

Title (en)

Vertical continuous casting method and casting apparatus.

Title (de)

Vertikal-Stranggussverfahren und Giesseinrichtung.

Title (fr)

Coulée continue verticale et appareil de coulée.

Publication

**EP 0417492 B1 19950419 (EN)**

Application

**EP 90115569 A 19900814**

Priority

- JP 16425690 A 19900625
- JP 21106789 A 19890816

Abstract (en)

[origin: EP0417492A2] Disclosed are a method and an apparatus for vertical continuous casting. In the vertical continuous casting wherein a strand formed in a water-cooled mold is drawn down vertically therefrom without being incurvated light reduction means is positioned just prior to the solidification completing point of the strand and light reduction strong enough to compensate contraction caused by solidification is applied to the strand, then, formation of central cavities is prevented and central segregation is lessened. The light reduction pinch rolls are provided variably in position up and down along the strand.

IPC 1-7

**B22D 11/128**; **B22D 11/14**

IPC 8 full level

**B22D 11/128** (2006.01); **B22D 11/12** (2006.01); **B22D 11/16** (2006.01)

CPC (source: EP)

**B22D 11/1206** (2013.01); **B22D 11/141** (2013.01)

Cited by

EP0545104A3; EP2857122A4; DE19941120A1; CN108941493A; EP0663250A1; EP0450391A1

Designated contracting state (EPC)

DE FR GB

DOCDB simple family (publication)

**EP 0417492 A2 19910320**; **EP 0417492 A3 19920513**; **EP 0417492 B1 19950419**; DE 69018740 D1 19950524; DE 69018740 T2 19950928; JP 2964560 B2 19991018; JP H03155441 A 19910703

DOCDB simple family (application)

**EP 90115569 A 19900814**; DE 69018740 T 19900814; JP 16425690 A 19900625