

T. Shepherd.
Casting Hinges.
N^o 2,288. Patented Oct. 9, 1841.

Fig. 3.

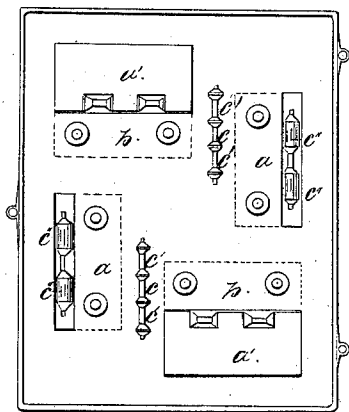


Fig. 1.

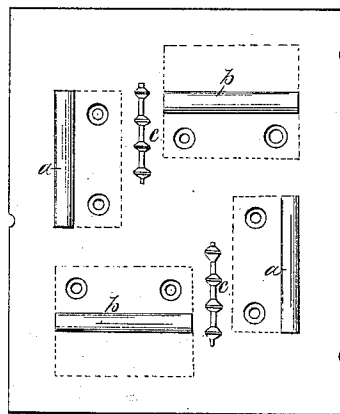


Fig. 4.

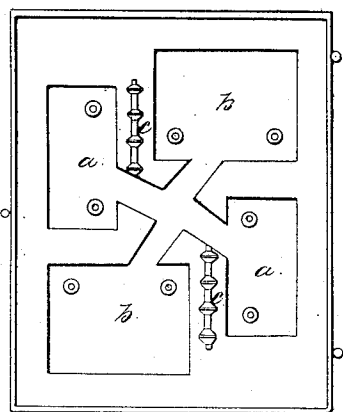
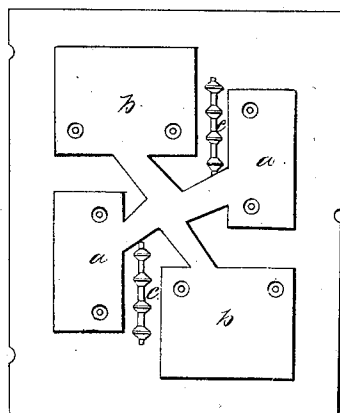


Fig. 2.



UNITED STATES PATENT OFFICE.

THOMAS SHEPHERD, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO
WM. H. CARR.

IMPROVEMENT IN THE MANNER OF CASTING BUTT OR OTHER HINGES OF IRON, BRASS, OR OTHER METAL.

Specification forming part of Letters Patent No. 2,288, dated October 9, 1841.

To all whom it may concern:

Be it known that I, THOMAS SHEPHERD, of the city of Philadelphia, in the State of Pennsylvania, have invented an Improvement in the Manner of Casting Butt or other Hinges of Iron, Brass, or other Metal; and I do hereby declare that the following is a full and exact description thereof.

In casting my hinges I first prepare a shaft of cast-iron or of other metal, which is so formed as that it shall constitute the joint-pin upon which the hinge shall turn, and which has also round collets, flanges, or dividing-pieces cast with it, which are to constitute the ends of the knuckles of the hinge. These cast shafts I turn in the lathe in those sections or divisions thereof which are intended to turn freely in the knuckle of the hinge, while the other sections are left rough as they are delivered from the mold.

In casting my hinges I form one half or leaf thereof at each pouring of the metal, and in effecting this I proceed in the following manner: I mold my half-hinge from a pattern not having the barrel part divided into knuckles, but making in the flask a semi-cylindrical impression. I then take one of my cast-metal shafts and fill with sand those divisions of it which have been turned so as completely to occupy the space between the collets terminating such turned part, there being in all cases an intermediate space not so filled with sand. I then lay this prepared shaft in the flask, so as to occupy the part where the hinge-knuckles are to be formed, and pour in my metal. The half-hinge being taken from the mold and the sand removed from between the knuckles, it is then to be dipped into or coated with loam or some similar article, which will prevent the adhering of the metal to the shaft when the second half is cast. The first half thus prepared, is then laid in the flask and the second half cast upon it. When taken from the mold, the hinge will work freely on its joint-pin or shaft, and it will present a perfectly-close joint at the back as well as at the

front thereof—a thing absolutely required to render such articles merchantable.

Any desired number of hinges may be molded and cast together which a flask can conveniently contain, and first and second halves may be cast in the same or in different flasks, as may be preferred.

In the accompanying drawings, Figures 1 and 2 represent the two sides of a pattern-plate for molding two first and two second half-hinges and two shafts with their collets or flanges. Figs. 3 and 4 represent the two sides of a flask prepared for casting from said pattern-plate.

The hinges shown are such as have five knuckles; but the number may be greater or less.

The first half-patterns are marked *a a* in Figs. 1 and 2, and the second halves *b b*. The shafts are shown at *c c*. The corresponding parts are similarly designated in Figs. 3 and 4. The shafts, after being taken from the flasks, are to be turned in the sections *c' c'*, and these sections are to be filled with sand, and laid in the flask in casting the first halves, as shown at *c'' c''*, Fig. 3, and when cast, the sand *c''* removed, and the jointed loams, they are prepared to occupy the place *d' d'* in casting the second halves.

The collets or flanges which divide the knuckles are formed conical at their sides, as shown in the drawings, by which device the joint-pin or shaft is rendered capable of sustaining any stress which the hinge itself will bear.

Having thus fully described the nature of my invention and shown the manner in which the same is carried into operation, what I claim therein as new, and desire to secure by Letters Patent, is—

1. The casting of butt or other hinges by preparing a shaft of cast metal, in the manner set forth, and laying the same in the flask, with the spaces filled with sand which are to form or receive the jointed knuckles of the hinge, and casting the first half thereon, and as a component part of the operation the sub-

sequently placing this half in the flask, prepared as set forth, for the casting of the second half, the mode of procedure in all respects being substantially the same with that above made known.

2. I do not claim the mere manufacturing of hinges by casting the first half and placing this in the flask to have the second half cast upon it; nor do I claim the casting of a

hinge upon a joint-pin with washers between the joints; but I do claim the so doing, in combination with a shaft or joint-pin formed and prepared in the manner herein made known.

THOS. SHEPHERD.

Witnesses:

WILLIAM OSBORNE,
J. MITCHELL.