

UNITED STATES PATENT OFFICE.

THOMAS E. COUPE, OF TORONTO, ONTARIO, CANADA.

COMPOSITION OF MATTER FOR THE TREATING OF MOLDING-SAND.

1,064,713.

Specification of Letters Patent.

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No Drawing.

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To all whom it may concern:

Be it known that I, THOMAS EDWIN COUPE, a subject of the King of Great Britain, resident of the city of Toronto, county of York, Province of Ontario, in the Dominion of Canada, have invented certain new and useful Improvements in Compositions of Matter for the Treating of Molding-Sand, as described in the following specification.

The objects of the invention are, to effect a saving in the consumption of new sand in forming the molds, to produce a cleaner and better surfaced casting, thereby effecting a saving in the cost of finishing, and to provide a composition of matter which will form an effective binder enabling the use of a large percentage of floor sand in making a mold.

The invention consists essentially in the novel admixture of ingredients in or about the proportions hereinafter set forth and particularly referred to in the claims.

The following ingredients in about the proportions given are preferred as giving the best results: Linseed cake meal about 8%, sea coal about $\frac{3}{4}$ %, water about 91 $\frac{1}{4}$ %.

The above ingredients are thoroughly mixed together into a liquid state and this liquid forms the binding mixture which holds the sand particles firmly together when tamped to form the mold or core.

In the use of this mixture, I preferably take from 1600 lbs. to 1800 lbs. of ordinary foundry floor sand and about 200 lbs. to 400 lbs. of new sand. These are placed together in a suitable mixer and lime in from 1% to 5% is added. About 15 gallons of the liquid mixture is then poured into the mass and the whole is thoroughly mixed to a damp state. The damp sand mixture thus produced is used to form the mold.

It is found in practice that the mixture above stated forms a binder sufficiently

strong to take the place of the burnt out materials in the ordinary new sand with the exception, however, that the dirt or loam which may be in new sand is entirely eliminated. The result is that the use of this mixture with old sand produces a much better result than with molds made wholly or with a large percentage of new sand and the mixture therefore accomplishes a two fold object in producing a better and cleaner class of casting and effecting a considerable saving in sand. Lime is commonly used in molding to prevent cutting in pouring the metal but its value is greatly enhanced when used with the present mixture.

It is also found in practice that the use of this mixture obviates many of the difficulties in molding with the result that the percentage of loss through bad castings is materially reduced.

The mixture is also used to very great advantage in the making of cores, being mixed with a suitable quantity of core sand to produce sufficient cohesion to pack hard and smooth.

What I claim as my invention is:—

1. A composition of matter, comprising, linseed cake meal about 8%, sea coal about $\frac{3}{4}$ %, lime from one per cent. to five per cent., and water about 91 $\frac{1}{4}$ % all thoroughly mixed and saturated.

2. A composition of material for treating molding sand, comprising, linseed cake meal, sea coal, water, and lime, in or about the proportions named all thoroughly mixed together.

Signed at the city of Toronto, county of York, Ontario, Canada, this 8th day of June, 1912.

THOMAS E. COUPE.

Witnesses:

E. HERON,
A. G. KELLY.