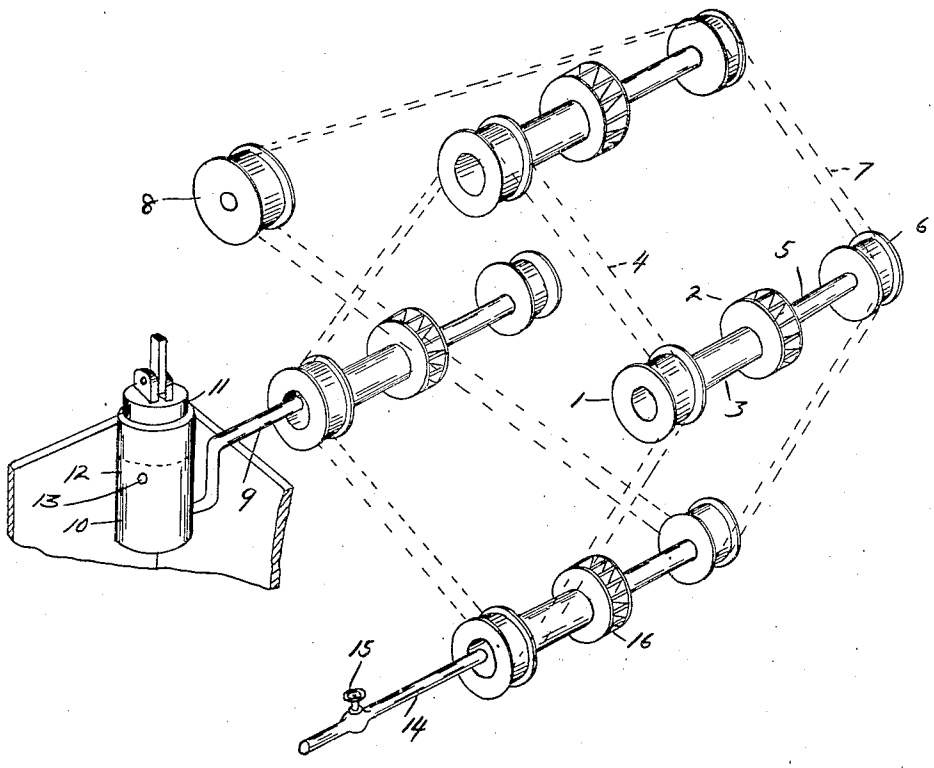
C. W. EGGENWEILER.

METHOD OF LINING BEARING BACKS.

APPLICATION FILED APR. 15, 1920.

1,399,252. Patented Dec. 6, 1921.



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METHOD OF LINING BEARING-BACKS.

1,399,252. Specification of Letters Patent. Patented Dec. 6, 1921.

Application filed April 15, 1920. Serial No. 374,012.

To all whom it may concern:

Be it known that I, CHARLES W. EGGENWEILER, a citizen of the United States of America, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Methods of Lining Bearing-Backs, of which the following is a specification, reference being had therein to the accompanying drawings.

The invention relates to bearings and refers particularly to the method of lining bearing backs. The object of the invention is to secure a uniformly distributed lining in a bearing back, which will have the same properties throughout. Other objects of the invention reside in the novel features as more fully hereinafter set forth.

In the drawings:

The figure is a diagrammatic view of a mechanism in perspective for carrying out my method.

In general the bearing backs which are hollow are rotated with the molten bearing-metal alloy therewithin until the alloy has solidified in order to secure the even distribution of the alloy upon the inner surface of the bearing back. Since the bearing-metal alloy is composed of elements of different specific gravity as, for example, copper, tin an antimony the elements have a strong tendency to segregate before the alloy has solidified due to centrifugal force. This segregation of the elements of the alloy produces a lining which does not have the same uniform properties and which is therefore objectionable. With my method this segregation of the elements of the alloy is prevented.

Referring to the mechanism diagrammatically shown in the drawings, 1 and 2 are series of coöperating holders arranged in pairs and adapted to clamp the cylindrical bearing backs 3 therebetween. The holders are continuously rotated about their respective axes and, as shown, the belt 4 extends therearound. The holders 2 are all directly rotated with one exception, these holders being mounted upon shafts 5 to which pulleys 6 are secured and around which the driving belt 7 extends, this belt being driven from a pulley 8 suitably driven as by an electric motor. (Not shown.) The pulleys 6 and the pulley 8 are normally in a common plane while the pulley 6 which is not in driving engagement with the belt 7 may be readily moved to withdraw its respective head 2 from its coöperating head 1 to permit of the removal and replacement of a bearing back.

For the purpose of feeding molten bearing-metal alloy to the bearing back, the nozzle 9 is provided connected to the pump 10, this pump having the plunger 11 vertically movable within the cylinder 12 and the cylinder having inlet apertures 13 for the entrance of the molten alloy when the plunger is in raised position. The bearing back is under rotation when this molten alloy is fed thereinto so that upon continued rotation of the bearing back to uniformly distribute the molten alloy there is great liability of the elements of the alloy moving relatively to each other in a radial direction, or segregating, since these elements are of different specific gravity and since rotation of the bearing back must be maintained until the molten alloy has solidified.

In order to prevent this segregation of the alloy elements the molten alloy is subjected to a suitable cooling medium before an appreciable time interval has elapsed after the molten alloy has been fed into the bearing back. As shown, the rotating bearing back is moved to another position after the molten alloy has been fed thereinto and in this position the bearing back is in substantial axial alinement with the conduit 14 which conduit is adapted to conduct water under pressure adjacent to one end of the bearing back, the pressure being sufficient to force the water into the bearing back and into contact with the molten alloy. A suitable valve 15 in the conduit 14 controls the amount of water passing therethrough.

This water coming in contact with the molten alloy suddenly solidifies the latter and thereby prevents segregation of the alloy elements due to centrifugal force caused by the rotation of the bearing back.

For withdrawing the water vapor or steam formed by the water coming in contact with the hot, molten alloy the holder has the rotary fan portion 16 in communication with the interior of the bearing back, which withdraws the water vapor or steam therefrom.

What I claim as my invention is:

1. The method of lining bearing backs, comprising the rotating of the bearing back,

the feeding of molten bearing-metal alloy into the bearing back during its rotation, the subsequent subjecting of the molten alloy with water during rotation of the bearing back and the simultaneous withdrawing of the vapor formed within the bearing back.

2. The method of lining bearing backs, comprising the rotating of the bearing back with molten bearing-metal alloy therein, and the drawing of a cooling medium therethrough to cool the alloy.

3. The method of lining bearing backs, comprising the rotating of the bearing back with molten bearing-metal alloy therein, and the subjecting of the molten alloy with liquid during the rotation of the bearing-back.

4. The method of lining bearing backs, comprising the rotating of the bearing back with molten bearing-metal alloy therein, the feeding of a cooling liquid into the bearing back and into contact with the bearing-metal alloy, and the withdrawing of the vapor formed within the bearing back.

In testimony whereof I affix my signature.

CHARLES W. EGGENWEILER.