

**NEW INVENTIONS.**

Messrs. Horace Massicks, of the Oaks, and Walter Crooke, of Duddon Villa, Parish of Millom, County of Cumberland, England, have patented an improved hot blast stove for blast furnaces. The object of this invention is to form a stove in which the greatest heat will always be maintained at the center.

Mr. Elias Durlach, of Brooklyn, E. D., N. Y., has patented an improved toy stove, constructed with a body having points upon its upper and lower edges, and the bottom and top plates having slits to receive the points and allow them to be bent down or clinched upon the plates, so that the stove can be easily, quickly, and cheaply made.

An improved whiffletree hook has been patented by Mr. Edward P. Barrett, of Holden, Mo. This invention consists of a ferrule or binding iron to be placed upon the single-tree, said iron or ferrule being provided with an enlargement upon the side of the single-tree, which is made with a narrow open slot, communicating with a larger hole or opening through the enlargement, and of a cockeye or loop to be attached to the trace, which loop is flattened or reduced in size at one point, so as to readily pass through the slot, the other parts of the loop being made too large to pass through the slot.

**GREBES AND THEIR NESTS.**

Simply clothed birds need not envy the grebe its rich, satin-like plumage, for in consequence of its possession the poor grebe is hunted and slaughtered wherever it shows its face. The crested grebe was once fairly common in our own country; it now no longer ventures to appear, and only frequents solitary lakes in sparsely populated countries.

Our illustration is from a sketch supplied by an American correspondent, and shows one of their breeding places on a lonely lake. There they build their nests of any floating weeds and rubbish that they can collect, and moor it cleverly, with bits of sedge or long rank grass, to some water plant that grows from the bottom. It forms a little island home, and, as shown in the drawing, there are generally found numbers of these nests near together. Four and sometimes five eggs are laid, and when we learn that generally the water soaks up from the bottom, and that whenever absent the old birds always cover the eggs carefully with

damp, moist weeds, we are rather astonished to hear they ever hatch at all.

The young are very prettily striped and marked, and at once take to the water, in and under which both old and young seem more at home than in the air itself, and it is in this continual diving that the suitability of their highly-polished feathers is so beautifully manifested, as it enables them to glide with lightning-like speed under the water, and

the only hieroglyphics, or sign writings, that exist in our language.

These astronomical signs, like the numerals, are employed in every European language without change in their form.

Each nation reads them in the language of the text; the sign,  $\oplus$ , for example, would be called the "earth" in English, "la terre" in French, and "zemlya" in Russian.

The origin of these signs is not generally known, and is usually found only in the older astronomies. In Long's astronomy, published in 1764, is given the following account of the original forms of these symbols:

$\gamma$  is the caduceus, the snake-trimmed staff of Mercury;  $\psi$  is a mirror with a handle;  $\delta$  is a lance and shield;  $\zeta$  represents the first Greek letter in the name of Zeus or Jupiter;  $\eta$  is a sickle;  $\odot$  and  $\ominus$  are the disk of the sun and the moon's crescent.

The signs for the sun and moon are the most ancient. They may be seen in the Egyptian hieroglyphic writing, and in the second century, Clement, of Alexandria, used them. It is strange to find that the Chinese, also, in their oldest writings, more than forty centuries ago, used a circle to designate the sun and a crescent for the moon.

But the planetary symbols are much more modern; they were never used by the ancients, who always designated the planets by name. These signs did not appear until the cabalistic sciences were developed by the alchemists, who designated metals under the representation of planets, as every planet corresponded to some particular metal. Alexander Humboldt dates these signs from the tenth century.

The earth was not at first counted among the stars, and did not have any symbol until after the discoveries of Copernicus. The cross that surmounts the earth symbol,  $\oplus$ , shows its Christian origin, dating from the sixteenth century.

The remaining signs are those designating the late discovered planets, Uranus and Neptune. The first, discovered in 1781, by William Herschel, is occasionally represented in Germany by a circle surmounted by a vertical lance, but as this is apt to be confused with the symbol for Mars, the initial H of the name Herschel is generally used in a slightly modified form,  $\text{H}$ .

Neptune, discovered by Le Verrier in 1846, was at first represented by the initials L and V in a cipher, but the trident,  $\text{♆}$ , was soon substituted as more simple and convenient.

