G. W. Herrick,

Molders' Tool.

No. 82,715. Patented Oct. 6, 1868.

Fig. 1.

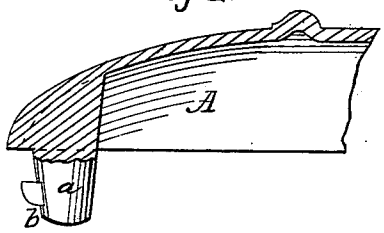


Fig. 2.

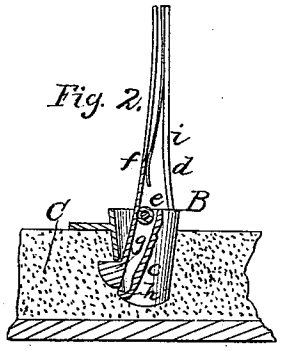


Fig. 3.

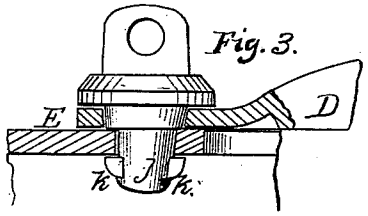


Fig. 4.

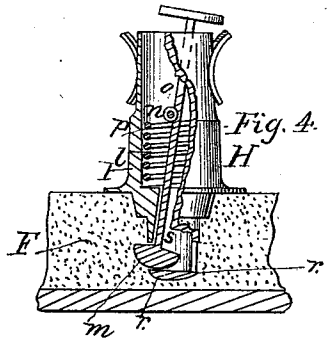


Fig. 5.

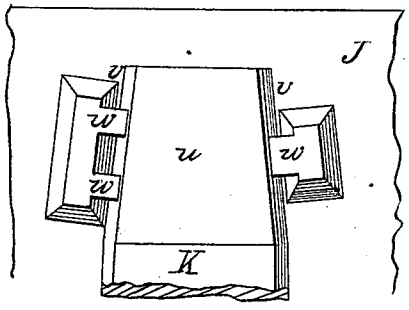


Fig. 6

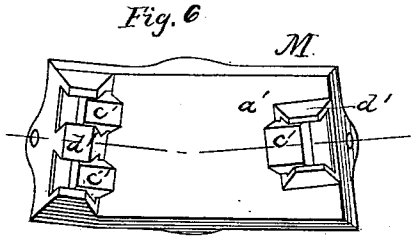
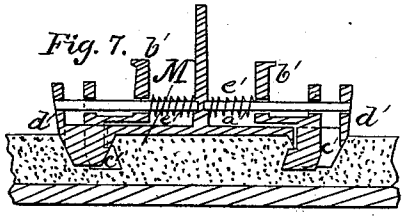


Fig. 7.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE W. HERRICK, OF STUYVESANT, NEW YORK, ASSIGNOR TO HIMSELF AND H. H. GIBBS, OF SAME PLACE.

IMPROVEMENT IN DEVICE FOR CASTING LUGS AND DOVETAILS.

Specification forming part of Letters Patent No. **82,715**, dated October 6, 1868.

To all whom it may concern:

Be it known that I, GEORGE W. HERRICK, of Stuyvesant, in the county of Columbia and State of New York, have invented a new and useful Improvement in Forming Molds for Casting; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification.

This invention relates to a new and useful improvement in forming molds for casting various articles, and relates more especially to the forming of molds for casting "catches" on parts which require to be attached to other parts, either by swivel or dovetail connections.

The object of the invention is to obtain a means whereby the catches may be cast and formed without the necessity of filing or any after manipulation whatever.

In the accompanying sheet of drawings, Figure 1 is a vertical section of a portion of a casting the mold for which was formed by my invention; Fig. 2, a vertical section of the tool used for preparing a certain portion of said mold; Fig. 3, a vertical section of a casting composing a portion of a tea-kettle with its lid, the latter being connected to the former by a joint, the mold for which was prepared by my invention; Fig. 4, a vertical central section of the tool used in forming the mold for the same; Fig. 5, an inverted plan of a stove bottom and foot, the latter being connected to the former by a dovetail fastening; Fig. 6, an inverted plan of the tool used in forming the mold for the same; Fig. 7, a vertical central section of the same.

Similar letters of reference indicate corresponding parts.

A represents a portion of a casting, a stove-top or other article, which is to be secured to any fixture. This casting is provided with a pendent pin or projection, *a*, having a lateral spur, *b*, to serve as a catch or fastening to secure it to the fixture to which it is to be attached.

The mold for casting this spur *b* is formed as follows: The pattern is made precisely like A, with the exception of the spur *b*, that not being on the pendent pin or projection *a* after the mold is made, sand being employed for the purpose, as usual. The hole in the mold for casting the spur *b* is formed by a tool, B. (Shown in Fig. 2.) This tool is composed of a hollow cone, *c*, having an upright, *d*, at one side of it, and in its upper part a transverse shaft, *e*, on which a lever, *f*, is fitted, the latter extending upward as high as the upright *d* and downward within the cone nearly to its bottom, the lower end of the lever being provided with a lateral projection, *g*, of the same size and shape as the spur *b*.

