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J. E. BATIE

METHOD OF FORMING DRAWN ARTICLES

Filed June 13, 1927

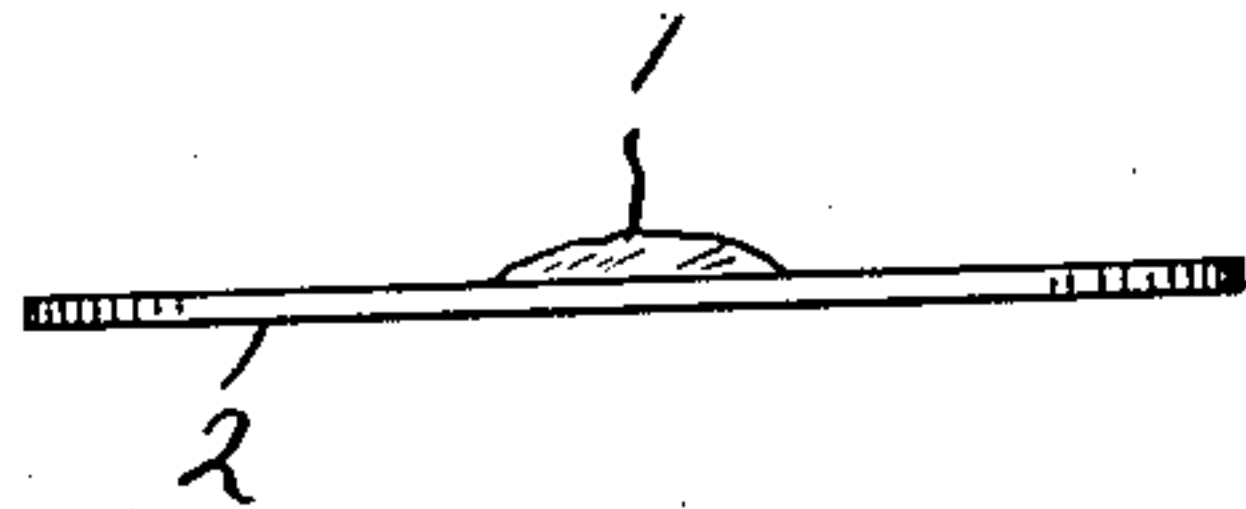


Fig. 1.

