

UNITED STATES PATENT OFFICE.

JAMES E. ATWOOD, OF PITTSBURG, ASSIGNOR TO HOWARD TILDEN, OF PHILADELPHIA, PENNSYLVANIA.

IMPROVEMENT IN CHEMICAL COMPOUNDS FOR FACING METALS.

Specification forming part of Letters Patent No. **156,009**, dated October 20, 1874; application filed June 25, 1874.

CASE C.

To all whom it may concern:

Be it known that I, JAMES E. ATWOOD, of Pittsburg, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Chemical Compound for Facing Metals, of which the following is a specification:

My invention relates to a new and improved chemical compound for molding, which will not cool, or form a scale upon the castings, and by means of which a casting may be produced ready for use without undergoing the ordinary finishing processes, such as scraping, pickling, or subjecting it to the ordinary processes of removing the scale from the same.

This invention relates to certain improvements in the common facing-powders now in use, such as charcoal, plumbago, coal-dust, &c.; and the object of my invention is to form a chemical facing-powder, which, when applied upon the mold, prevents the same from welding or sticking to or upon the casting, as is now the case when the common facing-powders are used.

My invention, being designed to produce a chemical facing-powder possessing the above-named qualities, consists in combining sal-soda, or borate of soda, or prussiate of potash, or bromide of potash, or caustic soda, or other such alkalies, with any of the usual facing-powders, such as charcoal, plumbago, or anthracite coal, the whole being ground or pulverized and thoroughly incorporated, and placed in a suitable dusting-bag, and dusted upon the mold in such a manner that the compound will settle upon all portions of the mold, so that, when a casting be formed thereon, it will be found to possess a much smoother surface than when the common facing-powders

are used, and all pickling can be dispensed with, and likewise all scraping.

In carrying out my invention, the sal-soda, or borate of soda, or prussiate of potash, or bromide of potash, or caustic soda, or other suitable alkali, is mixed with any of the well-known powders for facing molds, such as charcoal, plumbago, anthracite, and other carbons, the proportion being about two and one-half pounds of either alkali to one hundred pounds of either carbon. The mass or bulk is then thoroughly ground or reduced to a pulverized or fine condition, and placed in a dusting-bag, so that the fine particles will pass through its meshes when shook over the molds.

This compound or chemical facing-powder will combine with the sand, and form a deoxidizing-flux at the temperature at which the metal is run into the molds, and thus effectually prevent the formation of scale on the casting, and produce a nearly-finished casting, all pickling or scraping being dispensed with, which not only saves time and labor, but enhances the value of the product, it being capable of receiving a polish with comparative ease and facility.

What I claim as my invention is—

The herein-described compound, consisting of borax, sal-soda, or such chemical equivalents, and plumbago, charcoal, or other facing-powder for facing molds, substantially as and for the purposes described.

In testimony that I claim the foregoing I have hereunto set my hand.

JAMES E. ATWOOD.

Witnesses:

JAMES L. NORRIS,
ALBERT H. NORRIS.