SOME MODERN INVENTIONS WHICH ARE ANCIENT HISTORY.

BY RENÉ BACHE.

Every now and then it is discovered that some extremely "modern" invention is in reality exceedingly old. For example, the safety-pin, far from being a novelty, or even of recent origin, is decidedly ancient—a fact made certain by the finding of a great many such pins, fashioned exactly like those of to-day, in old Roman and Etruscan tombs, dating back to a period a good deal earlier than the birth of Christ.

The safety-pin, in truth, was an article of common use in Italy long before the Roman empire attained the height of its glory. Some of them were exactly like those of to-day, utilizing the familiar principle of coiled spring and catch; but the material of which they were made seems always to have been bronze. They took on a development, however, far more remarkable than our modern safety-pins, many of them being quite large affairs, ten inches or so in length, and hollow, as if designed to be attached to the gown in front, and possibly to contain something or other—conceivably flowers. Not infrequently they were ornamented with gems.

Another ancient invention was the collar stud. It is true that the ancient Romans did not use buttons to fasten their garments, but for this very reason safety pins were more urgently required; and the latter seem to have been supplemented by studs of bronze, which were in shape exactly like those of to-day. Of course, people in those times wore no collars; but the little contrivance in question was utilized in other ways. Probably—and, indeed, the assumption is not a rash one—it had in that early epoch the same habit as now of rolling under a piece of furniture on slight provocation, for the purpose of eluding observation and pursuit, with the usual perversity of inanimate objects.

Of all modern inventions, none seems to belong more typically to the present day than the so-called McGill paper fastener—the small brass contrivance used to fasten a number of sheets of paper together. Yet (though it has been patented) it was well known more than two thousand years ago, being used by the soldiers of Rome as an incidental of their costume. The belt of thin copper worn by the ancient legionary was fastened to a strip of cloth, for lining, with a series of little bronze clamps exactly like the paper fastener in question.

The Smithsonian Institution, at Washington, has got together a very interesting collection of such ancient inventions—one of the specimens shown being the belt of an ancient Roman soldier, which exhibits the application of the contrivance described. Among other objects belonging to the same category are thimbles two thousand five hundred years old. They are of bronze and their outer surfaces show the familiar indentations for engaging the head of the needle. Indeed, these thimbles are much like modern ones, barring the fact that they have no tops to cover the end of the finger. For that matter, however, many thimbles of to-day are topless.

The women in those days had bronze bodkins, made just like those in use now, and for toilet purposes they employed small tweezers of a pattern that has not been altered in two thousand years. To hold their hair in place, they had not hit upon the notion of bending a wire double; but they used for that purpose straight bronze pins, made exactly like modern hatpins, with big spherical heads. It is from this early type of hairpin, in truth, that the hatpin of to-day is derived. Mayhap the ancient Roman virago, when aroused to rage, plucked an improvised dagger from her back-hair and employed it vigorously.

