CURIOUS AND SCIENTIFIC.

EFFECTS OF TORPHDOES.-Experi-EFFECTS OF TORPEDOES.—Experiments are now being conducted at Cherbourg, France, in order to determine the effects of submarine torpedoes. An apparatus charged with 3,300 lbs. powder was sunk to a depth of 50 feet. On explosion a column of water 500 feet in height was thrown into the air, and a hulk anchored at a distance of 18 feet from the spot was broken completely in two. The earth at the bottom was torn up, making a hole 40 feet in diameter and about 5 feet deep.

W VALUE OF WALNUT TIMBER.—As an illustration of the increasing value of walnut lumber, the Indianapolis Journal notes that the standing walnut trees on a half section of land en Eel river, in Miami county, Indiana, were sold to a lumber dealer for \$17,000. There is a large amount of other timber on the tract which is not included, only the walnut timber being sold. Walnut lumber is coming more and more into use throughout this country and Europe, and at present a very large business is done in preparing and shipping it from Indiana.

New Glazing for Pottery.—A kind of lead glazing is used upon common pottery, the employment of which often causes cases of lead poisoning among the workmen. M. Constantin, of Brest, France, has recently devised a substitute, which is said to be much superior, and to possess the hardness and inalterability of glass. He uses silicate of sodar pulverized quartz, chalk, and a soda, pulverized quartz, chalk, and a small proportion of borax. This glazing may be colored green by copper, and brown or violet by manganese. It is already coming into use in many of the largest French potteries.

PRIZE AWARD.—The Berlin Academy PRIZE AWARD.—The Berlin Academy of Sciences will award a prize of \$200 in July, 1876, to that student of science who shall solve the following problem most satisfactorily: Steel when quickly cooled after heating exhibits a change of color and of the texture and density of its material, besides becoming much harder and more brittle. The causes of these changes—whether they are physical or chemical, or both; what are the comparative analyses of the two conditions, and what the relative quantities of carbon in those different conditions of the metal—are the questions to be solved.

WATER-PROOFING LINEN.—Prof. Kuhr gives the following directions for this purpose: Pass the linen first through a bath of one part of sulphur of alumina in ten parts of water, then through a scap-bath, of which the scap is prepared by boiling one part of light-colored resin and one of crystallized carbonate of scala with ten parts of reain ored resin and one of crystallized carbonate of soda with ten parts of resin until the resin is dissolved. The resinsoap thus formed is to be separated by the addition of one third of common salt. In the sear-bath the resin-soap is dissolved together with one-part of soda-soap, by boiling it in thirty parts of water. From this bath pass the articles finally through water, then dry and callender. Made-up articles may be brushed with the solutions in succession and be rinsed in the rain. Wooden sion and be rinsed in the rain. Wooden vessels may be employed.

AN INTERESTING DISCOVERY,—Some workmen, while engaged in laying water pipes in Cividale, Italy, recently encountered a large flat stone. On raising this a, hed; of mason work was revealed, in which was placed a stone sarcophagus covered with a marble lid. Within the receptacle were the remains of a human skeleton; some portions of which were yet perfect. Beside the body lay a sword, lance, helmet, spears, a gold clasp and ring, a piece of very beautiful gold tissue, and a flask of water which was still remarktbly clean. The removal of clay from the bottom of AN INTERESTING DISCOVERY, -Some The removal of clay from the bottom of the grave brought out the letters Gisvl—from which archæologists have decided that the remains are those of Gisulf, duke of the Lombard marches of Friuli, who fell in battle in 611, while repelling an invasion of the Avars.

COATING CAST IRON WITH COPPER. The society of forges and foundries of Val d'Osne has recently opened in Paris an exposition of their curious products, consisting of objects of art in cast iron, consisting of objects of art in east iron, some of considerable volume, which are covered with copper by the Gaudoin process. This operation admits of the deposition of copper upon east iron without necessitating any previous coating of the latter. The difficulty of accomplishing this has been the scouring of the iron, the baths of chemicals hitherto used being incapable of thoroughly cleansing the metal. M. Gaudoin has found that very acid solutions are necessary to remove the oxides of are necessary to remove the oxides of iron which escape the scouring; but at the same time the acids do not attack the subjacent metal. Such a solution acts continually on the points upon which the copper is not deposited, and ends by dissolving the oxides and allowing the descriptions. ing the deposition to take place. A large number of organic acids have been found suitable for the purpose. The exalates of copper combined with the undri-exalates of soda are said to gi excellent results. An electric current is employed to secure the fixing of a thick layer of copper a thick layer of copper.

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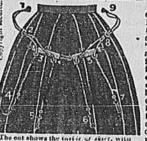
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