

THE STORY OF ELECTRO-PLATING IN SHEFFIELD.[1][2]

To the Editor. — Some forty years have rolled away since the introduction of electro-plating and gilding into this important town, and but few of those living at that time now survive. Recently there have appeared in the correspondence columns of your widely-circulated journal some quite erroneous statements relative to the inventor of the process and its private and first general use in Sheffield. Some of the old plating houses, being dissatisfied with those statements, have applied to me, who was most intimately connected with the business in its earliest stages, to throw some light upon the question. I, therefore, ask you for a little space in your valuable organ of public information, for the following brief account.

The art of electro-plating and gilding had its origins in Birmingham, the inventor being a young surgeon in that town. Mr. Wright, for that was the name of that scientific gentleman, had been a pupil and assistant of the late Dr. Shearman, of Rotherham. Under him Mr. Wright began his studies and experiments in electro metallurgy, and when at Birmingham pursued this as an agreeable pastime. It was while engaged in electrotyping from a medal that, omitting to coat it with wax to prevent the adhesion of the silver to the copper of which the medal was made, and then in due time taking it out of the bath of silver solution, he found to his amazement that the silver deposited on the medal was so completely fastened to the copper that it was impossible to separate the two. "I have got it," he said to himself; "this is the way in which all metallic articles may be covered with silver, which may be either a heavy or a light coat, at the will of the operator." The young surgeon immediately communicated with Messrs. Elkington and Co., silversmiths and gilders, of Birmingham, and they, perceiving the great value of the invention, agreed to patent it, and to allow him a handsome life annuity, and Mrs. Wright after him, should she survive him. Mr. Wright did not live long after that discovery, and his widow came to live in the neighbourhood of this town and has become a second time a widow, her husband dying a millionaire.

There was at first a strong prejudice against plating and gilding by electrical power, arising from total ignorance of the process, thinking it a mere "Brummagem wash". They could not believe in a fast and solid deposit of one metal upon another. It was some time before the manufacturers of silver goods could be convinced that their prejudices were unfounded, and a yet longer time expired before they could be induced to take licences to use the process. Indeed, such were the difficulties of the patentees that they were obliged to call in financial assistance, when that celebrated and now lately deceased capitalist, Sir Josiah Mason, joined them in business, taking in some £100,000; at the same time recommending the firm to manufacture and send into the market their own goods, and thus force a trade. The first retailer of their new goods was the celebrated jeweller and silversmith, Mr. Dismore, of Liverpool. The manufacturing silversmiths of London, Birmingham, etc presently applied for licences; and Mr. George Elkington, senior partner, told me that their revenue from the patent was then £5,000 per annum.

It was not likely Sheffield would be long behind Birmingham in using the new process, and be it said to the honour of the family, the late enterprising Mr. John Harrison, of Scotland street, took out a licence for using the process in his own establishment. He, therefore, was the first electro-plate manufacturer in this town. That gentleman sent Mr. George Walker to Birmingham to be instructed by the patentees in the art, the

expenses attending such instruction being defrayed by his partner, Mr. Harrison. Having completed his knowledge of the process, Mr. Walker returned to Sheffield, and an agreement was drawn up stipulating that he should have 25s. per week for the first year's service, 30s. for the second, and 35s. for the third and last year. Mr. George Walker was, therefore, the first operative electro-plater in this town, and Mr. John Harrison was the first manufacturer of electro-plate goods, and the introducer of the process for his own private business.

Mr. George Walker had been with Mr. Harrison some eighteen months, when, being called into the office, his employer said to him, "You must instruct my son in the plating business," which Mr. Walker declined to do, thinking the son, at the expiration of the three years, would take his place. In vain did Mr. Harrison endeavour to show him how much he was indebted to him for a knowledge of the business, and quite despairing of gaining his request, he fetched out of an inner office the agreement, and handing it to his employee, said, "Take that, and you and I part for ever." Mr. Walker took it, tore it up, and left the office.

It was a little remarkable that I, Mr. Walker's brother-in-law, should a few hours after his dismissal, drive up to his house, in Watery street, Portmahon. Under these very trying circumstances he was glad to see me, and to make known his last sad interview with his employer. I advised him to go at once to Messrs. James Dixon and Sons, and offer his services at £150 per year. To this he demurred, observing "It will be useless, for they think the process is a mere wash." Then, I said, go to your uncle, at Banner Cross. "I cannot go to him," he replied, "for he has already lent me £50 to patent a knife sharpener, which has done nothing for me. I dare not go to him." Then he said, "Now, Mr. Coulson, if you will begin the business, and take me as your manager, and on the terms you have suggested I should propose to Messrs. Dixon and Sons. £150 per annum, I would gladly serve you." Up to that time I had not thought of engaging in any commercial pursuit; but knowing the value of the process if properly introduced and the business well supported, I said, well, sir, give me the details, and let me know the money required to begin the business, and I will say yes or no at once. I found that £250 would be the first requirement, and some hundreds more during the first month. Well, I said, you shall have the money, and on these terms: £150 per year for management, and half the profits; my name not to appear, as it would probably interfere with my professional engagements. Mr. George Walker thankfully accepted my offers, and I advised him to go forthwith to Birmingham to obtain a licence to plate for the whole of Sheffield, except for Mr. Harrison, as it struck me he would write that day to the patentees to send another man, giving at the same time Mr. G. Walker a dressing for his ingratitude. I gave him there and then a considerable sum of money for his expenses, and for sundry materials, such as the patentees could supply. He was to get the agreement signed before the arrival of the Birmingham mail, and send it to me at Doncaster for my signature.

After he had accomplished the task, Mr. Geo. Elkington came into the office, and smiling said, "This is from Mr. Harrison, of Sheffield; it is well you have got your licence agreement signed." The terms of the licence were £150 per annum for depositing 3000 oz. of silver, and 1s. per oz. for every oz. above 3,000 oz., and 10 per cent, for gold deposits. On his return to Sheffield I took him the required sum of money to Howard street, where premises were taken for the business, and where the following week he plated some tea-pots, to the great satisfaction of Messrs. Dixon and Sons, who became our first and best customers. Other

firms speedily sent their goods to have a "good coat of silver," and Messrs. Walker and Co. began to gain success and celebrity in the electro-plating business. now one of the staple trades of the town.

The patent had been running some years, when Mr. Lyons, chemist for Elkington, Mason, and Co.. made accidentally a discovery in connection with the process. Up to that time all articles taken out of the plating vat presented a creamy or opaque appearance, which had to be taken off by a revolving brass-wire scratch-brush, before they could be handed sufficiently bright to the burnisher or polisher, and thus beautifully finished. This discovery was made by Mr. Lyons accidentally dropping a little bi-sulphuret of carbon on an article suspended in the plating vat; he perceived a bright, star-like spot on it. From what he saw he was convinced that if he mixed a certain quantity of the bi-carburet with the plating solution all the articles plated in it would have a bright, silver appearance. A patent was taken out in the names of "Lyons and Millwards," and Messrs. Elkington and Co., and Sir John Ratcliffe bought the right for their exclusive use. One of the Millwards was an operative plater with Elkingtons, and the other brother was with Sir John Ratcliffe, who sent him to Sheffield to introduce the "Bright Plating" process He afterwards began business in Eyre street, where he still carries on a successful plating and gilding trade. Enough, however, has been said to show the origin of electro-plating and gilding in Sheffield. SAML. COULSON.

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