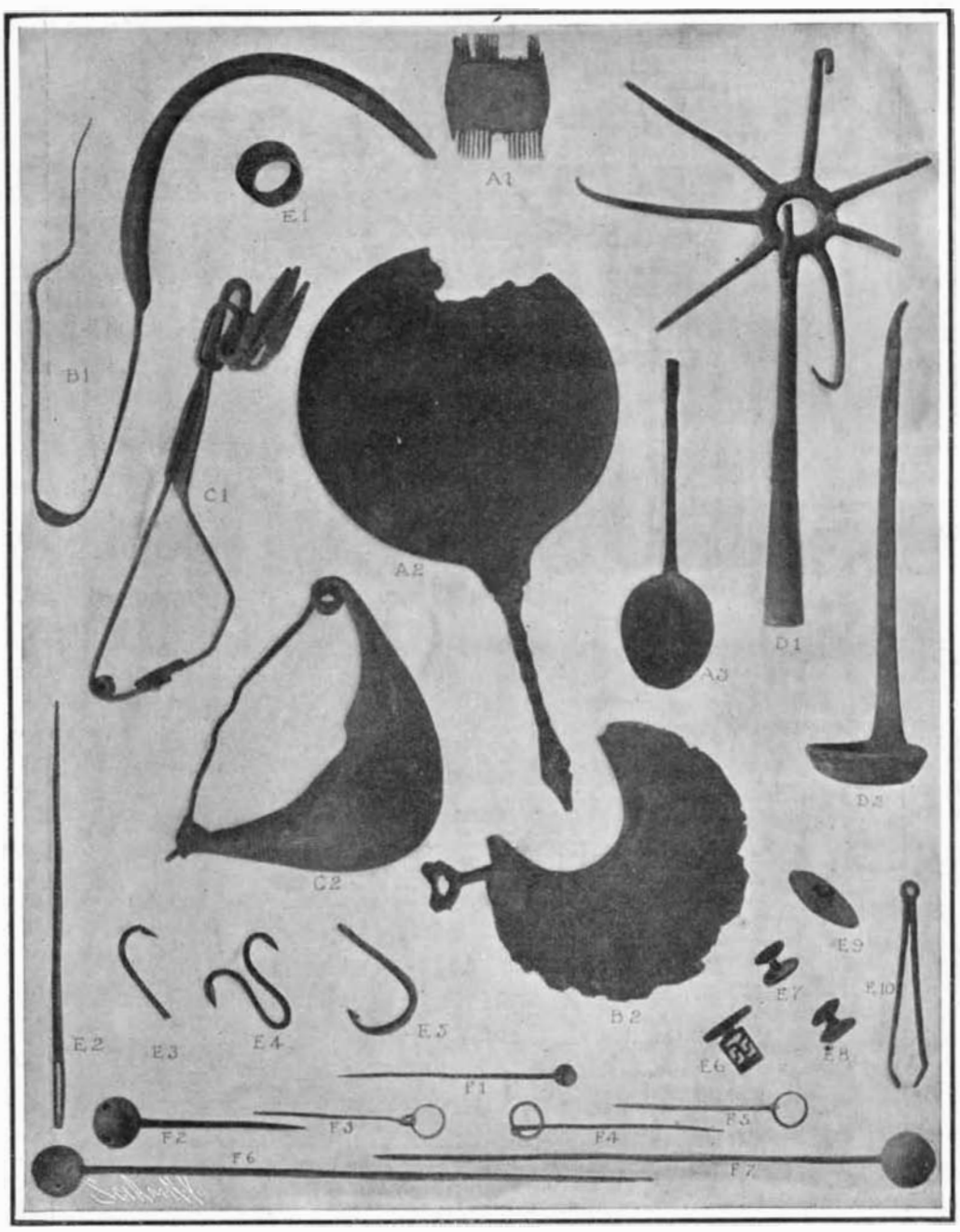
In the collection referred to is a number of fish-hooks, not less than three thousand years old, obtained from ancient Swiss lake dwellings. They are of bronze, and in shape are exactly like the most improved modern fishhooks. They have the same curves and the same barbs, with a similar expansion at the top of the shank for the attachment of the line. Barring the metal of which they are composed, they might have been made yesterday. Other curios, from the old Etruscan tombs, are strainers, ladles, spoons, and knives of bronze. Such articles, as well as bronze daggers, and other weapons and utensils, were cast most commonly in molds that were carved out of hard stone, a pair of stones being required to produce the object, which was afterward polished and otherwise elaborated. Among the most interesting of the contrivances for the toilet is a fine-tooth comb of ivory, which in shape is precisely like the fine-toothed combs of to-day.

Of course, the gentleman of ancient Rome was obliged to shave himself, unless he chose to wear a beard, and for this purpose he used a razor which must have made the operation decidedly severe. It was not at all like modern razors, but (as shown by a specimen in the Smithsonian collection) was of bronze and somewhat like a small sickle, very broad in the moon-shaped blade and with a handle rigidly attached.

It is well known that the ancient Romans knew how to plate one metal with another. They made, and some of them (like Cicero) wore, false teeth. The manufacture of glass was entirely familiar to them, and that they knew the modern method of mending broken pots by means of rivets has been shown by the discovery of many pieces of pottery thus restored. It seems rather surprising that they did not acquire the art of printing with movable types, inasmuch as they came so very near to it. They had wooden blocks carved with words in reverse, by means of which they stamped words on pottery while the latter was as yet unbaked and soft.

