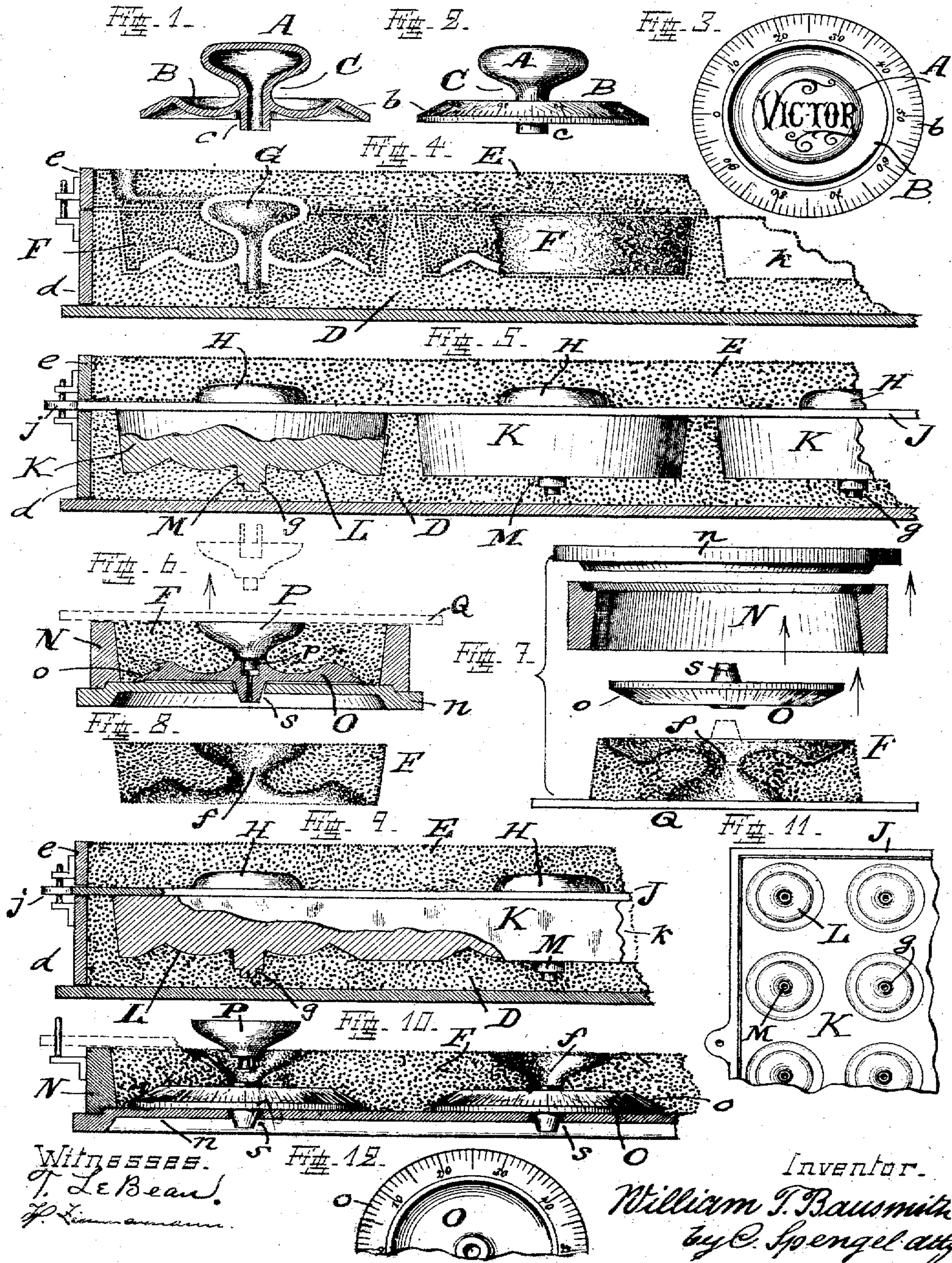


W. T. BAUSMITH.  
 MEANS USED FOR CASTING SAFE KNOBS.  
 APPLICATION FILED AUG. 5, 1907.

915,820.

Patented Mar. 23, 1909.



Witnesses.  
 T. LeBeau.  
 J. L. Lammam.

