

*Shepherd & Loring,
Casting Hinges.*

N^o 2,005.

Patented Mar. 16, 1841.

Fig. 6.

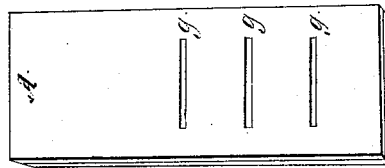


Fig. 4.

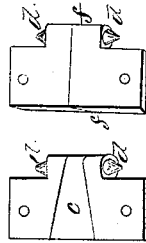


Fig. 3.

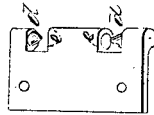


Fig. 2.

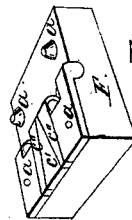
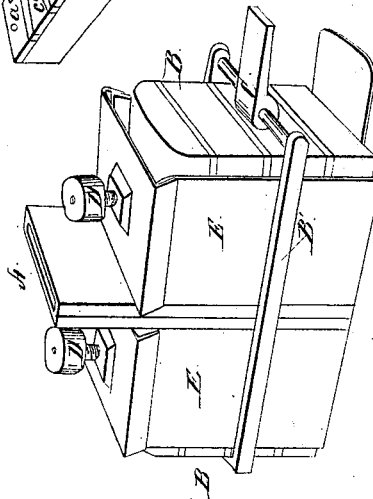


Fig. 1.



UNITED STATES PATENT OFFICE.

THOS. SHEPHERD AND THOS. LORING, OF SOUTHWARK, PENNSYLVANIA.

IMPROVEMENT IN THE MANNER OF CONSTRUCTING MOLDS FOR CASTING BUTT-HINGES.

Specification forming part of Letters Patent No. 2,005, dated March 16, 1841.

To all whom it may concern:

Be it known that we, THOMAS SHEPHERD and THOMAS LORING, of the District of Southwark, in the county of Philadelphia and State of Pennsylvania, have invented a new and useful improvement in the manner of manufacturing butt-hinges by casting them in combined metallic molds of a particular construction; and we do hereby declare that the following is a full and exact description thereof.

We construct our molds of iron, placing one mold upon another so as to form tiers, one above the other, and in each mold at each pouring we cast a half-hinge, the molds containing in the first pouring a pattern which occupies one-half thereof, and which is so constructed that it can be readily removed, leaving the half-hinge first cast still in the mold, and we then, by a second pouring, cast the second halves of the hinges. Instead of a joint-pin we usually cast the knuckles of one half the hinge with conical depressions or countersinks, which are to receive conical projections on the knuckles of the other half; but, if preferred, joint-wires may be inserted in the ordinary way, the respective halves being cast without conical projections.

In the accompanying drawings we have shown a combined mold for casting six half-hinges only at each pouring; but we intend usually to cast from twelve to eighteen, the number being limited only by what may be found practically convenient, the particular construction not varying with the number cast at one operation.

Figure 1 is a perspective view of the mold, A being the gate through which the metal is poured, which gate slides in between two tiers of molds, B B, which are held together by a band, B', and this may be tightened by a cam at C. The screws D D press and hold the respective tiers of molds together, said molds being surrounded by a casing, E E, for keeping them in place at the time of casting.

Fig. 2 shows the upper part of one of the individual molds, having upon it the pattern of a half-hinge of five knuckles as divided into parts for the purpose of removing it from the mold after a half-hinge has been cast against it, the knuckles being furnished with conical protuberances and depressions in lieu of the ordinary joint-pin. F is the body of the mold, the lower side of which has a plain surface,

and forms the top of the mold next below it, against which the back of the hinge is cast. The upper surface of the mold has four or any other desired number of protuberances, *a a a a*, which form the countersinks for screw-heads, and it also has a flute or concavity, *b*, for forming the knuckles or barrels of the hinge. The pattern half-hinge *c c* is shown as divided into five parts by sections across it, leaving the middle piece, *c'*, wedge formed, so that it may easily be slipped out, when *c'' c''* may be readily removed. In the half-hinge, Fig. 3, *d d* are the conical projections and the dotted lines *e e* the conical depressions. Where there are but three knuckles to the hinge, the pattern will admit of a more simple division. In Fig. 4 it is shown as divided into three parts only, the removal of wedge-piece *c* admitting of the delivery of the conical protuberances *d d*; or if the half Fig. 4 be cast first, the pattern which occupies the other half of the mold should be divided into two parts only by a section across its middle. By making the section obliquely instead of vertically through a pattern like Fig. 4, it may be made to deliver when divided into two parts only. Such a section is shown at *f f*, Fig. 5.

The gate A is made in two parts, and has through each of its sides slots or openings opposite to the space in each mold, into which the metal is to be poured, as shown at *g g g*, Fig. 6, which is a view of the gate removed from its place between the tiers of molds.

When this compound mold is to be used, the patterns are placed on the side opposite to that in which the metal is to be poured, and the first halves of the hinges are then cast. When these have cooled the patterns are to be removed, the cast half-hinge remaining in place. The molds are then to be put together, as before, excepting that the sides which contained the patterns are to coincide with the openings in the gates for the purpose of casting the remaining half-hinges. When the casting has been thus completed and the hinges removed from the mold, they are to be annealed in the manner well known to iron-founders.

Having thus fully described the nature of our invention and shown how the same is to be carried into operation, what we claim therein, and desire to secure by Letters Patent, is—

1. The manner in which we have construct-

ed and combined the respective parts of our combined metallic mold for casting butt-hinges, as above set forth—that is to say, the constructing of metallic molds so as to arrange them in tiers one above the other on each side of a metallic gate, and so as that the said molds shall contain at the time of the first casting the patterns in the form of a half-hinge divided so as to deliver readily from the cast half, as herein described.

2. The manner of combining these molds so as that the lower sides of the pieces F shall

constitute the half-mold for each hinge in the series, and likewise the so forming and arranging them as to render them capable of being reversed for the purpose of casting the second half of the hinge, the whole being formed, constructed, and operating substantially as herein fully made known.

THOS. SHEPHERD.

THOS. LORING.

Witnesses:

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A. H. DENCKLA.