These are all the signs in general use for astronomical



**THE SYMBOLICAL SIGNS OF THE PLANETS.**

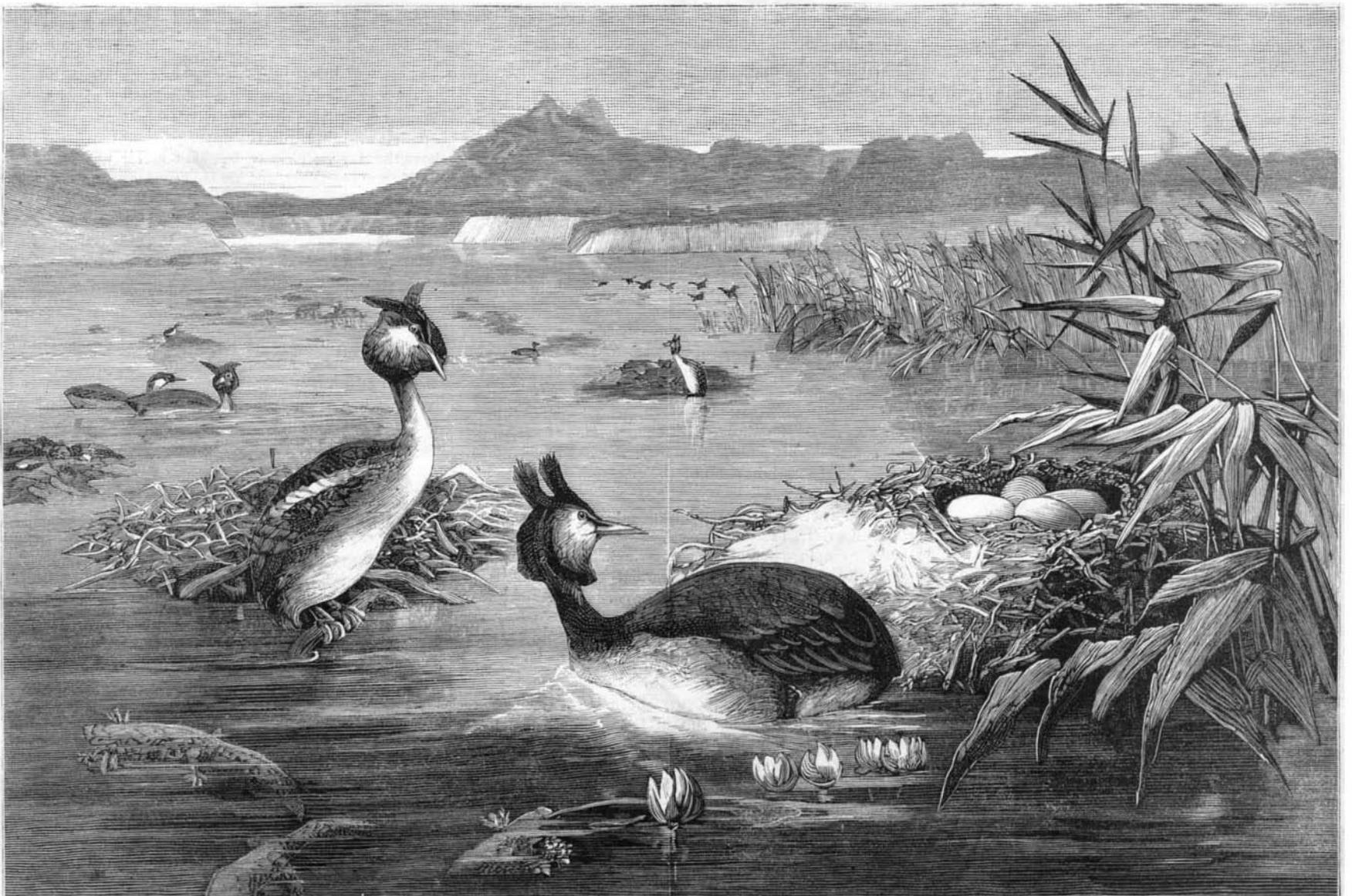
turn and double with amazing quickness. The feathers which are peculiarly valued are those which come from the breast of this particular bird.—*Graphic.*

**THE SYMBOLICAL SIGNS OF THE PLANETS.**

Any one who has studied astronomy will recognize the following symbolical signs by which it is customary to represent the principal members of the solar system:

- $\odot$  ..... Sun.
- $\ominus$  ..... Moon.
- $\gamma$  ..... Mercury.
- $\psi$  ..... Venus.
- $\oplus$  ..... Earth.
- $\delta$  ..... Mars.
- $\zeta$  ..... Jupiter.
- $\eta$  ..... Saturn.
- $\text{♁}$  ..... Uranus.
- $\text{♆}$  ..... Neptune.

It is to be noticed that these signs do not represent sounds, like the letters of the alphabet. They designate an actual object, and consequently with the numerals 1, 2, 3, etc., are



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