

## MALLINCKRODT CO. HAD 'REMARKABLE' PART IN NEW BOMB

**Extracted Impurities  
From Black Uranium  
Oxide—Provided Ton  
a Day to Project.**

By JOSEPH HANLON

A Washington Correspondent of  
the Post-Dispatch.

WASHINGTON, Aug. 15 — The Mallinckrodt Chemical Works of St. Louis is given credit for a "remarkable achievement," making possible production of material for the atomic bomb in the War Department's review of the research which developed the bomb.

Mallinckrodt entered the picture in May, 1942, when it was assigned the task of producing commercially a pure uranium oxide. Deliveries were started by the company in July of that year.

By the end of 1942 the whole problem of procurement of this uranium salt had been taken over by Col. Ruhoff, formerly associated with the Mallinckrodt firm and then with Manhattan District. From then on, the Army reports, "no further serious delays or difficulties have occurred because of metal shortages."

At the end of 1941 the only uranium metal in existence was a few grams made on an experimental basis by the Westinghouse Electric Corp., and a few pounds of highly impure pyrophoric powder made by the Metal Hydrides Co. The only considerable amount of raw material was a commercial grade of black uranium oxide containing impurities.

The extraction of these impurities was the assignment of the Mallinckrodt firm.

Experiments at the National Bureau of Standards had shown, on a laboratory basis, that by the use of an ether extraction method all impurities of the black uranium oxide could be removed by a single extraction of uranyl nitrate. Arrangements were made with the Mallinckrodt firm to handle on a production basis what had been demonstrated in the laboratory and to convert the black oxide into a brown dioxide.

"Deliveries started in July, 1942, at the rate of 30 tons a month," the official report says. "This oxide is now used as the starting point for all metal production, and no higher degree of purity can be expected on a commercial scale."

"In fact, it was a remarkable achievement to have developed and put into production on a scale of the order of one ton a day a process for transforming grossly impure commercial oxide to oxide of a degree of purity seldom achieved even on a laboratory scale."

TRUMAN RETRACTS