ENGINEERING

Oxygen in Steel Making

➤ THE increasing use of gaseous oxygen in the British iron and steel industry will be reviewed by D. J. O. Brandt of the British Iron and Steel Research Association at the meeting of the UNSCCUR at Lake Success, N. Y. this summer, it was revealed.

UNSCCUR is short for the international group whose full name is the United Nations Scientific Conference on the Conservation and Utilization of Resources. The use of oxygen instead of air in blast furnaces of various types has made great progress since the closing of the recent war, and is now widely used both in America and Europe. There is still much to be learned relative to its economical application, and the English experience will add to world knowledge.

The open-hearth furnace, the electric furnace and the steelmaking converters have all been shown to benefit considerably under certain conditions, Mr. Brandt will state. To a lesser extent the blast furnace for the production of pig iron and ferro alloys has also been considered with regard to improving performance with an enriched blast.

The basic causes of the recent upsurge of interest are probably two-fold, firstly the desperate world-wide steel shortage stimulating any and every means of increasing the productivity of existing plants, and secondly the prospect that within a comparatively short time "medium purity" oxygen will no longer be an expensive commodity, he will state. Another possible reason is the need to conserve natural resources. Under certain conditions the employment of oxygen may be accompanied by savings both in fuel and certain raw materials.

Oxygen has been applied to the open hearth to accelerate both melting and refining. The electric furnace has also been shown to benefit considerably when oxygen is used as a refining agent. Enrichment of the blast in steelmaking converters has been undertaken at several places, giving increased outputs and improved quality of products.

Enrichment of the air blast in a normal blast furnace has not proved quite so advantageous, according to Mr. Brandt. This is largely because the blast furnace is thermally a very efficient machine. But the use of small, low shaft furnaces particularly designed for oxygen work may enable low-grade ores to be smelted which were hitherto uneconomical, and may also be applied to the smelting of ferro alloys which normally are produced in the electric furnace.

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Words in Science—INSECT-BUG

➤ NOT ALL those pests that you chase or that chase you in the garden and at the beach are properly called bugs—or insects either.

The scientist likes to reserve the word "bug" for a certain kind of insect with fore wings shorter than the hind wings and with a piercing, sucking beak. Typical bugs are squashbugs, stinkbugs, and bedbugs.

The word insect is derived from the Latin and means "cut into" which refers to the form of the body. It is divided into a head, a thorax of three segments from each of which grows a pair of legs, and an abdomen of 10 segments. The principal clue to the identification of insects is the number of their legs—six.

A spider, which has eight legs, is not properly called an insect. Neither is a centipede.

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