

ENGINEERING

Coke-Briquette Process

➤ **NORWAY** will be able to meet its own needs for coke and liquid motor fuels by a new electrical method developed in that country for the production of high-quality coke briquettes from non-coking coal and also gases that can be converted into gasoline and diesel oil.

The new process, now under development, was discussed at the meeting of the United Nations Scientific Conference on the Conservation and Utilization of Resources (UNSCCUCR) at Lake Success, N. Y., by Olaf Jensen of Oslo, Norway.

Norway already has a rather plentiful supply of hydroelectrical energy and much more can be developed as needed. The coal to be used is from the islands of Spitsbergen (Svalbard) far to the north in the Arctic Ocean, where an estimated amount of 8,000,000,000 tons are available. The Spitsbergen coal is unsuitable for coke-making in the usual type of coke ovens.

In the new process, the coal is crushed and then briquetted. In one method the crushing is carried to pulverization and the briquettes formed by high pressure

without use of a binder. In a second method, the coal is not so finely crushed and formed into briquettes at relatively low pressure with concentrated sulfite waste liquor as a binder. The choice of process will depend upon economic factors, such as the availability and cost of the sulfite waste.

The coal briquettes are then pre-heated to 150 to 200 degrees Centigrade. It is a well known fact, Mr. Jensen said, that by a sufficiently slow rate of heating, coal briquettes can be made into high-temperature coke without cracking, deformation or fusing together. The resulting coke-briquettes have high mechanical strength, a dense structure and are far more re-active than standard high temperature coke.

By-products of the process are coal tar and gas. The gas is entirely suitable for conversion into gasoline and diesel fuel by processes well known in America. Some 1,500,000 tons of coal will yield approximately 700,000 tons of coke, 750,000 barrels of tar, and 2,000,000 barrels of gasoline and fuel oil, he stated.

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range of astronomers' telescopes, but it will be back for more 'scope photos in the spring of 1951.

The object was first spotted at the California observatory on the night of July 25, by Dr. C. A. Wirtanen by studying photographic plates. Believed to be an asteroid, or minor planet, the object was far too faint to be seen by the naked eye.

Dr. Alan D. Maxwell of Howard University has calculated the orbit, or path of the object around the sun, and finds that it probably takes about 20 months to make a complete trip. From this, he estimates that earth-bound astronomers ought to be able to photograph the faint object for a short period every two and one-half years, or next time in March or April of 1951.

"Remarkable thing is that it has not been found before," comments Dr. Maxwell.

Object Wirtanen, as the new find is called, comes to about 28,000,000 miles from the earth at its closest approach, where it was about Aug. 1. Closest approach it makes to sun is about 120,000,000 miles, the new calculations indicate.

Orbit of object Wirtanen falls between the paths of the earth and Mars around the sun.

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FORESTRY

Importance of Forestry

➤ **THE** importance of forestry on the present and future world was emphasized at the meeting of the United Nations Scientific Conference on the Conservation and Utilization of Resources (UNSCCUCR) this month at Lake Success, N. Y., by several scientists from various parts of the world. Papers ranged from the necessity of reforestation to proper forest management.

Naturalists are convinced of the beneficial effects of forests on the meteorological and hydrological conditions, and the large part that properly distributed and well maintained forests play in the well-being of rural and agricultural communities, the UNSCCUCR was told by C. R. Rangathan of the Indian Forest Service, it was revealed.

Historical evidence from many countries proves conclusively, he stated, that the soil and physical conditions deteriorate with the destruction of forests or their degradation through excessive grazing or burning. Forests are important basic agents. The development of the soil and the natural vegetation it supports are co-ordinate and inter-dependent. The moderating influence of forests on the temperature is distinctly noticeable. Trees act as pumps, tapping the ground water from considerable depths and transferring it to the air. Forests affect the ground water-table according to the initial nature of the soil and the topography. In dry soils and on slopes they increase water-

holding capacity, but in ground liable to marshy conditions, the trees tend to lower the water table and exercise a draining effect.

The danger of a shortage of wood which alarmed Western and Central Europe at the close of the Middle Ages was largely responsible for the forestry practices developed in the 18th century which are based upon conservation, the meeting was told by Stefan Duschek of Linz, Austria. The principles developed in the best European forestry practices are now needed throughout the world.

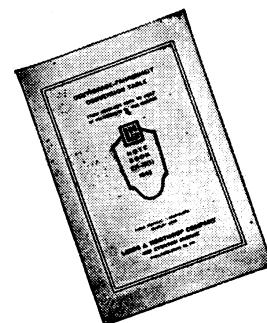
The function of conservation is to obtain wood in such quantities and by such means that future generations are insured a constant supply and one as stable and plentiful as possible, according to Mr. Duschek. It is extremely important for young countries to allocate their forest areas appropriately among the different types of land utilization, and to graduate their cultivation systems according to the plan.

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ASTRONOMY

Fast-Moving Sky Object Will Be Back in 1951

➤ **THE** fast-moving sky object discovered at the University of California's Lick Observatory late in July is moving out of the



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