay, from which it is produced is not confined to any locality or country. It is found everywhere. It is more than half a century since the eminent German chemist, the late Frederick Wohler, who for fifty years was Professor of Medicine and Director of the Chemical Institute at Gottingen, discovered aluminum and that it could be produced from common clay and from alum and still it is among the least familiar of metals. Its usual price is £4 per pound, and until the past year it has only been known as "aluminum gold." After many experiments extending over a series of years its manufacture was abandoned, except in one instance, to the French, who only produced it in inconsiderable quantities. After more than thirty years' labor and at a cost of more than £250,000, the eminent chemist and metallurgist, James Webster, has discovered a method of making aluminum by burning or roasting alum, instead of making it in the old and tedious way by precipitation. By the new process it takes only one twenty-fourth of the time required by the old method and costs less than one-tenth as much. Instead of producing the alumina powder by the old and slow method of precipitation, Mr. Webster burns the alum with pitch in a calcining or roasting furnace, prepared expressly for this purpose, the product being a grey ash or powder, in appearance much like the ashes or cinders from an engine furnace. This grey powder, according to all scientific authorities, is no more or less than burnt alum. By another process this ash is converted into another product, which contains from eighty-four to ninety-five per cent. of the alumina, having left behind it several by-products, which nearly pay the cost of working. The alumina thus produced is better than by the old

method of precipitation, in that it is much finer in texture and almost entirely free from silica. The discoverer has been producing 200 pounds of alumina per week for more than a year, the value of which is £4,000 or £208,000 per annum, the result of which has been that at the present time a manufactory which covers more than one-half an acre is kept busy night and day, with orders for more than fifteen months' work. The present output is twenty tons of aluminum metal per week. From the results already obtained by the aluminum bronze factory (near Birmingham) it is plainly evident that in a very short time this almost new and peculiar metal, which never oxidises or corrodes, and which never tarnishes under any circumstances, to which can be given the color of gold, silver, bronze, or purple, and which differs from all other metals in that it is never produced direct from ore, but only by a long and elaborate process, must become an important factor in the manufacture of jewellery; and not only so, but that almost every article made from metal, from the screw-propeller or anchor of the largest steamship down to the tiniest teaspoon, must be manufactured from it, or its alloy or bronze.

The chief value of aluminum, at present, is in tempering or giving strength and a surface or body to alloys, bronzes or metals, so that they will not corrode. To copper, tin or zinc it gives such properties as can be obtained by no other means, softening their nature while increasing their real hardness and strength, and enabling them to resist all the tests applied to gold or silver, preserving them from corrosion and rendering them more ductile and refined, and giving them a surface and body that withstands the chemical action of the elements. As a result of this new process of making aluminum, all plated goods, nickel or silver, watch cases, cups, saucers, spoons, knives, forks, gun and pistol barrels, pistol handles, gun, harness, carriage and saddle ornaments made of brass, nickel, German silver, bronze or silver, must give way to those made of aluminum or bismuth bronze. Pianoforte wires made from it will vibrate ten seconds longer than the best now in use. The tensile strength of aluminum or bismuth bronze being the same, only in the latter 1-1800th part of bismuth is added, had been proved, by repeated tests, to bear a strain of forty-two tons to the square inch, or fourteen tons more than gun metal, and twelve tons more than the best Bessemer steel. Whenever and wherever there is need of a metal, and one is demanded that cannot crystallise or corrode under any circumstances, a metal that combines great strength and flexibility, it is plain that aluminum must be used. In the tests already made with propeller screws, blades, journal bearings and heavy artillery made from aluminum or bismuth bronze, as against those made from the best gun metal, the ship build

ers decided in favour of the former as the strength was so much greater and the weight so much less, being only one-fourth as great."

Selected Matter.

A STRANGE STORY.

"A more serious matter than that occurred to me," said a little man seated near the fire, and whose head was bald and his whiskers grey, though he was scarcely middle-aged.

It was in the snug commercial room of the "Seraph," at the little town of Ewergiveany, on the borders of Wales, one November evening, about ten years ago. We were six in number. In the easy chair reclined little Larkey; on the sofa sprawled Larkey's son, a big fellow six feet high, who had been a mate in the merchant service, and, tired of the sea life, had lately taken to helping his short parent on the road. Bould, in the tea trade, generally talkative and given to punning, was unusually silent, and sat quietly smoking, in which occupation we were all engaged except one, who appeared too fidgety to do anything in particular. This man, Baldwin, after displaying symptoms of restlessness for about half an hour, rang the bell for "Boots." On that functionary appearing, Baldwin said to him, "Has my portmanteau arrived?" "Can't come yet, sir," replied Boots; "train not due for another twenty minutes. Let you know then, sir," and exit. Baldwin explained that, on changing trains at the Pwllypant Junction, he had left his portmanteau in the carriage for Drakesa, and he feared it might have been stolen, and should such prove to be the case the matter would be unpleasant, as there were fifty pounds of hard cash in that portmanteau. He had, however, wired to the junction, and hoped to see his property by the next train. This was what elicited the remark from the small man with the bald head, who, till that moment, had not uttered a word since he had lighted his pipe for the evening.

We all turned towards our new friend, who, after a short pause, said: "It's rather a long story. Would you like to hear it?"

Our replies may be readily imagined, and the bald-headed man, after a few preliminary puffs of his pipe, began his tale as follows:

"It's some years since, when I travel