

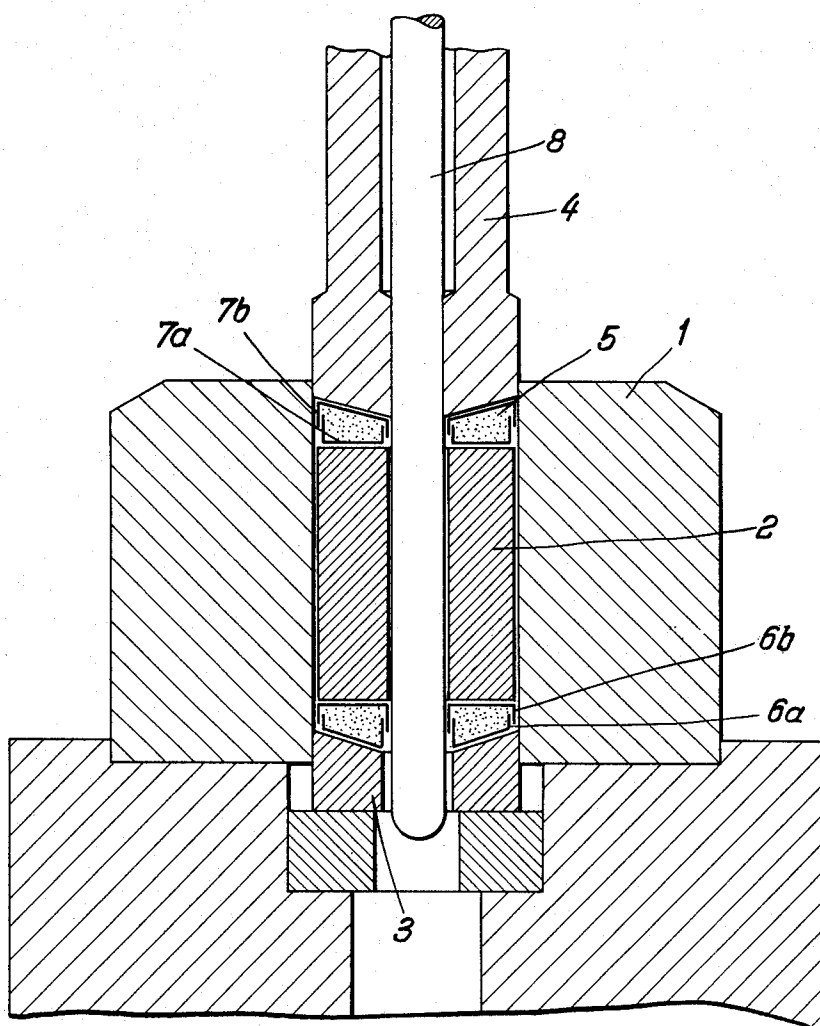
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LUBRICATION METHOD FOR HOT-EXTRUSION PRESS

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LUBRICATION METHOD FOR HOT-EXTRUSION PRESS

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4 Claims. (Cl. 207—10)

This invention is for a lubricating process used with hot-extrusion presses for metals that are hard to deform and more particularly where the press is a horizontal hot-extrusion press. While vitreous lubricating mediums in powder form are a good lubricant, difficulty has been encountered in placing the powder in uniform layers between the block that is to be pressed and the die and where required also between the block to be pressed and the plunger of the press. This difficulty is particularly present in the case of horizontal hot-extrusion presses. To avoid this difficulty heretofore glass sheets or discs made of multi-cellular glass or foam glass have been used. It has also been known to use sheets of glass powdered with a binding medium.

All these forms of lubricating medium have their difficulties and applicant's invention is characterized by the use of vitreous lubricating mediums in powder form, such as glass powder, or the like, which is inserted in the press in disc-shaped or annular packages or containers which are stiff enough to retain their shape. The shape of the packages can be chosen so that they fit the neighboring surfaces of the block and parts of the press. They advantageously may be shaped by two hollow or shell-like parts inter-fitting with each other. This package or container for the glass powder or the like can be made from thin metal in the form of sheets, such for example as soft steel or non-ferrous metals such as aluminum and its alloys. It can also be made of non-metallic materials which lose their shape either by melting under the influence of the heat of the block or that burn away under that heat. Synthetic substances are suitable examples of such non-metallic materials.

In the drawing has been shown a vertical view, in section, through the middle of a hot-extrusion press with a plunger in which a novel vitreous lubricating medium package is shown located both between the block and die and also between the block and the plunger.

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Referring to the drawing, glass powder 5 is shown as a lubricating medium and is inserted in the press in annular packages, each consisting of two annular shells 6a, 6b and 7a, 7b respectively that interfit or engage with one another to provide a closure. These packages are located in the receiver 1 of the extrusion press between the block 2 which is to be extruded on the one hand and the die 3 of the press. Another package is shown between the block 2 and the plunger 4 of the press. If instead of having a perforating mandrel 8 in the press as shown in the drawing the mandrel is omitted, a disc-shaped package can be used. In this case, of course, it is a solid block that is being pressed.

What is claimed is:

1. In a method for hot extruding metals which are difficult to deform, in which a metal block is forced through a die by a plunger, and the block is lubricated during extrusion by a glass lubricant, the improvement which comprises inserting into a heat destructible container, a desired quantity of powdered glass, placing said container, containing the glass in powdered form, next to the block, and extruding said block by means of said plunger, thus destroying said container and enabling the powdered glass to lubricate the block during extrusion.

2. The method claimed in claim 1, in which the container consists of two interfitting shells, and comprising inserting the powder in one of said shells.

3. The method claimed in claim 2 in which the shells are made of a sheet metal.

4. The method claimed in claim 2 in which the shells are of annular shape with a central opening and the plunger comprises a mandrel; and comprising passing the mandrel through the central opening in the shells.

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