High Atmospheric Pressure.

A report was read a few days ago at a sitting of the Société Médicale d'Emulation, on a curious paper by Dr. Foley, in which he recommends a high atmospheric pressure as a cure for various diseases. He remarks that fish can bear the greatest possible barometical variations by means of their air-bladder, which by swelling up, can moderate, and even momentarily suspend, the circulation of the blood. The permanence of viscero-muscular pressure in fish prevents the shock of the formation of a vacuum; the air-bladder presses upon the vena cava and the aorta, and thus prevents the shock of the vital fluid on its return. In birds there are air-bladders all around the viscera, and nearly resembling the lungs. The higher a bird can soar, the larger are the reservoirs for air covered with contractile organs. The very bones and feathers are pierced for air, and in the more powerful species air bags are provided under the skin. The ostrich, the casoar, and other swift runners, have their largest air-bags under the muscles of the thigh; the condor, swallow, and others whose powers of flight is great, have these bags under the muscles of the wings. By this organization all these creatures can bear any amount of atmospheric pressure or rarefaction within reasonable limits, for the immense depths of the ocean, measuring thousands of fathoms, for instance, are unfit for animal life, and fish that, by way of experiment, have been let down to such depths have been brought up again dead. The effects of the pressure of the atmosphere, though tolerably well known before, have been quite recently tested in England, where it has been found that bottles filled with liquids, and then well corked, but so as to leave a small empty space between the liquid and the cork, would, if kept for an hour under the pressure of a column of water 2,000 fathoms high (which may be done by hydraulic press), have their corks pressed down to the liquid. An empty bottle had its cork driven in, and was brought up again filled with water. Applying all these facts to therapeutics, Dr. Foley remarks that mountaineers are obliged to breath more quickly than men inhabiting the plains, because the air is more rarefied on the mountains than in the plains, and therefore affords less oxygen at a breath than in the denser air. Conversely, therefore, if a patient be in want of more oxygen than he can get under the ordinary pressure, let him be exposed to an atmosphere rendered artificially denser. This can be done by constructing a small chamber, communicating with an air-guage and a safety valve. A patient confined in such a chamber may be subjected without inconvenience to the pressure of about two atmospheres and a half. By this treatment catarrh, asthma, and other complaints of the respiratory organs may be removed; in croup the compressed air will further arterialize the blood and increase the vital power of the patient.

New Mode of Illumination.

M. Soubra, a Professor of Mathematics, has invented a new method of illumination, or rather a method of inverting a flame, by the adoption of which several advantages are expected to be realised. The apparatus consists of a syphon of glass, the open ends of which are turned upwards; a burner is placed just within the shorter branch. Before lighting the lamp, the longer branch of the syphon is heated, and a current of air established, which carries with it any flame placed at the open end of the shorter branch, the flame, consequently, becoming inverted. As soon as the current is established, and the burner kindled, the heating of the longer leg may be discontinued, the current, once established, being sutained by the heat from the inverted flame. The advantages of this new arrangement are as follows:—The supports of the globes or lamp-glasses are placed above the flame, and do not intercept the light; the reflectors, also, are in no danger of becoming blackened by smoke, and they collect rays that otherwise would be lost in the air. The flame has a more elevated temperature on account of the heat being concentrated by the syphon, and the carbon consequently more incandescent. The products of combustion are collected in the syphon, and may be conveyed away, instead of vitiating the air of the apartment. It is proposed to employ these reversed flames as footlights for theatres, the advantages, such as safety, &c., being obvious.

New Voltaic Pile.

M. Maistre Fils has proposed a new voltaic pile. The peculiarity consists in the employment of iron instead of zinc for the oxidable metal, and in the arrangement of the charcoal or copper discs; these, which are circular, are all placed on a spindle which can be made to revolve; the discs dip into the liquid in the cups to such an extent that about one-third of their surface is covered; the exciting liquid employed is water containing a hundredth part of its volume of nitric acid. Iron is considered better than zinc, because there is no danger of its forming a deposit on the discs, the revolution of which prevents their becoming coated with hydrogen, and so rendered inactive,

A Burglar Proof Vault.

A burglar-proof vault has been invented, in which a space between two of the plates is filled with iron balls about one inch in diameter, perfectly loose. The plates cannot be drilled through, as a drill must strike one of those balls, which would rotate with the tool, instead of submitting to the perforating process. One of these vaults has been put up in Chicago Custom-house.

The First Striking Clock.

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 horologe of brass, wonderfully constructed by some mechanical artifice, in which the course of the twelve hours *ad clepsydram vertebatur*, with as many little brass balls, which, at the close of each hour, dropped down on a sort of bell beneath, and sounded the end of the hour. There were also twelve figures of horsemen, who, when the twelve hours were completed, issued out of 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 skilful architect, and learned in the sciences.