April 23, 1957 H. W. KRAUSS 2,789,326

VENTS FOR SAND BLOWING IN CORE BOXES AND CAST IRON MOULDS

Filed April 16, 1953

Fig. 1

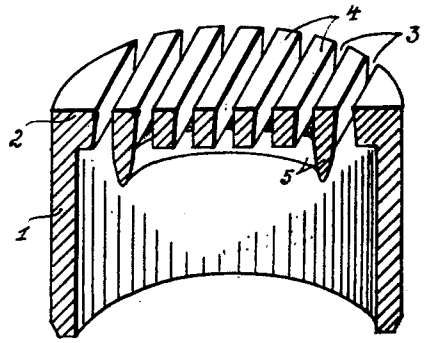


Fig. 2

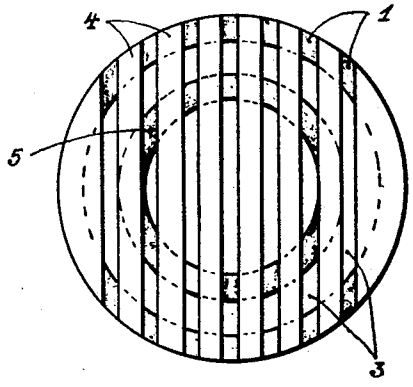
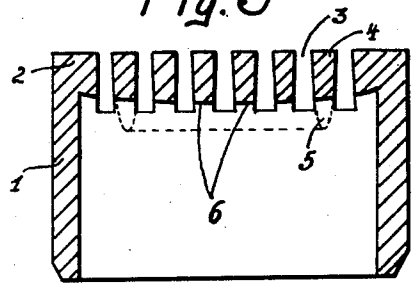


Fig. 3



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VENTS FOR SAND BLOWING IN CORE BOXES AND CAST IRON MOULDS

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2 Claims. (Cl. 22—13)

The invention relates to vents placed at several locations in a mould for the purpose of leading away from the mould the air that is coming in during the blowing of the moulding sand. For this purpose the vents consisting of a hollow cylinder closed on one end, are provided at the closed end thereof adjacent the inner surface of the mould with slots in the form of a grate. The cross-sections of these slots are preferably conical and widening towards the outside for preventing clogging of the slots with sand.

Vents for this purpose, according to the prior art have the drawback that the ribs thereof are to be kept comparatively thin to provide for the necessary air passage, so that they are subjected in particular in the center to lateral deformations which are caused easily in reworking the events by means of filing, grinding etc. during the fitting and matching of the same to the inside wall of the core box.

The invention eliminates this drawback by providing a reinforcing between the ribs which is produced in a simple manner by leaving one or more rings on the inner surface of the bottom of the vent during the turning thereof on a lathe. These rings will not be anymore cut in milling the grooves in the vent bottom and form thereby a supporting means on annular reinforcing rib for the ribs on the end wall of the vent. The cross-sections of the opening for the blowing air becomes somewhat smaller because of the rings, but the lateral deflection of the ribs is prevented, so that the maintaining of the necessary gap width will be ensured. Also the annular reinforcing has the possibility of increasing the air flow by preventing air turbulence or stagnation.

A further improvement of the vent can be made according to a further feature of the invention by providing a curved bottom reinforcing. As it is necessary to adapt the outside of the bottom of the vent to the shape of the inside wall of the mould during the fitting thereof into the mould, there are created mostly concave recesses which diminish the wall thickness in the center portion of the vent and subject especially on that place the ribs to the possibility of deflection.

The accompanying drawing shows several examples of embodiments of the invention in an enlarged scale, in which Fig. 1 is a section view of the vent bottom reinforced by rings;

Fig. 2, a plan view; and

Fig. 3, a curved vent bottom for the purpose of reinforcing the ribs at the location particularly endangered.

1 signifies the vent itself and the side wall of it in the form of a hollow cylinder being closed at one end by the bottom 2. In this bottom a number of slots 3 are cut side by side. The shape of the slots is selected thereby so that the openings between the remaining ribs 4 in the interior of the vent are larger that on the outside. This flaring cross-section of the slots prevents the moulding sand from being deposited at the side walls of the slots 3. In order to prevent a lateral deflection of the ribs 4 in reworking the bottom outer wall after being inserted in the mould the slots 3 are bridged by webs 5 connecting the ribs 4 which are formed as rings being left in a simple manner in turning the vent on its bottom surface. The slots 3 are cut only so deep that the ring 5 remains as bridge and forms an annular reinforcing rib between the ribs 4 and prevents their deflection. In large vents several rings are provided.

In the second embodiment according to Fig. 3 is shown a vent bottom protected against deflections of its webs by a curvature 6 directed towards the inside of the vent, which reinforces it just in the center portion. Even when the surface must be reworked an adequate wall thickness is left thereby for the ribs 4 in particular at the center-portions thereof which can be reinforced still further by one or several rings 5 similar to Fig. 1, as illustrated in Fig. 3 in dotted lines.

Having now described my invention, I declare that what I claim is:

1. A mold vent comprising, in combination, a tubular member open at one end and having at its opposite end an end wall formed with a plurality of substantially parallel slots extending completely across said end wall to provide a plurality of substantially parallel elongated ribs between said slots; and an annular reinforcing rib joined at one end thereof to the inner face of said end wall within said tubular member spaced inwardly from the inner face thereof and tapering toward the end of said annular reinforcing rib distant from said end wall, said reinforcing rib extending across said slots.

2. A mold vent comprising, in combination, an annular member open at one end and having at its opposite end an end wall formed with a plurality of substantially parallel slots which increase in width as they approach said one open end of said annular member and which extend completely across said end wall to provide a plurality of substantially parallel elongated ribs located between and defining said slots; and an annular reinforcing rib joined at one end thereof to the inner face of said end wall within said annular member spaced inwardly from the inner face thereof and tapering toward the end of said annular reinforcing rib distant from said end wall, said reinforcing rib extending across said slots.

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