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PROCESS FOR UNIFORMLY COVERING WITH LEAD HOLLOW BODIES.

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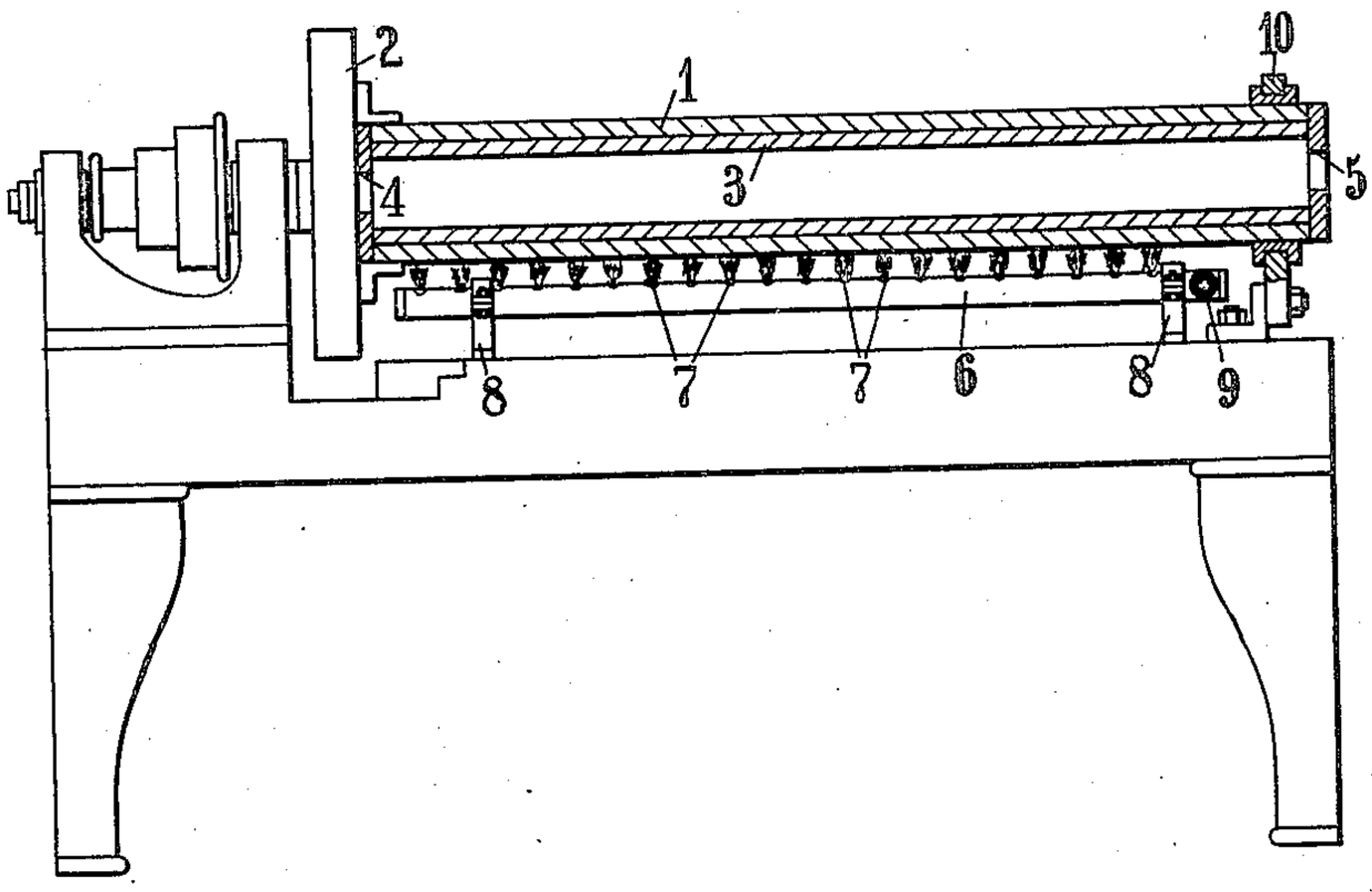
914,459. Patented Mar. 9, 1909.



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UNITED STATES PATENT OFFICE.

VITUS SCHWANINGER, OF OGGERSHEIM, NEAR MANNHEIM, GERMANY.

PROCESS FOR UNIFORMLY COVERING WITH LEAD HOLLOW BODIES.

No. 914,459. Specification of Letters Patent. Patented March 9, 1909.

Applicaton filed December 13, 1907. Serial No. 406,362.

To all whom it may concern:

Be it known that I, VITUS SCHWANINGER, a subject of the German Emperor, residing and having my post-office address at Oggersheim, near Mannheim, Germany, have invented a certain new and useful Improved Process for Uniformly Covering with Lead Hollow Bodies Provided on Their Internal Surface With a Coating of Metal, of which the following is a specification.

The present invention relates to a process for homogeneously covering with lead the internal surfaces of hollow bodies, such as pipes, vessels, boilers and the like.

The process consists in first providing the internal surface of the hollow body, the interior of which is to be covered with lead, with a coating metal, such as tin, zinc and the like in the well-known manner, in then introducing a leaden pipe into the hollow body in rotating the latter with the lead pipe and heating them while they are being rotated until the lead begins to melt and is pressed against the interior surface of the hollow body by the centrifugal-force.

In order that the invention may be clearly understood, reference is made to the accompanying drawing, in which one form of the apparatus for carrying the same into effect is represented by way of example in vertical section.

As can be seen from the accompanying drawing the hollow body 1 for this purpose may be mounted with one end on the chuckplate 2 of the lathe. The other end of the hollow body is inserted in a bearing 10, so that when the chuckplate is rotated the hollow body can rotate with the same in the bearing 10.

3 is the lead pipe, which is introduced into the hollow body before the chuckplate 2 begins to rotate together with the hollow body 1.

Underneath the hollow body a gas-pipe 6 is fixed on the frame of the lathe by means of pipe hangers 8 or in other suitable manner and is provided with perforations 7 for the emission of the gas. The gas pipe is connected with a gas supply pipe 9. As soon as the chuck-plate together with the hollow body beigns to rotate gas is admitted to the pipe 6, and the gas passing through the perforations of the gas-pipe is lighted. The hollow body is heated by the gas burners until the lead-pipe inside the hollow body begins to melt and is pressed against the interior surface of the hollow body in consequence of the centrifugal force. In order that the liquid metal may not flow out of the hollow body the latter is provided at both ends with flanges 4, 5 projecting inward.

A material advantage of the new process resides in the liquid lead being pressed outward against the interior surface of the hollow body not by means of internal excess pressure, as in the case of some of the methods hitherto employed, but by means of centrifugal-force due to its great specific weight; consequently the impurities present in the lead, as well as other parts of less specific weight, lie on or near the interior surface, so that the lead exhibits roughness on its interior surface, which roughness can be moved by turning, boring and the like. The lead coating then remaining in the hollow body is perfectly free from impurities and is consequently capable of resisting the action of acids, acid containing vapors etc., to a far greater extent than a coating of lead mixed with impurities.

I claim:—

A process for homogeneously internally coating with lead hollow bodies provided on their interior surfaces with a preliminary coating of metal consisting in rotating a leaden pipe, introduced into the hollow body, with the latter, and in heating the hollow body while it is being rotated until the lead begins to melt and is pressed against the interior surface of the hollow body by the centrifugal-force.

The foregoing specification signed at Mannheim, Germany this twenty-fifth day of November, 1907.

VITUS SCHWANINGER.

In presence of two witnesses:
TERESA CATHERANI,
JOS. H. LEUTE.