Every Roman gentleman had a latch-key which fitted the door of his dwelling. It was attached to a finger-ring, so that it could not easily be lost, and would always be ready for convenient use, no matter what the hour or the condition of the owner.

Naturally, the Roman damsel or matron had to have something in the way of a looking-glass, and it is odd to find that her hand mirror was precisely of the most fashionable modern shape. It was of polished bronze, because the art of silvering glass to make it serve as a reflector was then unknown. At that epoch people must have had a much less vivid idea of what they looked like than they have nowadays, and it is easy to imagine that a looking-glass such as one could buy in 1906 would have been worth a considerable fortune in Rome two thousand years ago.



A1, Fine-tooth comb; A2, hand mirror; A3, spoon; B1, razor; B2, kitchen utensil; C1-2, safety pins; D1, instrument for removing meat from an oven; D2, ladle; E1, ring; E2, needle; E3-5, fish-hooks; E 6, door-key; E 7-8, collar-buttons; E9, bodkins; E10, tweezers; F1-7, hairpins.

SOME MODERN INVENTIONS WHICH ARE ANCIENT HISTORY.

Kelvin on Wireless Telegraphy.

The following letter from Lord Kelvin appeared in the London Times:

Sir: The letters of Prof. Silvanus Thompson and Sir William Preece in the Times of yesterday will, I am sure, interest many of your readers who are unable to follow the very important questions of international policy at present under consideration by the Berlin Congress on wireless telegraphy. The statement of historical facts and of scientific truths which they contain go far toward a complete history of the origin of one of the greatest wonders and triumphs of science in the nineteenth century—wireless telegraphy—due to the scientific discoveries of many workers and practically realized by Mr. Marconi in 1896. Sir Oliver Lodge's Royal Institution lecture on Friday, March 8, 1889, on "The Discharge of a Leyden Jar," was full of the origins of wireless telegraphy. It included a startling case of "telefunken," discovered by some of the audience, between gilt patches on the wall of the lecture room. The lecturer gave a quotation from "Scientific Writings of Joseph Henry" (Vol. I., page 203), of which the following is a part describing electrical experiments made by him about 1830, when he was Professor of Mathematics and Natural Philosophy in Albany: "A remarkable result was obtained in regard to the distance at which inductive effects are produced by a very small quantity of electricity. A single spark from the prime conductor of the machine of about an inch long, thrown on the end of a circuit of wire in an upper room, produced an induction sufficiently powerful to magnetize needles in a parallel circuit of wire placed in the cellar beneath at a perpendicular distance of thirty feet, with two floors and ceilings, each fourteen inches thick, intervening."

This is the nearest approach to wireless telegraphy given to the world before practical proof of electrical waves through ether and of their wonderful energy-carrying quality was given in Hertz's magnificent experiments inspired by Helmholtz. Lodge himself made in 1894, as described in Prof. Thompson's letter in the Times of yesterday, very important steps toward the wireless telegraphy publicly realized by Marconi two years later. Lodge had got signals successfully through a distance of 150 yards; Marconi, in 1896, had signals through three-quarters of a mile; and very soon after, with aid given by our post office, this was extended to nine miles across the Bristol Channel. As early as the beginning of June, 1893, I was taken by Lord Tennyson to Marconi's telegraph station at Alum Bay, in the Isle of Wight, then in successful wireless communication with Bournemouth; and I had the great pleasure of sending messages through fifteen miles of ether, and on by our postal land telegraphs to Sir George Stokes at Cambridge and other friends in England and Scotland. I believe that up to that time, or at all events up to the time of Marconi's success across the Bristol Channel, there had been no other practical advance upon Lodge's wireless telegraphy through 150 yards.

Sir William Preece tells us that the post office had been actively engaged in developing wireless telegraphy since 1884, and that in 1895 communication between Oban and Mull was successfully made. This experiment was carried out by Sir William Preece himself. It was by induction between parallel lines of telegraph wire on the two coasts and was practically valuable because by it the communication was kept up until the ruptured cable between the island and mainland could be repaired. That was the best that could be done in 1895. It illustrates the greatness of the boon brought by Marconi a year later.