

SINCLAIR REFINING COMPANY

July 30, 1948

Translation Book #173

Reel 150

Frame 453-455

1789

3-104

Description of a plant processing naphthalene (System Still)

When crude tar is depolymerized, oil fractions which contain naphthalene are obtained. By means of a pump this oil fraction is transported to the cooler-house and distributed to various cooler-cabinets to which are arranged on different floors. When the naphthalene crystals have been formed the residual oil is discharged into suitable oil containers by means of special discharge valves.

The naphthalene crystals are broken out. Via chutes and other devices they are transported to the hydraulic hot presses. The naphthalene is brought to a uniform consistency in a steam heated pan, provided with a stirring device; then it travels to the filters through a special filling meter. There is a pressure of 350 atm. The oil which has passed the strainers is recovered in a receiver. The pressed naphthalene cakes are expelled from the pressing cylinders at 50 atm. and transported via chutes and other conveyors to the melting pans where the further melting takes place. The hydraulic presses are equipped with pumps with hydraulic accumulators.

The naphthalene cakes, after being broken into small pieces, are molten in a melting pan, and the liquid naphthalene is brought into the washer, where it is treated with acid, lye and water. The washer is equipped with a heating coil and a stirrer, whereby its content is kept at a suitable temperature. Spent washing agents are discharged from the washer through a special conical valve at the bottom and are passed through separators to the acid regeneration unit or the waste-water purification drain.

From the stirrer, the washed naphthalene is transported to the still, and redistilled. The vapors which issue at the head of the column which is mounted on the distillation still are passed to the naphthalene cooler through steam-jacketed pipe lines; the product runs from the cooler into the pure-naphthalene pans.

The hardened pure naphthalene is broken out of the pans; by means of chutes and other conveyors it is transported to the mills, where it is ground to grit. Naphthalene may be shipped in the form of grit or may be refined on special presses, so-called compression machines; small briquettes are manufactured which are traded as so-called motor naphthalene.

M. Beth

June 24, 1948

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cc: All Divisions
AEM (25)