

purposes and sometimes even for moving machinery. The quantity of water thus obtained in Artois is often sufficient to turn the wheels of Corn mills.

In the Tertiary basin of Perpignan and the chalk of Tours, there are almost subterranean rivers having enormous upward pressure. The Water of an Artesian well in Roussillon rises from 30 to 50 feet above the surface. At Perpignan and Tours, M. Arago states that the water rushes up with so much force, that a

represents the water level within the stratum G; below this line, water would be permanently present in G; it could never rise above it, being relieved by springs that would overflow at a. The line, c. d. represents the level above which the water could never rise in the stratum F; and the line e, f, represents the highest water level within the stratum E. The discharge of all rain waters that percolated the strata E, F, G, thus being effected by overflowing at e. c. a.

If common wells were perforated from the surface, i. k. l. into the strata G. F. E, the water would rise within them only to the horizontal lines a b, c d, e f.

The upper porous stratum C, also, would be permanently loaded with water below the horizontal line, g, h, and permanently dry above it.

The theoretical section, Pl. 69. fig. 2. represents a portion of a basin intersected by the fault H, L, filled with matter impermeable to water. Supposing the lower extremities of the inclined and permeable strata N, O, P, Q, R, to be intersected by the fault or dyke H, L, the rain water which enters the uncovered portions of these strata, between the impermeable clay beds, A, B, C, D, E, would accumulate in the permeable strata up to the horizontal lines, A A", B B", C C", D D", E E". If an Artesian well was perforated into each of these strata to A', B', C',