Method of Forming Laminated Strip Metal Stock for Bearings

Figs. 1, 2, 3, 4, 5, 6, 7

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METHOD OF FORMING LAMINATED STRIP METAL STOCK FOR BEARINGS

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3 Claims. (Cl. 29—189)

My invention relates to an improved method of manufacturing strip metal stock for the production of bearings, relating more particularly to sleeve bearings stock formed of bearing metal having a steel backing.

In the manufacture of such bearings, particularly in the class having a bronze bearing surface with a steel backing or jacket, it has been

Fig. 4 is an end view of a pair of backing strips, one disposed upon the other. as Fig. 5 is a like view of the strips...

Fig. 4 is an enlarged end sectional view of the chamber showing the forming outlet or die. Figure 3 is an end view of a sheet of metal such as employed in the method.

Having thus shown and described my invention, I claim:

1. The method of forming laminated stock for bearings comprising:

- Forming a sheet of metal suitable in size and thickness to that of the layer of bearing metal to be fused to the steel members, as at 4.

2. As it passes through the die it enters between the drawing rollers 12—12.

As the steel strip 18 is passed down through the die, with its longitudinal edges filling the slots 5, the metal passes into the vacant spaces between the sides of the strip and die, thus forming a layer of bearing metal on each side of the strip corresponding in cross section to the die opening. As will be apparent, a margin will be left on the opposite edges of the steel strip, when removed from the die.

In continuing the passage of the strip through the power portion of the outlet or die, which is chilled by suitable means, as by running water in a space x about a lower part of the die, it causes the bearing metal to solidify and form a strip of uniform width and thickness on each side of the steel member, leaving a margin of steel at the edges.

After the strip or member is thus formed the margin or longitudinal edges I thereof is removed by suitable cutting means, and when so removed, the member 18 separates into two like laminated members (see Figure 7), each comprising a steel backed bearing stock strip, in which the steel and bearing metals are of like width.

The member thus formed is passed through the molten metal and outlet forming die, fusing the bearing metal in the form of a strip 8 on its sides where it is solidified as it passes through the lower end of the die, after which the margins or edges are removed to form two separate steel backed bearing strips.

When the strips are separated, the back or outer surface of the steel will be found to be free of any bearing metal adhering thereto as the steel strips being sealed during the operation of applying the bearing metal it is impossible for it to enter therebetween.

The margin on the edges of the steel member is, as will be apparent, preferred in the process of passing through the die to guide the member through the die opening, maintain it in position and cause the bearing metal to be of equal thickness and width throughout its length as well as have the two finished strips of like form.

As will also be apparent, the margin or edges of the stock strip may be retained on the strip and later removed.

While I prefer leaving the steel margin on the edge of the stock to shear off, it may be that the steel and bearing metal may be of even width and shear off enough of both metals to separate the steel strips, and yet be within my invention.

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what I claim and desire to secure by Letters Patent, is—

1. The method of forming dual strip material for the manufacture of bearing strips, consisting in first providing a pair of like sheet metal strips of backing material, placing the same flatwise one upon the other, sealing the longitudinal edges thereof to form a dual layer strip, applying a layer of bearing metal to the outer surfaces of said strips by passing the same into a molten body of bearing metal in a container, shaping the said layers on the strip surfaces by removing said strip through a forming die outlet in the container, and finally chilling the layers of bearing metal on the strips while passing out of the die.

2. The method of forming two like strips of bearing material at the same time, which consists in the following steps, providing two like strips of backing material, placing one upon the other, welding the meeting edges together to form a temporary unit, passing said unit into a body of molten bearing metal in a container to form a layer thereof on the outer faces of said unit, removing said unit from the container through a forming die outlet beneath the body of metal to shape the layers of bearing metal on the unit, and then trim off the longitudinal edges of said dual strip to form two like bearing strips.

3. The method of forming two like strips of bearing material at the same time, which consists in the following steps, providing two like strips of sheet metal as backing material, placing one upon the other flatwise, welding the meeting edges to form a temporary unit, applying bearing metal to the outer faces of said unit by passing the same into a body of molten metal within a container, removing the same through a finishing die outlet in the container beneath the body of metal to shape the layers of bearing metal and at the same time form a marginal edge on said strips, and finally removing the margins to separate into two like bearing strips.

LOUIS SANDLER.