In the side of the cone *c* there is an opening, *h*, for the projection *g* to pass through, and a spring, *i*, which is attached to the upright *d*, has a tendency to keep the projection *g* within the cone *c*.

The cone *c* is inserted in the hole in the mold, which receives the metal for the pin or projection *a*, the lever *f* being (during the insertion of the cone) out from the upright *d* and the projection *g* within the cone, and, when the cone is fitted snugly in the mold, the upper part of the lever *f* is pressed toward the upright *d*, and the projection *g* forced out through the opening *h* into the sand-mold, as shown clearly in Fig. 2, C representing the mold. The lever *f* is then released, and the spring *i* throws back the projection *g* into the cone, and the latter is withdrawn from the mold, the hole in the sand made by *g* admitting of the spur *b* being cast. This will be fully understood by referring to Figs. 1 and 2.

In Fig. 3, D represents a cover of a kettle, and E a portion of the top of a kettle, to which the cover is attached by a swivel-joint, the latter being composed of a pendent pin or projection, *j*, having two spurs, *k k*, extending laterally from it at opposite points, said pin extending through the top of the kettle E, with the spurs *k k* below it, slots being made in the top of E for the spurs to pass through.

The mold F, in which the cover D is cast, is formed with a pattern, as usual, and the holes in the mold for casting the spurs *k k* are made by a tool, H, (see Fig. 4,) constructed substantially the same as that exhibited in Fig. 2. This tool H is composed of a cylinder, I, having within it a rod, *l*, at the lower end of which

there is a flat projection, *m*, the latter extending out at equal distances from opposite sides of the rod *l*.

The rod *l* is fitted loosely on a shaft, *n*, which is placed transversely in the cylinder I, said shaft passing through vertical oblong slots *o* in the side of the cylinder.

A spiral spring, *p*, which is fitted within the cylinder I, bears against the shaft *n*, and when the rod *l* is not pressed down keeps the projection *m* above openings *r r* in the side of a cone, *s*, at the lower end of a cylinder, I. In order, therefore, to form the holes in the mold to cast the spurs *k k*, the cone *s* is inserted in the hole in the mold F made for the casting of the pin *j*, and the rod *l* pressed down and moved laterally, first in one direction and then in the other, so that the projection *m* will be forced through both openings *r r* and the necessary holes made in the mold, the rod then being adjusted in a vertical position, so that the spring *p* will force it up and the projection *m* above the openings *r*, and the tool is then withdrawn from the mold.

Fig. 5 shows a portion of the bottom plate, J, of a stove, with a leg, K, attached. This attachment is formed by a dovetail slide, as usual, the upper part of the leg being cast with a taper flat portion, *u*, having beveled edges *v v*, which are fitted between beveled lugs *w w*, at the under side of J. The holes in the mold L to cast these lugs are made with a tool, M, (see Figs. 6 and 7,) composed of a plate, *a'*, having two slides, *b' b'*, fitted in it, said slides being provided with projections *c'*, which extend below the plate *a'*, and correspond in shape with the lugs to be cast.

The projections *c'* are kept within fixed pendent projections *d'* at the under side of plate *a'* by spiral springs *e' e'*, which bear against the slides *b'*, (see Fig. 7,) and when the plate *a'* is placed on the mold, and the fixed projections *d'* forced down therein, the slides *b' b'* are pressed toward each other and the projections *c'* forced out from the fixed projections *d'*, the proper holes being thereby made in the mold for casting the lugs *w w*. Thus, by this simple means, catches of fastenings for the purpose specified may be made without any filing or other manipulation whatever after casting.

I claim as new and desire to secure by Letters Patent—

1. The hand-tool B, for forming the mold in which the spur *b* is cast upon the lug *a* of a stove-top, consisting of the hollow and slotted cone *c*, bearing the lever *f*, hung upon the transverse shaft *e*, the projection *g* upon the lower end of said lever being held through the side of the cone by the spring *i* upon the upright *d*, all arranged and operating as described, for the purpose specified.

2. The tool H, for forming the mold in which the spurs *k k* are cast upon pin *j*, consisting of the cylinder I, whose lower end is slotted upon opposite sides at *r r*, the rod *l*, having the projecting foot *m*, and hung loosely upon the shaft *n*, which works in the slots *o* of the cylinder I, said projecting foot being held above the slots *r* by means of the spring *p* bearing against the shaft *n*, all arranged and operating as described, for the purpose specified.

3. The tool M, for casting the beveled lugs *w w w* upon the stove-plate J, consisting of the plate *a'*, having the slides *b' b'*, provided with projections *c' c'*, which are kept within the projections *d'* by means of the spiral springs *e' e'*, all arranged and operating as described, for the purpose specified.

The above specification of my invention signed by me.

GEORGE W. HERRICK.

Witnesses:
HENRY H. GIBBS,
ALBERT L. GIBBS.