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WOODEN CASTING PATTERN

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1 Claim. (Cl. 22—158)

This invention relates to the art of metal casting, and more particularly to wooden patterns and the method of protecting the same.

Present foundry practice requires the use of wooden foundry patterns and the cost of these patterns represents a considerable item of investment. However, the wooden patterns may be needed for use only on certain occasions. The cost of them is such that they have to be stored during the period when they are not in use, as it would require too much expense to have new patterns made up for each occasion where their use is required. Under the conditions of storage, they frequently become damp, absorb moisture, swell, warp, and otherwise deteriorate.

According to the present invention the ordinary wooden pattern is treated to impregnate it with sulphur. The sulphur fills the pores and minute interstices in the wood and renders the pattern less susceptible to the absorption of moisture and substantially waterproofs it. As thus treated, the pattern is less affected either by exposure to dampness or water or by excessive drying out.

Sulphur is a particularly desirable waterproofing material because of its relatively high melting point and the fact that it does not cause the wood to swell when the wood is impregnated with sulphur, and does not volatilize. Frequently the molding sand in which the pattern is embedded is so warm that many of the readily available waterproofing compounds could not be used.

In carrying out my invention, the pattern may be impregnated by any one of a number of well-known methods. A common way of doing this is to immerse the pattern in a bath of molten sulphur until the sulphur has permeated the wood to the extent necessary, and the pattern then removed and the excess sulphur allowed to drip off. Various modifications of this process may be used according to which pressure is maintained in a bath of molten sulphur, or pressure below atmospheric pressure maintained.

Another method for effecting the impregnation of the pattern is to immerse it in a solution of sulphur and a solvent or into a suspension in which the sulphur exists in a finely divided state and thereafter dry the pattern to evaporate the solvent or dispersion of the medium, as the case may be.

Still another method comprises the immersion of the pattern into a potentially reactive sulphur compound and thereafter exposing the pattern to a reactive medium according to which sulphur is precipitated in situ in the interstices of the wood from the compound employed.

While I recognize it to be old in the art to employ all three of these methods of waterproofing wood to be used for poles, piles, ties, supports and the like, the invention does not comprise the specific manner of treatment but relies on a recognition of the peculiar adaptability of sulphur for the protection of wooden foundry patterns. The sulphur resists the absorption of moisture by the pattern, serves to protect the pattern from excessive drying, and renders the pattern less likely to deterioration of being stored under the conditions encountered in a foundry. At the same time the sulphur enables the wood to be readily worked in case the pattern has to re-shaped in any way, as its presence does not detrimentally affect wood-working tools.

Because of the high melting point of the sulphur the sulphur is not softened when the pattern is used with molding sand at the temperature frequently encountered in foundries and of course no vapors or odors are given off from them.

The sulphur, moreover, discourages deterioration through the growth of fungus, such as mildew, on the patterns.

It will be understood that the term "patterns" as used herein shall also include wooden core boxes, which of course are patterns.

I claim:

As an article of manufacture, a wooden foundry pattern impregnated with sulphur.

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