UNITED STATES PATENT OFFICE

RAYMOND SAMUEL WILE, OF NEW YORK, N. Y.

CEMENT FOR FILLING VOIDS IN BRASS CASTINGS.

1,359,137. Specification of Letters Patent. Patented Nov. 16, 1920.

No Drawing. Application filed October 10, 1919. Serial No. 329,841.

To all whom it may concern:

Be it known that I, RAYMOND SAMUEL WILE, a citizen of the United States, residing at the borough of Manhattan, in the county of New York and State of New York, have invented new and useful Improvements in a Cement for Filling Voids in Brass Castings, of which the following is a specification.

This invention relates to a process of removing defects in brass castings or rolls by filling the holes or voids therein with a brass cement for the purpose of perfecting such castings or rolls and making the same substantially as good as a casting or roll is when perfectly cast and new and useful composition of matter used therefor.

Hitherto when brass castings or rolls were defective by reason of blow holes or voids therein, it has been customary to heat them, break them up, and remelt them, which resulted in considerable financial loss.

My process consists in the formation of a cement composed of brass grindings or disintegrated brass mixed with not more than ten per cent. of its weight of lime, preferably finely ground burnt lime, and by adding thereto sufficient phosphoric acid to moisten the mixture just prior to the application thereof to the casting or roll. An alternative is to mix these brass grindings with not more than ten per cent. of aluminum phosphate and zinc oxid and adding sufficient water thereto to moisten the same before applying the mixture to the casting or roll. These grindings may also be mixed with not more than ten per cent. of aluminum oxid, zinc oxid, and mixed with sufficient phosphoric acid to moisten the same before the mixture is used. Lime can be added to any of the above mixtures and while burnt lime is preferable, limestone or hydrated lime will also serve. Magnesia serves but not so well as lime. After the cement is prepared as aforesaid, it is manually or otherwise placed in the holes or voids of the casting or roll and about an hour after it has set, it is heated with a blow torch or other suitable means for the purpose of driving out moisture and causing permanent hardness. The mixture can be made to correspond with the color of the particular grade of brass or bronze which it is intended to repair by selecting grindings of the same color as the castings. This invention is particularly applicable to castings for paper mills and especially to rolls used therein, which are generally made of brass or bronze and frequently come out of the casting process with holes through them which are apparent when the rolls are turned down for the purpose of causing a smooth rolling surface, though it has a wide application in all brass foundries.

Having thus described my invention, what I claim and desire to secure by Letters Patent is:

1. The process of removing defects in brass castings or rolls first, by forming a cement of finely divided brass combined with cementitious material having the property of hardening under the application of heat, then applying such cement to the voids or holes in the casting or roll and then drying and hardening the same by the application of heat thereto substantially as described.

2. A cement for filling voids in brass castings consisting of brass grindings or other finely divided brass mixed with an aluminum derivative, zinc oxid and phosphoric acid, substantially as described.

3. A cement for filling voids in brass castings consisting of brass grindings or other finely divided brass mixed with aluminum phosphate, zinc oxid, phosphoric acid, and water, substantially as described.

RAYMOND SAMUEL WILE.

Witnesses:
SADIE TEBER,
HENRY D. DONNELLY.