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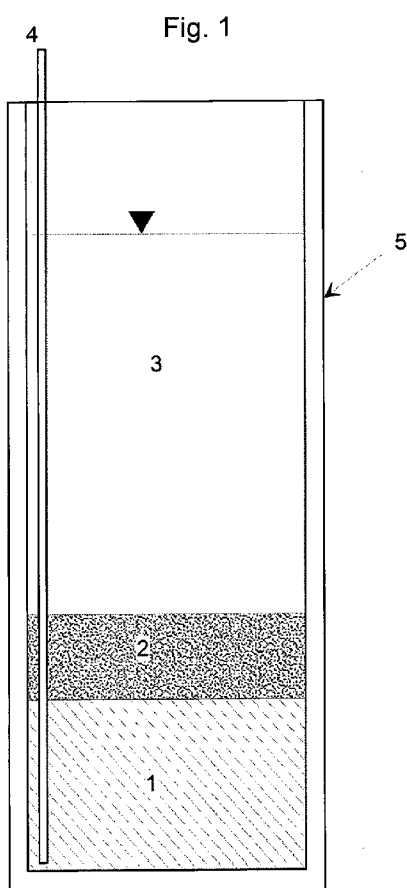
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20071762 2 April 2007 (02.04.2007) NO(71) Applicant (for all designated States except US): **NORSK
HYDRO ASA** [NO/NO]; N-0240 Oslo (NO).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **ROSENKILDE,
Christian** [NO/NO]; Åmotbakken 33, N-3936 PORS-
GRUNN (NO).(74) Agent: **HOFSETH, Svein**; Patent and Trademark Depart-
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(54) Title: A METHOD AND A REACTOR FOR PRODUCTION OF HIGH-PURITY SILICON

(57) Abstract: The present invention relates to a method and equipment for pro-
duction of high purity silicon by reduction of SiCl_4 with molten Zn metal. The
method is characterized in that the reduction takes place in contact with a molten
salt that dissolves ZnCl_2 . The ZnCl_2 produced during the reduction then dissolves
in the molten salt rather than evaporates. The advantage is that gas evolution dur-
ing the reduction is minimised, leading to higher utilisation of the SiCl_4 and Zn
and thereby a higher Si yield. Another advantage is that the molten salt efficiently
protects the air sensitive materials, Zn, SiCl_4 and Si, from oxidation during the
reduction. The resulting molten salt containing the ZnCl_2 can be used for electrol-
ysis of ZnCl_2 to regenerate the Zn metal. Chlorine evolved during the electrolysis
can be used to produce SiCl_4 .



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