United States Patent

Yearley

[15] **3,682,228**

[45] **Aug. 8, 1972**

[54] **METHOD OF CONTINUOUS CASTING WITH CIRCULAR TROUGH MOLD**

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[22] Filed: **March 11, 1971**

[21] Appl. No.: **123,236**

Related U.S. Application Data

[62] Division of Ser. No. 647,680, June 21, 1967, Pat. No. 3,603,378.

[52] **U.S. Cl.** **164/124,** 164/82

[51] **Int. Cl.** **B22d 11/00**

[58] **Field of Search**.....164/259, 82, 72, 83, 88, 268, 164/283, 122, 124, 125

[56] **References Cited**

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[57] **ABSTRACT**

A generally horizontal annular trough forming a circular mold cavity is rotated about a generally vertical axis to transfer molten metal from a feeding station through a solidifying zone and thence through a discharge station where the solidified metal is continuously removed from the mold. The solidifying zone is formed by a cooling station including means for continuously cooling the trough to solidify molten metal in the mold, and a hood overlying at least part of the cooling station forms a substantially enclosed space above the open top of the mold. This space contains nozzle means for concentrating on the upper surface of the metal a stream of non-oxidizing gas which, prior to complete solidification of the metal, forms a solidified skin across its upper surface to prevent escape of gas from within the metal. Thus, when the metal is of the type that evolves gas to offset shrinkage during solidification, the upper surface of the solidified casting is flat rather than concave.

3 Claims, 4 Drawing Figures