Inventor.  
 William T. Bausmith  
 by C. Spengel atty



# UNITED STATES PATENT OFFICE.

WILLIAM T. BAUSMITH, OF BELLEVUE, KENTUCKY, ASSIGNOR TO VICTOR SAFE & LOCK COMPANY, OF CINCINNATI, OHIO, A CORPORATION OF OHIO.

## MEANS USED FOR CASTING SAFE-KNOBS.

No. 915,820.

Specification of Letters Patent.

Patented March 23, 1909.

Application filed August 5, 1907. Serial No. 387,152.

To all whom it may concern:

Be it known that I, WILLIAM T. BAUSMITH, a citizen of the United States, and residing at Bellevue, Campbell county, State of Kentucky, have invented certain new and useful Means Used for Casting Safe-Knobs; and I do declare the following to be a clear, full, and exact description of the invention, attention being called to the accompanying drawing, with the reference characters marked thereon, which forms also a part of this specification.

Safes with combination-locks are provided with a knob on the outside of their doors whereby the lock-spindle is manipulated to set the lock-tumblers. A dial is provided on this knob for the purpose of gaging and controlling this manipulation properly. These two members are now made in various ways, usually built up of separate pieces.

The object of my invention is to produce both in one piece and in form of an integral casting.

Another object is to have this casting hollow to avoid the waste of metal, since a solid knob is unnecessary and of no advantage.

An additional object is to impart the graduation marks on the dial, and the figures pertaining thereto, in the act of casting, so that, when such a combined knob and dial leaves the mold, it is practically complete and the additional procedure of providing these marks and figures, which is usually by cutting and engraving, is done away with.

My invention consists of certain means used in preparing and forming the particular mold used to produce such a knob in its specific shape as outlined above.

In the following specification and particularly pointed out in the claim at the end thereof, will be found a full description of my invention, together with its manner of manufacture and means used in connection therewith, also their parts and construction, which latter is also illustrated in the accompanying drawing, in which:—

Figure 1 is an axial section of the casting comprising a safe-knob and its dial produced by the means involved in my invention. Fig. 2, is a side-elevation of the same. Fig. 3, is a front-view of the knob and its dial. Fig. 4, in vertical section shows portion of a completed mold for casting this article in multiple. Fig. 5, in a similar view shows manner of preparing the drag and the cope of this

mold. Fig. 6, in a vertical, central section shows a device, a separable form, used for preparing an intermediate part of the mold. Fig. 7, illustrates use of this form and manipulation of its parts for the purpose of releasing the mold-part prepared in it. Fig. 8, shows in section this mold-part as it appears before placed in position. Fig. 9, in a view similar to Fig. 4, shows preparation of the mold in a modified manner. Fig. 10, in a view similar to Fig. 6, shows a modified construction of the device shown in this latter figure the device here shown being arranged to produce the intermediate mold-part in multiple. Fig. 11, at reduced scale shows an under-side view of the pattern shown in Fig. 9. Fig. 12, shows part of a top-view of the pattern which impresses the graduations and their corresponding indicating numbers in the mold.

A, is the hollow safe-knob and B, its dial, both connected by a hollow shank C. The shank is continued on the under-side of the dial, where it forms a hub *c*, which serves for connection to the spindle of the safe-lock. All these parts are contained in one integral hollow casting. A portion of the dial around its edge is inclined toward this latter, forming an annular zone *b*, which contains the graduations and the numerals connected with them.

This knob is cast in the mold illustrated in Fig. 4, a number of them being preferably cast at a time (see Fig. 11). This mold consists of the lower part or drag D, contained in the drag-flask *d*, and of the upper part or cope E, contained in the flask *e*. There is also an intermediate mold-part which I call mold-core F, and in the center thereof and with a space between the two there is an inner core G, which in conjunction with the other parts of the mold, forms the hollow knob and its hollow shank.

Fig. 5, illustrates the usual method employed in preparation of drag and cope of the mold and the patterns used for this purpose. A parting is made in the mold where the safe-knob attains its largest diameter, a match plate J being used which is as long and as wide as the mold and is interposed between cope E and drag D, it resting on the edges of drag flask *d*. The pattern for that part of the knob which is above this parting is indicated by H, and is secured to the upper side of match-plate J. On the other side of this match-plate there is a pattern K, which



produces the spaces *k*, (see Fig. 4), in the drag-mold D, reserved to receive the mold-core F. These patterns H, and K, are axially aligned. On the under-side of pattern K, is formed a pattern L, shaped to impress in the mold the formation and shape required for the under-side of the dial, this particular part of the mold being contained in the drag. From the center of this pattern L, there projects a pattern M, which shapes that part of the mold which produces the lower part of the shank or hub *c*, of the knob, the same being also contained in the drag. There is finally an extension *g*, on this pattern which molds a print for core G.

