

Vesuvian Railways.—Concessions have been granted to two rival companies for constructing railways to the summit of Vesuvius, and it is expected that both routes will be rapidly pushed to completion. In many places the sleepers will be supported by columns.—*Les Mondes*. C.

Indication of Water Level in Reservoirs.—M. Decondon, Engineer, Paris, has constructed a very ingenious apparatus for indicating, at any distance, the level of water in a reservoir. He places a bell-shaped casting, mouth downwards, in the reservoir, resting on the bottom and partially filled with air. At the top a tube leads to any convenient place, where it is connected with a manometer which is constructed similar to the aneroid barometer and which is so sensitive that it indicates the slightest difference between the water level in the bell and in the reservoir, owing to the pressure of the enclosed air, which will support a column of water equal to this difference. As the apparatus acts independently of the atmospheric pressure, there will be a slight error, equal to the height of the water column in the bell. But this may be greatly reduced by making the latter very large and flat.—*Wochenschrift Oest. Ing. and Arch't Vereins*. P.

New Plan for Filling Gas Meters.—The chemical laboratories of Jacobsohn and Brunje, at Leopold's Hall, near Stassfurt, Germany, have introduced a new fluid for filling wet gas meters, composed mainly of a solution of chloride of magnesium. The meter of the Royal Polytechnic Institute, at Hanover, was filled, Dec. 8th, 1877, with 142 litres of the same, of a spec. gr. of 1·201. By the 15th the contents had increased by 1·5 litres and the spec. gr. was 1·190. Examination at different dates showed that :

On Dec. 21, 1877, the spec. gr. was	1·181
“ Jan. 20, 1878, “ “ “ . . .	1·182
“ Mar. 3, “ “ “ “ . . .	1·179
“ June 1, “ “ “ “ . . .	1·178
“ July 15, “ “ “ “ . . .	1·174

On July 15th, 1878, the meter was opened and the solution analyzed. No trace of a foreign material (iron or tin) was found, but it contained in 100 cubic centimeters 0·0214 grammes of NH_3 (ammonia) abstracted from the passing gas. A portion of the solution was cooled to 10° without freezing. During the whole time no replenishing had been necessary.—*Journal für Gasbeleuchtung, etc.* P.