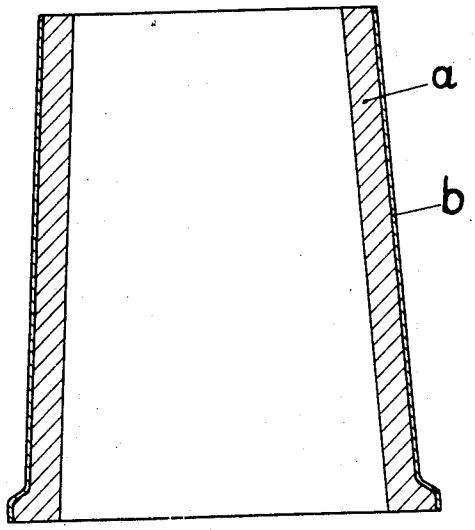
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INGOT MOLD

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E. Schürer
INVENTOR.

By: Marks & Clerk
ATTYS.

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UNITED STATES PATENT OFFICE

EUGEN SCHÜRER, OF COLOGNE-MULHEIM, GERMANY, ASSIGNOR TO FELTEN & GUILLEAUME CARLSWERK ACTIEN-GESELLSCHAFT, OF COLOGNE-MULHEIM, GERMANY

INGOT MOLD

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When casting metals, more particularly alloys, for instance certain zinc and aluminium alloys, it is in some cases desirable for the cast mass to solidify as slowly as possible, so as to obtain a fine-grained structure. With this object in view, it has already been proposed to use ingot molds made of a material which is a very bad heat conductor, for instance of an iron-nickel alloy containing about 35% of nickel and known in the trade under the name of "invar". It has been found, however, that, when invar is used as the material for the ingot mold, the cast material still contains many needle-like crystals. Experiments have now shown that this coarse ray-like structure is due to the invar radiating too much heat to the outside.

According to the invention, the invar ingot molds are enclosed in a sheath made of a material which has a very slight heat radiation, at least one that is poorer than that of the invar. The provision of such a sheath results in a sufficiently slow solidification and consequently in the desired fine-grained structure of the cast material.

The accompanying drawing shows a constructional form of the ingot mold according to the invention. The inner part *a* of the ingot mold consists of invar, and the sheath *b* placed on its outer surface of a material having a very low heat radiation, for instance copper.

What I claim is:—

1. An ingot mold for casting zinc and aluminium alloys which would solidify slowly so as to obtain a fine-grain structure, comprising in combination an inner part consisting of an iron alloy containing about 35% of nickel and an outer sheath consisting of a material the surface of which has a lower heat radiation than the said inner part.

2. An ingot mold for casting zinc and aluminium alloys which should solidify slowly so as to obtain a fine-grain structure, comprising in combination an inner part consisting of an iron alloy containing about 35% of nickel and a thin outer sheath consisting of copper.

In testimony whereof I have signed my name to this specification.

EUGEN SCHÜRER.