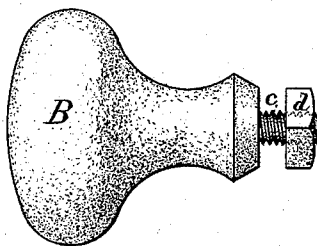
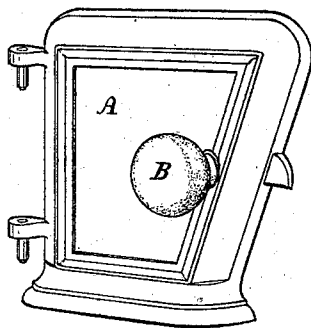


W. MORAND.

Alloy or Composition Metal Door-Knobs.

No. 149,506.

Patented April 7, 1874.



Witnesses:

David W. Parmenter
James T. Goodfellow

Inventor:

William Morand

UNITED STATES PATENT OFFICE.

WILLIAM MORAND, OF TROY, NEW YORK.

IMPROVEMENT IN ALLOY OR COMPOSITION-METAL DOOR-KNOBS.

Specification forming part of Letters Patent No. **149,506**, dated April 7, 1874; application filed March 26, 1874.

To all whom it may concern:

Be it known that I, WILLIAM MORAND, of the city of Troy, in the county of Rensselaer and State of New York, have invented a new and useful Improvement in Knobs for Doors of Stoves and Ranges and for other purposes, of which the following is a specification, reference being had to the accompanying drawing, in which—

Figure 1 is a perspective view of a stove-door, A, with a knob, B, attached thereto; and Fig. 2 is a side view of the knob, formed with a screw, c, and nut d, for attaching the knob to a door of a stove or range in the usual manner.

Such knobs have been generally made of cast-iron, cast upon the bolt of a wrought-iron screw, and polished smooth, and either left naked or electroplated with nickel; but such cast-iron knobs are very hard and difficult to polish, and when not coated are of a dull color and will soon tarnish or rust, and when plated with nickel are too expensive for very common use, and the plating thereon is liable to be soon worn off.

The principal object of this invention is to produce metallic knobs for the doors of stoves and ranges, and for similar purposes, which knobs, when polished, shall be less expensive than the aforesaid nickel-plated cast-iron knobs, and more durable than the latter, and which shall be sufficiently tough and hard, and have a bright metallic luster, and which shall also not melt nor tarnish under the heat to which the knobs on the doors of stoves and ranges are commonly subject in use. This invention consists, essentially, in the production of knobs for the doors of stoves and ranges, and for other purposes, having the whole body or outer portion of the knob cast of a metallic alloy, consisting mainly of zinc, the latter being combined with a small proportion of some other metal or metals, substantially as hereinafter specified, whereby the knobs are rendered brighter and more brilliant, and are less easily tarnished when polished than if cast of zinc only, and at the same time will not be injured by the heat to which the knobs are commonly exposed on the oven-doors or fire-doors of stoves and ranges.

To produce the aforesaid alloy for knobs, I

combine with zinc either antimony, or copper, or tin, or antimony and copper, or antimony and tin, or copper and tin, or antimony, copper, and tin.

The proportions, by ounces, in which I generally prefer to combine the zinc and the other metal or metals in a pound of the alloy are about as follows, viz: Fourteen and one-half of zinc and one and one-half of antimony; fifteen of zinc and one of copper; fifteen and one-half of zinc and one-half of tin; fourteen and one-half of zinc, one-half of antimony, and one of copper; fourteen and one-half of zinc, one of antimony, and one-half of tin; fourteen and one-half of zinc, one and one-fourth of copper, and one-fourth of tin; fourteen and one-half of zinc, one-half of antimony, three-fourths of copper, and one-fourth of tin.

The proportions of antimony, copper, or tin in these alloys may be either increased in any degree up to twice the quantities above stated, or decreased in any degree down to one-half of those quantities, while the quantity of zinc may remain the same, and knobs cast from such alloys will have the aforesaid essential features of this invention.

In making the alloys, I generally prefer to first melt the zinc and then add the other metal or metals; and I commonly prefer to introduce the copper in the form of brass, or the well-known "yellow metal."

I generally cast the knob in an iron mold, and of any suitable shape, and either solid or hollow, or on a core, and upon a wrought-iron screw-shank for securing the knob to a door or plate of a stove, range, or similar structure, and I polish the knob in any suitable known manner.

What I claim as new, and my invention, is—

A polished knob, for stove-doors and similar purposes, formed of an alloy composed mainly of zinc, the latter being combined with the metal or metals specified, substantially as set forth.

WILLIAM MORAND.

Witnesses:

FLAVIEL W. PARMENTER,
JAMES T. GOODFELLOW.