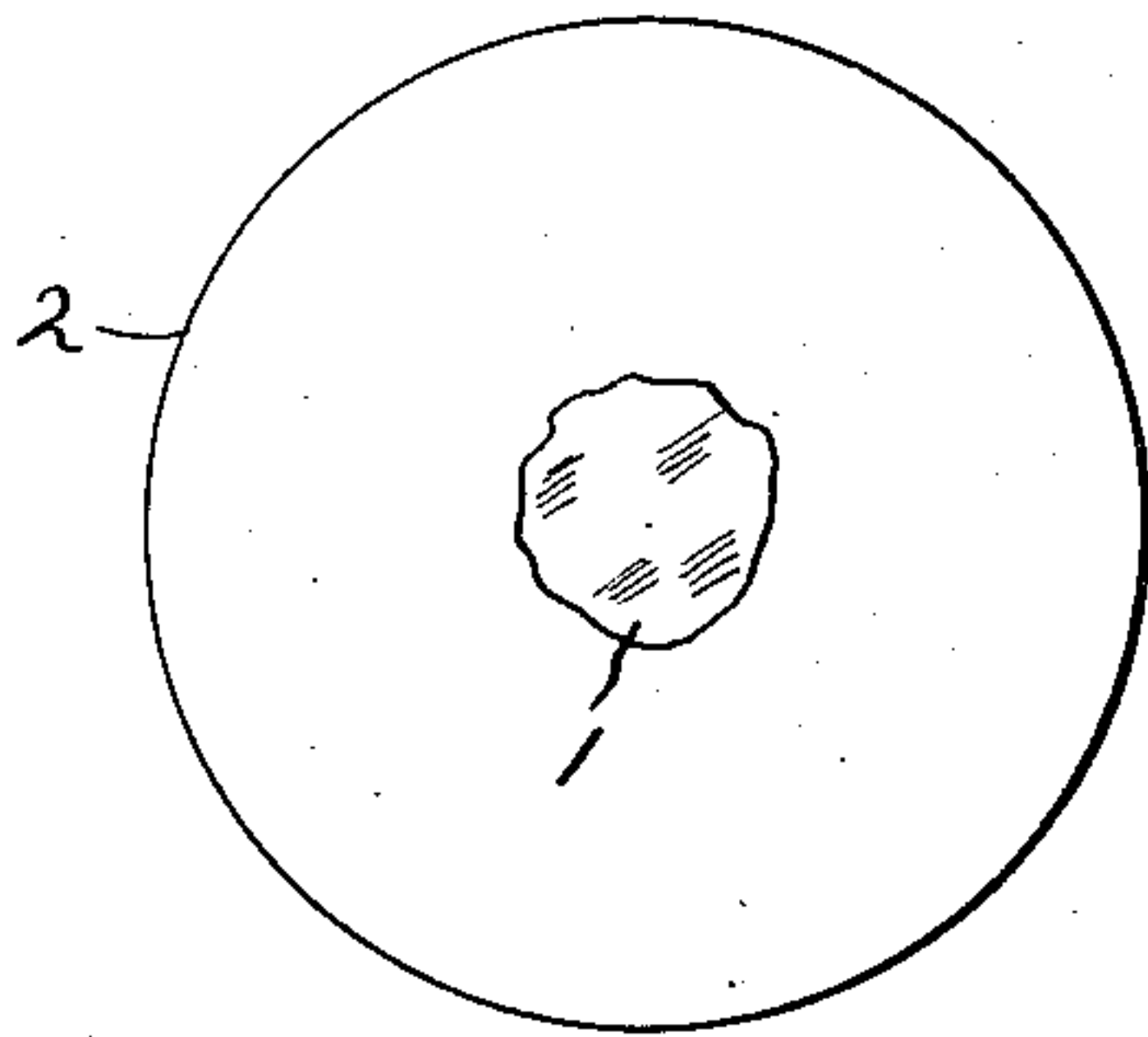


Fig. 2.

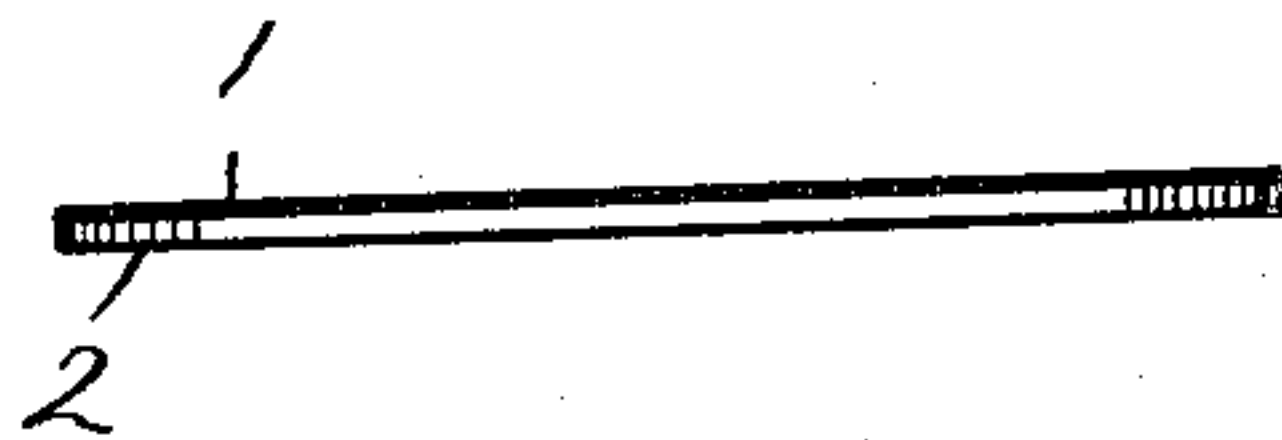


Fig. 3.

