

much facilitates the work, and the labourer, armed with a very short-handled pick, patiently hacks his vertical way, and sends up the earth by means of a basket and rope, drawn by a primitive but effective windlass above, formed of a cradle of horizontal wooden bars. The man in charge simply turns the windlass without a handle, by clutching each successive bar, which, acting as a revolving lever, winds up the rope with the weight attached.

The rapidity of the well-sinking naturally depends upon the quality of the soil; if rock is to be cut through, it is worked with a mason's axe and the cold chisel. Fortunately the geological formation is principally sedimentary limestone, which offers no great resistance. At length the water is reached. The well is now left open for a few days that an opinion may be formed of the power; if favourable, another precisely similar well is sunk at a distance of fifteen or sixteen yards in the direction towards the point required by the future aqueduct. The spring being satisfactory, the work proceeds with vigour. We will accept the first well as forty feet in depth; if the surface of the earth were an exact level, the next well would be an equal depth; but as the water retains its natural level, the vertical measurement of each shaft will depend upon the formation of the upper ground. The object of the well-sinker is to create a chain of wells united by a subterranean tunnel, in order to multiply the power of a unit and to obtain the entire supply of water; he therefore sinks perhaps ten or twenty wells to the same level, and he cuts a narrow tunnel from one to the other, thus connecting his shafts at the water-line, so as to form a canal or aqueduct. Precisely as the mole upheaves at certain intervals the earth