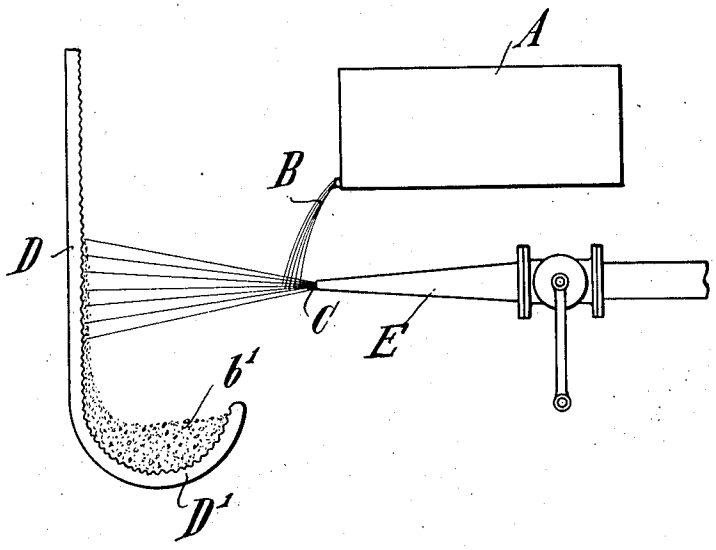
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PROCESS FOR SUBDIVIDING METAL FOR USE IN PLASTIC METALLIC PACKINGS.

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1,355,984. **Patented Oct. 19, 1920.**



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UNITED STATES PATENT OFFICE.

WILHELM LEWICKI, OF ESSEN-ON-THE-RUHR, GERMANY, ASSIGNOR, BY MESNE ASSIGNMENTS, TO THE CHEMICAL FOUNDATION, INC., A CORPORATION OF DELAWARE.

PROCESS FOR SUBDIVIDING METAL FOR USE IN PLASTIC METALLIC PACKINGS.

1,355,984. Specification of Letters Patent. Patented Oct. 19, 1920.

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To all whom it may concern:

Be it known that I, WILHELM LEWICKI, residing at Essen-on-the-Ruhr, Germany, a subject of the Emperor of Germany, have invented a certain new and useful Improvement in Processes for Subdividing Metal for Use in Plastic Metallic Packings, of which the following is a specification.

The object of this invention consists in a very simple and cheap method for producing plastic metallic packings, which are especially distinguished by great elasticity.

The main object of the invention is however the production of small metal particles of a certain shape. These metal particles are subsequently to be mixed with grease and binding substances.

In the accompanying drawing is illustrated in side elevation, a device suitable to carry out the process.

In accordance with this process a metal suitable for producing plastic metallic packings is first melted. Such a metal which has a comparatively small coefficient of friction when working with cast iron, steel and bronze and which also possesses a certain elasticity, is selected, for instance an alloy of any of the white bearing metals and lead, and this will be melted in a suitable vessel whereupon the molten metal is allowed to flow away in thin jets from the melting vessel. Against the running off metal a jet of compressed air or steam is directed whereby the course of the flowing metal is changed and the metal broken up into drops and thrown against a cold metal wall made, for instance, of polished zinc plate. Nearly all of the metal drops are pressed out against the wall into thin leaves or scales, being hardened thereby and receiving a certain elasticity from the sudden cooling against the metal wall. Besides the small metal leaves or scales a small quantity of metal gravel is also formed in the shape of needles about ½ to 2 millimeters in length.

The metal prepared in this manner is collected in a collecting vessel situated at the bottom of the wall, and is now well mixed by machinery with asbestos wool, graphite flakes and neutral fats of high melting point; and the proportion between the metal and of the other substances above mentioned is about six to one, these ingredients constituting a lubricating and binding means.

This packing mass is now ready for use. The mass can either be pressed directly into the stuffing boxes, or else compressed into rings and other shapes, and in that form inserted into the machinery.

By the mixing, and still more by the compression, these metal leaves or scales will, to a great extent, be bent and constitute therefore springy members in the mass which give to the mass suitable elasticity that remains even under high pressure. The metal gravel produced beside the metal leaves serves simply as a filling.

The elasticity of the packing can be still more increased, if during the production of the metal leaves or scales, the flowing metal separated into drops is thrown against a corrugated wall instead of a polished one. In this case the metal leaves or scales receive from the beginning a curved surface, and they will during the mixing and the compression be bent around to a greater extent than if they had been of a straighter shape from the beginning. Experience has shown that it is of no consequence whether the metal drops hit the metal wall on the convex or on the concave side of the corrugation.

A device for carrying out the described process has been shown in the drawing.

The molten metal flows out in a thin jet B from the melting vessel A. Against the running off metal is directed, by means of a conduit E, a jet C of compressed air, which changes the direction of the metal jet, breaking it up into small drops and throwing it against a preferably corrugated wall D. The hereby produced small metal leaves b^1 fall into a collector D^1, which constitutes an extension of the corrugated wall D, there to be mixed with grease and binding substances.

I claim:

1. A process for subdividing an alloy of white metal and lead for use in plastic metallic packings of great elasticity, consisting in permitting the alloy in molten condition to flow out in thin jets from a melting vessel, transforming said jets into thin elastic leaves or scales by directing a current of gaseous substance against said metallic jets and

throwing the flowing alloy against a cold wall.

2. A process for subdividing an alloy of white metal and lead for use in plastic metallic packings of great elasticity, consisting in permitting the alloy in molten condition to flow out in thin jets from a melting vessel, transforming said jets into thin elastic leaves or scales by directing a current of gaseous substance against said jets and throwing the flowing alloy against a corrugated wall having a surface from which the alloy automatically may drop off.

The foregoing specification signed at Barmen, Germany, this 20th day of August, 1912.

WILHELM LEWICKI. [L. S.]

In presence of—
HELEN NUFER,
ALBERT NUFER.