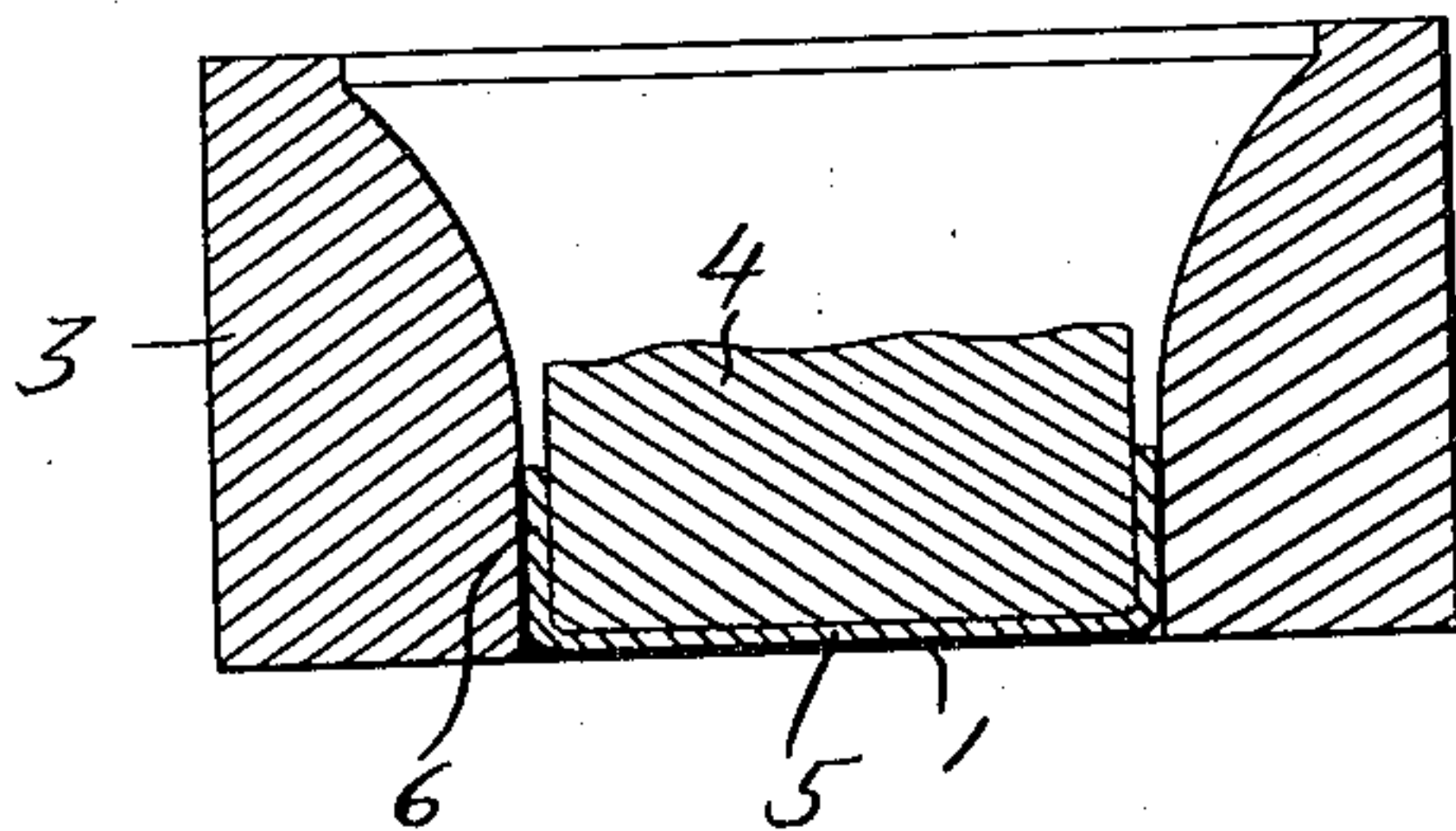


Fig. 4.

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METHOD OF FORMING DRAWN ARTICLES.

Application filed June 13, 1927. Serial No. 198,677.

The invention relates to the method of forming drawn articles and refers more particularly to the method of forming brake drums. One of the objects of the invention is to cover the article to prevent oxidation thereof during the heating. Another object is to subsequently use the covering upon the article as a lubricant during the drawing. Further objects of the invention reside in the novel features as more fully hereinafter set forth.

In the drawings:—

Figures 1 and 2 are, respectively, an edge elevation and plan view of the blank from which the article is to be formed and showing this blank in condition to be heated;

Figure 3 is an edge elevation of the blank while being heated;

Figure 4 is a diagrammatic sectional view of the drawing apparatus and the drawn article.

The invention is designed particularly for drawing brake drums from flat blanks. As shown in Figures 1 and 2, a mineral salt 1, such as sodium carbonate or barium chloride or a combination of the two is poured upon the flat circular sheet metal blank 2, this salt being preferably in powder form. The blank with the mineral salt thereon is then placed in a suitable heating furnace and while the blank is being heated the mineral salt is fused and spreads over the upper surface of the blank to cover the same. This mineral salt being non-hygroscopic protects the upper surface of the blank from corrosion or oxidation. After the blank has been heated to the desired temperature, it is then removed from the heating furnace and placed in the drawing die 3 with its surface covered by the fused mineral salt lowermost. The plunger 4 of the drawing apparatus is then lowered and draws the blank to the desired shape forming the web 5 and the brake flange 6 of the brake drum. During this drawing, the fused mineral salt also functions as a lubricant to facilitate the drawing. After the brake drum has been formed the mineral salt

may be suitably removed by passing through a bath.

From the above description, it will be seen that with my method the surface of the sheet metal blank which subsequently forms in the present instance the external surface of the brake flange is protected from corrosion or oxidation, especially during the heating of the blank and furthermore that the drawing of this blank is facilitated by the medium for preventing the corrosion or oxidation.

What I claim as my invention is:

1. The method of forming a drawn article, which includes heating a blank and using a fused mineral salt to protect the blank from oxidation, and then drawing the blank and using the salt thereon as a lubricant during the drawing.

2. The method of forming a drawn article, which includes placing a mineral salt on a blank, heating the blank and at the same time fusing the salt to spread over the blank and protect the same from oxidation, and then drawing the blank and using the salt thereon as a lubricant during the drawing.

3. The method of forming a drawn article, which includes placing a powdered mineral salt on a flat sheet metal blank, heating the blank and at the same time fusing the salt to spread over the blank and protect the same from oxidation, then drawing the blank to shape and at the same time using the salt spread thereover as a lubricant during the drawing, and then removing the salt from the blank.

4. The method of forming a brake drum or the like, which includes placing a mineral salt on a flat sheet metal blank, heating the blank and at the same time fusing the salt to spread over the upper surface of the blank to protect the same from oxidation, and then drawing the blank while heated and with its salt covered surface in contact with the drawing die, and using the salt as a lubricant during the drawing.

In testimony whereof I affix my signature.
JOSEPH E. BATIE.