



### THE BANDED CHERSYDRUS.

The achrocord or banded chersydrus is a curious aquatic serpent found in the bottoms of marine creeks and mouths of rivers on the borders of the sea, in the vicinity of Malacca, the bay of Manilla, Coromandel, Java, Sumatra, New Guinea, and generally along the coast of southern Asia. The fishermen frequently catch them on their lines, not willingly, as the fangs of the reptile are provided with a deadly poison. It is distinguished from other serpents by being almost entirely free of scales. The body is covered with grain-like particles inserted in the thin and wrinkled skin. Those on the back project slightly in the center, and those on the stomach are pointed. The median line is marked out by two or three ranges of scales placed at angles. The nostrils can be closed with a membranous fold. The tail is flat and compressed, resembling an oar blade. The body is generally banded with black and white oval rings, the tail is spotted with white, and the small head is brownish. Some specimens have yellow or brown bands. They are classed by some among the sea serpents, and by others among boas.

**TEMPERING THIN TOOLS.**—To temper files, ratchets, etc., the best method is to heat them to a red heat, according to the nature and quality of the steel, on a small iron shovel, and to turn the piece on to a plate of steel or iron, which is at least a centimeter in thickness; then cover quickly with another plate of the same thickness. If the operation is well performed a very good tempering will be obtained.

ACCORDING to letters received in Valparaiso, there has been a grand discovery made at a place a few leagues from Arequipa. The discovery consists of a rich vein of gold and silver ores. It is said the vein is some seventy metres in length, and broader than any vein of metal yet discovered in the world. The lay of the ore is four ounces to the cajon, and according to assays made in Copiapo of samples remitted there, some of it reaches fifty ounces. Seventy-one quintals of the metal sold in Arequipa are said to have produced 20,000 soles.

TO REMOVE rust from steel, cover the metal with sweet oil well rubbed in; 48 hours after rub with finely pulverized unslaked lime.

TO COAT iron with emery, give the metal a good coat of oil and white lead; when this gets dry and hard, apply a mixture of glue and emery.

### FONT IN THE PROTESTANT CHURCH, BREDA, HOLLAND.

(See page 37.)

We have from time to time had occasion to mention the Protestant church, formerly the cathedral, of Breda, in North Brabant. It is not our intention now to give any descriptive account of this edifice, but simply to call the attention of our readers to the remarkable font which forms such a beautiful feature in this very interesting church. This font, as will be seen from our illustration, is a fine example of the Early Renaissance style of the Low Countries. It is entirely composed of brass, and is gilt both over its external surface and in the interior of the bowl. The workmanship is remarkably delicate, and the arabesques of the pilasters are worthy of an Italian. There can, however, be no doubt but that it is a work of that splendid school of architects and workmen who produced the stalls at Dortrecht, the side screens at Bois-le-duc, the high altar at Venloo, and other works of a similar character.—*Builder*.

**PLAUSIBLE THEORY OF STEAM BOILER EXPLOSIONS.**—At the meeting of the National Academy of Science, an apparatus was exhibited at work which proved that steam might be decomposed by simple heat, into the constituent gases of water—oxygen and hydrogen. The heat employed was a little over ordinary redness, but did not reach whiteness. This experiment is of the highest value, as illustrating a possible cause of boiler explosions. The apparatus was beautifully simple—a flask in which water was heated, a tube conveying the steam into a closed platinum crucible, where it was again heated by a spirit lamp, and a tube thence carrying the super-heated steam and the liberated gases to an ordinary pneumatic trough, where the mixed gases were collected in a test tube, while the steam was absorbed. At the conclusion of the experiment, the gases thus collected were exploded by a lighted match, showing beyond question that they were the components of water. The experiment indicates that this explosive mixture of gases may be found in a steam boiler. But it can only result from the most culpable carelessness. The boiler must, at least in part, be raised to a full red heat. Then cold water must be injected, for so long as steam and the gases are mixed the latter cannot explode. The injection of water must condense the steam in the boiler before it cools the red-hot iron. All these conditions being fulfilled, an explosion of the gases may take place. Whether an engineer, on trial for homicide, caused by the explosion of a boiler under his care, will ever allege such a set of circumstances in excuse for the accident remains to be seen. It would need a shrewd lawyer to make a jury believe that such an explosion was an unavoidable accident.