

## SCIENTIFIC INTELLIGENCE.

**LIGHTING BY ELECTRICITY.**—In the course of the opening lecture at the Western Literary Institution, Leicester-square, some experiments were exhibited of a new mode of lighting by means of electricity. The inventors are Messrs. Haile and Petrie, and their mode of operation is to cause the electric current to pass through two pieces of charcoal in such a manner as to exclude any portion of the atmospheric air. The light produced is intense and beautiful, producing the effect of daylight to a much greater extent than the lime-light, and having this advantage, that it is sustained and continuous. The inventors expect to apply it generally to shop and street illuminations, and state that, while the "plant" will cost no more than gas, the expense of illumination will be only one-twelfth of the price of the latter light.

**NEW MECHANICAL POWER.**—We have just learnt that Dr. Faraday, pursuing his researches into the operations of this all-pervading power, (magnetism,) has proved that *crystallization is, in a remarkable manner, dependent upon magnetism.* We have not yet heard the whole of the results which Dr. Faraday has arrived at, and which are already communicated to the Royal Society; but we have understood that evident proofs have been obtained of some mechanical power, new to our knowledge, which connects itself in some remarkable manner with magnetism.—*Athen.*

**ELECTRIC TELEGRAPH.**—Prof. Locke, of the Ohio Medical University, has devised a plan of connecting the machinery of a clock with the telegraph in such a manner that its beats may be heard or registered on the running fillet of paper that receives telegraphic impressions at every station. In this way it can mark, simultaneously, at each station and both extremities, the hours, minutes, and seconds at which a star or other celestial body passes the meridian at either place. In this way the difference of time, and of course of longitude between two points can be ascertained with the greatest accuracy.

It is remarkable that the tickings of the clock, when in communication with the wire, can be heard along the line from Cincinnati to Philadelphia with a perfect distinctness.

**THE MINES OF CALIFORNIA.**—The public journals teem with accounts of the inexhaustible wealth of these mines. Gold is gathered almost by handfuls. The Quicksilver

mine, at Almaden, on which only six miners are employed, yields a nett profit of \$100,000 a year, and will yield at least ten times that amount when suitable apparatus has been procured.

A new planet, or asteroid, has been recently discovered by Professor Kaiser, at Leyden. It belongs to the group between Mars and Jupiter, performing its revolution in about three years and eight months.

Dr. Guggenbühl, of Berlin, has founded an establishment on the Abendberg, in the Alpine district, for the cure of cretinism. About twenty children are under his care, and his success, in arresting the progress of the disease, and rousing the dormant energies of the patients, has already proved very encouraging.

We rejoice to observe that an important measure of University Reform has been adopted at Cambridge, by means of which the education of the student will become both more practical and more effective.—Greater attention will be given to the moral and physical sciences, and theological students will be compelled to attend the theological professors before examination. Oxford, it is said, will follow the example: its reforming decree is expected to be fully as sweeping, perhaps more so. These are gratifying indications of progress.

**SURVEYING AND MEASURING INSTRUMENT.**—A new and useful machine has recently been invented by a gardener, at Mayor, in the north of Scotland, which can be applied to the measurement of heights, distances, land-surveying, levelling, &c. &c. It solves the various problems in trigonometrical and triangular measurement, in such a short space of time, and with so little calculation to the operator, as entirely to supersede the use of the theodolite, circumventer, plane table, and various other instruments hitherto in use—the grand principle being, that it is a "self-calculator," requiring scarcely the aid of a pen or pencil from the operator. By this machine, a field, it is said, may be measured, and the plan of the same laid down from the centre, or any convenient place, either within the boundaries of the field, or from a distance without the limits of the ground, provided a view of the margin of the same, or even the angles or corners be within sight of the surveyor.