Mold-core F, is produced in a form consisting of a circular side N, which has a removable bottom *n*. The dimensions of this form are such that mold-cores F, after shaped therein, are fitted to be received by spaces *k*, in the drag-mold. This form contains also the pattern O, for the upper side of the dial, together with the depressions *o*, see Figs. 6, and 12, which in the mold produce projections see Fig. 6, from which result finally in the casting the graduations and numbers on the dial as shown in Fig. 3. This form contains further the pattern P, for producing the mold for the lower part of the knob, it being provided with a pin *p*, whereby it is seated in a socket formed on the upper side of pattern O, see Figs. 6 and 10. Both these patterns P and O, when assembled, constitute between them also the pattern for shank C, each forming a part of the same. For producing this mold-core F, the described parts of the form are assembled as shown in Fig. 6, after which, the molding-mixture (sand) having been filled in, they are reversed, pattern P, having first been lifted out and a board Q, shown in Fig. 7 having been placed on top of member N, as shown in dotted lines. The mold-core is cleared as shown in Fig. 7, bottom *n*, of the form being first removed, next its side N, and finally pattern O, is lifted off. This leaves the mold-core resting free on board Q, as shown, after which, when dried, it is complete, appearing as shown in Fig. 8, and is ready to be set into recesses *k*, of the drag-mold.

It will now be seen that the mold for the upper part of the knob is contained in the cope. The mold for the lower part of the knob and its shank is contained in the open

part *f*, of mold-core F, which contains also on its lower side the impression for the upper part of the dial. The impressions for the lower part, or under-side of the dial, for hub *c*, and for core-print *g*, are contained in the drag. Bottom *n*, and side N, of the form in which the mold core is shaped do not necessarily have to be separable, but are so, to facilitate dismantling so that the mold core may be obtained without injury. Pattern O, might form a part of bottom *n*, by preference however, it is arranged separate as shown, being provided with a pin *s*, which is fitted to an opening in bottom *n* to fix its position. Thus in dismantling the form, pattern O, may be left resting on top of mold-core F, until the time comes for closing the mold, thereby protecting the delicate impressions of the graduation-marks and figures thereon while the same is swabbed and cleaned. These mold-cores may also be formed in multiple as shown in Fig. 10, bottom *n*, of the form being of a size sufficient to receive a number of patterns O, each provided with a pattern P. Side N, is in form of a frame of sufficient size to surround all the patterns O, used. Recess *k*, in the drag-mold is of sufficient size to receive this large mold-core, pattern K, being of dimensions, to produce this recess, see Figs. 9, and 11.

Having described my invention, I claim as new:

A molding-outfit to be used in forming a mold for casting a hollow safe-knob and its dial, both integrally combined by a hollow shank, said outfit consisting of a drag and a cope-flask, a match-plate containing on one side a pattern for the upper part of the knob and on the other side a pattern to reserve a recess in the drag-mold and to impress therein also the shape of the under side of the dial, and a form to shape a mold-core fitted to the recess in the drag-mold, the same containing also patterns to impart to said mold-core the shape of the front-side of the dial and of the lower part of the knob and of the shank between the two.

In testimony whereof I hereunto affix my signature in the presence of two witnesses.

WILLIAM T. BAUSMITH.

Witnesses:

C. SPENGEL,  
T. LE BEAN.

It is hereby certified that in Letters Patent No. 915,820, granted March 23, 1909, upon the application of William T. Bausmith, of Bellevue, Kentucky, for an improvement in "Means Used for Casting Safe-Knobs," an error appears in the printed specification requiring correction, as follows: In line 95, page 1, the word "ore" should read *core*; and that the said Letters Patent should be read with this correction therein that the same may conform to the record of the case in the Patent Office.

Signed and sealed this 13th day of April, A. D., 1909.

[SEAL.]

C. C. BILLINGS,

Acting Commissioner of Patents.



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