U. S. Steel's Gary production slab caster is presumably making a product similar to that of McLouth's. No official comment has been made by U. S. Steel, either about their machine or their operating practices or the products they are making. The following observations have been gathered by 33 from various sources.

The U. S. Steel caster is a vertical mold single strand machine with vertical cut-off (the casting floor is very high for this reason). The casting machine is located in a building adjacent to U. S. Steel's 3 vessel BOF shop and uses oxygen steel in its operation. Casting was started in April '67 and is continuing to date. Some 80% of steels cast are 0.10 max carbon and as many as 16 heats (of nominal 150 ton size) have been cast in one day.

U. S. Steel is hand scarfing all surfaces cast, a common industry practice for high quality sheet steel. U. S. Steel's experience with customer acceptance of continuous cast steel is not known. On the basis of fact that they are continuing production casting it must be assumed that their product is acceptable to sheet users.

National Steel's Weirton plant will soon start producing continuous cast slabs on its 4-strand curved mold machine. This unit is located in the same building with Weirton's new BOF furnaces and their R-H vacuum degassing equipment. Weirton's caster has slab size ranges from 7 in. by 30 in. to 11 in. by 40 in. for their tinplate mills. Weirton will be casting on a 1.5 million annual ton production basis (heat sizes from Weirton's BOF are over 300 net tons).

Weirton Steel is pioneering with 1) its casting machine, a back-to-back curved mold dual twin-strand machine, 2) with its overall process (including the world's largest heat sizes being cast) and 3) with the product, tin plate, which the company is making for the first time on a production basis using continuous cast slab.

U.S. status of slab casting

In summary, slab casting practices are in a lively state of development in U.S. steel plants. By the end of this year production casting of slabs for all major steel products will be a reality. At this moment, the likelihood of success by each of the plants about to cast slabs can only be guessed except for stainless, particularly the 300 series, where continuous casting practice is already proven and commercial.

What is more certain is that the level of success of the casting systems just described will markedly influence decision making regarding the next round of slab casting installations. The net '67 shipment of tin mill products at 5.95 million tons, 7.1% of total, and 32.57 million tons of sheets and strip, 38.5% of total and 7.95 million tons of plates for 9.5%, give a combined total of 55.1%. Thus, considerably more semi-finished form as slabs.

The combined capacities of slab casters going into production (in 1968 & 1969) is 8.3 million tons for plate, sheet & strip and in plate products, and for practically every analysis of steel rolled. At 18% of total, the steel industry in the U. S. is witnessing the most gigantic and costly steel mill scale experiment imaginable.

At this moment, it does not seem likely that making slabs on rolling mills will become obsolete in the same way as early steelmaking processes have. Yet, such technological revolutions occur frequently in the steel industry: BOFs are replacing open hearths, hand sheet mills were obsoleted in the '30's, open hearths replaced Bessemers a generation earlier, and the hand puddling furnaces of the '80's are gone. It could happen again.