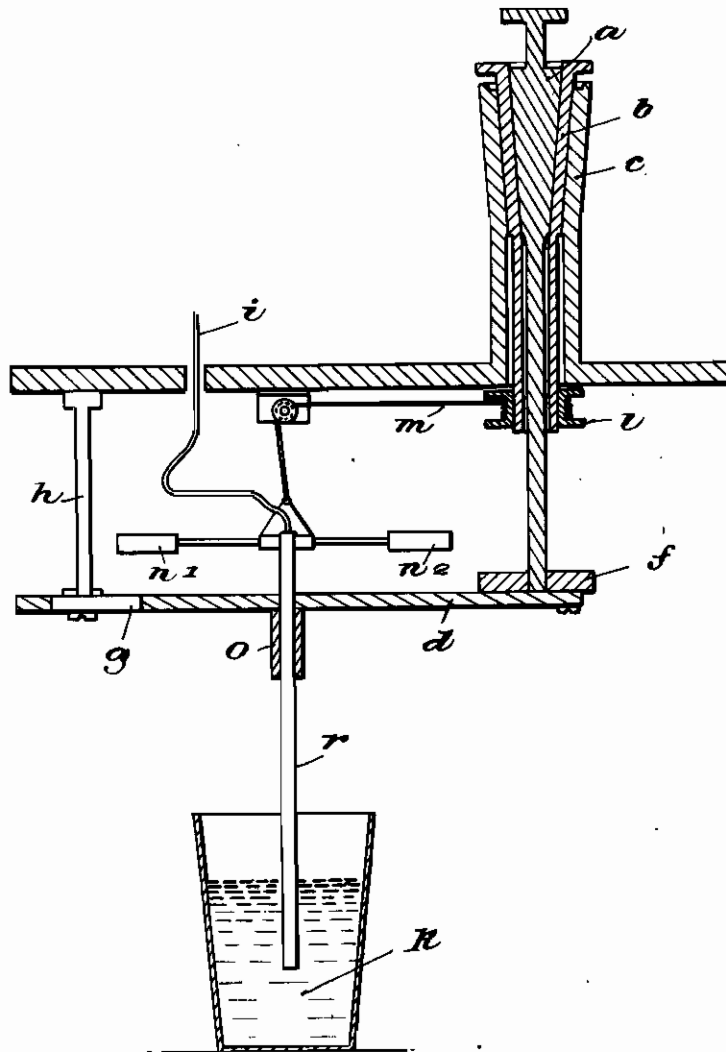


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DEVICE FOR STIRRING MELTS
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ALIEN PROPERTY CUSTODIAN

DEVICE FOR STIRRING MELTS

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Our invention relates to a new device for stirring melts, especially metallic melts, and serves at the same time to control the temperature of the melt. A further object of our invention is the use of the new device in the vacuum casting of metals.

In melting or casting metals, mixtures of metals or other substances, it is often necessary to stir the molten mass, for instance, in order to push through the oxide film formed on the surface before the melt is cast, or in order to attain a quicker homogenisation. In all these cases it is necessary to control the temperature of the melt. If the melt consists of substances which in molten condition are very susceptible against gases on account of their strong reactivity at elevated temperatures, it has proved advantageous to work in vacuo. In this case, however, the stirring of the melt and measuring of the temperatures encounters some difficulties as the stirring and measuring device to be removed before the melt is cast or solidifies.

Now we have constructed a new device which combines both aims and may be introduced into and removed from the melt without any difficulty.

The device consists of two rotatable, at the bottom conically shaped bodies (*a* and *b*), arranged in a suitable case *c* which, for instance, is fixed on the lid of the vacuum furnace. The inner device releases the stirring, the outer device the introduction and removal of the measuring contrivance.

The stirring is released by turning the upper

part of the conically shaped device *a* in the fat sealed device *b*. Thereby the rod *d* which contains the stirring and measuring equipment *e* makes a circular arc, being connected over an excenter *f* with the contrivance *a* which protrudes into the lid. In the part of the rod *d* which is opposite of the excenter, a slot *g* is provided which accompanies the turning movement of the holding rod *h*.

In this stirring device which, for instance, may be consist of a tube, of refractory material ("Pythagoras mass") the temperature measuring device is arranged in form of a thermocouple *i*. Before the melt *k* is poured out or solidifies, the stirring and measuring device is removed from the melt by the contrivance *b* whereby the stirring device *a* is locked in its upper part and the contrivance *b* is turned in the case *c* around the device *a* in such manner that the coil *l* is winding up the suspension device *m* of the measuring apparatus, whereby the latter is drawn up and removed from the melt. If the measuring and stirring apparatus is again introduced into the melt, the device *b* is moved in opposite direction whereby the suspension appliance *m* unrolls from the coil and the measuring apparatus is gliding into the melt through the weights (π_1 and π_2). It has proved advantageous to conduct the stirring and measuring device through a tube *o* which is arranged at the rod *d*.

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