

drab. The author is of opinion that an extract of the leaves and blossoms could be used in dyeing and printing.

On wool no mordant is required, and creams, chamons and flesh colours are produced according to the part of the plant used. The use of chrome as a mordant results in the production of more intense shades; it may be added direct to the dye-bath.—*Farb. Zeit.*

#### WOODEN WATER MAINS.

A recent paper read before the American Society of Civil Engineers by Mr. James D. Schuyler, M. Am. Soc. C.E., on "The Water Works of Denver, Colo." contained some very interesting observations and figures relating to wooden water mains. He states that 16 miles of 30 inch wooden conduit were constructed in that work in addition to a considerable length of 44-inch pipe. The timber used was California redwood, and the 30-inch conduit was constructed to stand under a head of 185 feet. We understand from the paper named that the total average cost of the 30-inch pipe was \$1.36 per lineal foot, of which about 48 cents constituted the cost of trenching and back filling. A gang of eight to sixteen men laid from 150 to 300 feet of the same size conduit per day. These mains were composed of staves, dressed very smooth to cylindrical sides and radial edges, and were held to the cylindrical form by mild steel bands placed at a distance apart depending upon the head, but never exceeding 17 inches. The pores of the wood are filled with the water under pressure so that it oozes through to a slight extent, thus realizing the condition for permanent preservation. The pipe is framed in the trench and all handling in full size sections is avoided; at the same time the interior finish is so smooth that the most advantageous conditions of flow are secured. Mr. Schuyler estimates that the use of these wooden conduits effected a saving of over \$1,000,000 in this particular work.

In a dairy kept by one of the surveyors engaged in the survey of the Holland Land Company's purchase, at the very beginning of this century, an entry occurs to the effect that near the headwaters of the Allegheny River, in New York State, was a spring upon the waters from which, when conducted into shallow pools, would

collect quantities of oil. This the Indians collected and used. For unknown generations the Indians held this spring in high veneration, believing it was a direct gift from the Great Spirit. They dried the oil by exposure to the sun, and made an ointment that they used to mix their war paint, as well as for remedial purposes. This ointment was the vaseline of the present day in its crude state, for the oil skimmed from the spring was crude petroleum. The old spring and a plot of ground one mile square were given to the Indians as a reservation, and is so held at the present time, being known as the Oil Spring Reservation. In after years the enterprising whites collected the oil, and it was bottled and sold under the name of "Seneca Oil." It had a wide reputation, and was eagerly sought by many, who extolled its merits in the most extravagant terms. Had it not been for the fact that the inquisitive whites found a way to get petroleum from the earth by sending the drill down through the rocks, "Seneca Oil" would doubtless now be a popular medicine worth \$1 a bottle.—*Pharmaceutical Era.*

Diphtheria is due to a fungoid growth. Yet its mode of dissemination is still among the obscurities of science. Water does not seem to spread it, and, contrary to the general impression, it is uncertain whether bad drainage, unless by producing a low condition of the system favorable to attacks of any malady, has much connection with it. This was the opinion of Sir William Jenner many years ago, and it is the conclusion of Dr. Thorne still. He connects it with the crowded condition of the board schools, where many of the "sore throats" for which the children are not kept at home are suspected of being something much more serious. At Enfield the spread of the epidemic was put upon the cats, which, ever since Darwin charged them with being accessory to the setting of the clover seed, have had "the scientific eye steadily fixed upon them." The pets of one family carried the disease to another, just as they carry other infectious germs, and there seems, so a report to the local government board insinuates, good reason for believing that in some instances it may have been conveyed from horses, sheep, and even from fowls to human beings. The diphtheritic germs are so vital that they are known to have communicated the disease after lying inert for four years.

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