

adding the washings to the decanted solution; dry and melt the sediment with a small addition of equal parts of finely powdered borax and saltpeter, which will produce a button of fine gold

Advantageous method to strip the silver from old silver-plated articles. Take a cast iron vessel and pour into strong sulphuric acid, add about one-eighth part of powdered saltpeter and bring to a boiling heat, dip into this acid a bucket made of sheet iron perforated at the side and bottom, therein place the articles to be stripped and keep moving about up and down until the coating of the silver has dissolved, lift the bucket out and let drip into the acid and rinse in cold water, remove the stripped articles and treat another lot in the same way. The dissolving of the silver will take but a few minutes in the beginning, will work slower after the acid has taken up a quantity of silver, and will cease to act when saturated with it. The solution has the property of dissolving silver only, and barely affecting the inferior metals of which the articles to be stripped are constructed. The silver is reduced by pouring the solution whilst hot into a leaden vessel and immersing therein clean copperplates, when the silver will flock in a metallic state on to the plates, which are removed and washed in clean water, and the immersion repeated until no more silver becomes deposited on the copperplates; the solution is finally tried for silver by dropping into it a small quantity of saturated saltwater, which will produce clouding or precipitation if silver be retained in the acid solution; or the whole of the silver may be reduced by precipitation of salt solution; which should be added by degrees until no more precipitate is formed. The acid is then carefully decanted, the precipitate washed with clean water to remove all the acid, dried and mixed with carbonate of soda.—H. BUSH.

To effect the best possible results in timing an ordinary watch to various positions, it is absolutely necessary to strictly observe the condition of the pivots of the cylinder or staff in lever, etc, escape-ments, and the jewel-holes in which the pivots run. The pivots ought in all cases not be unnecessary long, be made conical at the shoulder and elongating, perfectly cylindrical for about one and a half the length of the jewel-hole, in order to rest freely on the cap jewel. When the watch is in a horizontal position, the point of the pivot should be quite flat, with merely the sharp edge removed and well polished; a pivot so constructed will work easy in all positions, and be least exposed to bending or breaking. The hole in the jewel should always be of the same length as the width of it, which is the proper size to equalize the friction of the pivot, whether the watch be in vertical, horizontal, or slanted position. If the hole is found to be larger than the diameter, the length can easily be reduced with the aid of a diamond drill, the end of which to be of a round instead of a sharp pointed shape, or too large a hole may be reduced in a few seconds, the bars of the polished steel effectes in the hollow of the jewel is quite immaterial to the action of the pivot, as long as it is kept clean. Last of all, the balance should be carefully poised, and the balance spring be kept quite flat and free.—From *Albdt Johann's Lehrbuch der Uhrmaceckerkunst.*

SCIENCE AND OTHER NOTES.

In France a pearl costing sixteen dollars is now imitated for fifty cents or a dollar, and so successfully as to be sold at the price of the genuine article to any one not a veritable expert, and even the latter class are often puzzled. The artificial pearl, however, is simply a glass bead or globe which is first coated on the inside with a glue made of parchment, then treated with a peculiar so-called "essence," after which it is filled with wax. The essence is the chief pearly ingredient, and is obtained by rubbing together white fish, so as to remove the scales, the whole is then strained through linen and left to deposit its sediment, which is the essence in question. It requires about 17,000 fish to produce a pound of the pearly essence.

SHEFFIELD EXPORTS TO AMERICA.—The exports from Sheffield to the United States during November last show a great increase upon the value of the goods sent from that town to the United States in November, 1881, as may be ascertained from the appended figures:—

	Steel	Cutlery	Total Exports
November, 1880	£30,418	£23,058	£53,299
November, 1881	34,077	20,387	98,619

The steel exports are more by 2,649%; but the cutlery exports show a decrease of 2,680%. The total exports for the month, however, show the large increase of 33,550%.

In the time of Alfred the Great the Persians imported into Europe a machine which presented the first rudiments of a striking clock. It was brought as a present to Charlemagne from Abdallah King of Persia, by two monks of Jerusalem, in the year 800. Among other presents, says Eginhart, was a horloge of brass, wonderfully constructed by some mechanical artificer, in which the course of the twelve hours *ad clepsydrum vertebatur*, with as many little brazen balls, which, at the close of each hour, dropped down on a sort of bells underneath, and sounded the end of the hour. There were also twelve figures of horsemen, who, when the twelve hours were completed issued out at twelve windows which till then stood open, and returning again, shut the windows after them. It is to be remembered that Eginhart was an eye-witness of what is here described, and that he was an abbot, a skillful architect, and very learned in the sciences.

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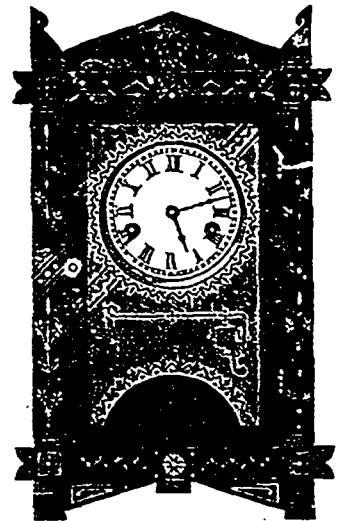
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