J. G. Holt,

Casting Thimble Boxes.

No. 32,264. Patented May 7, 1861.

Fig. 5.

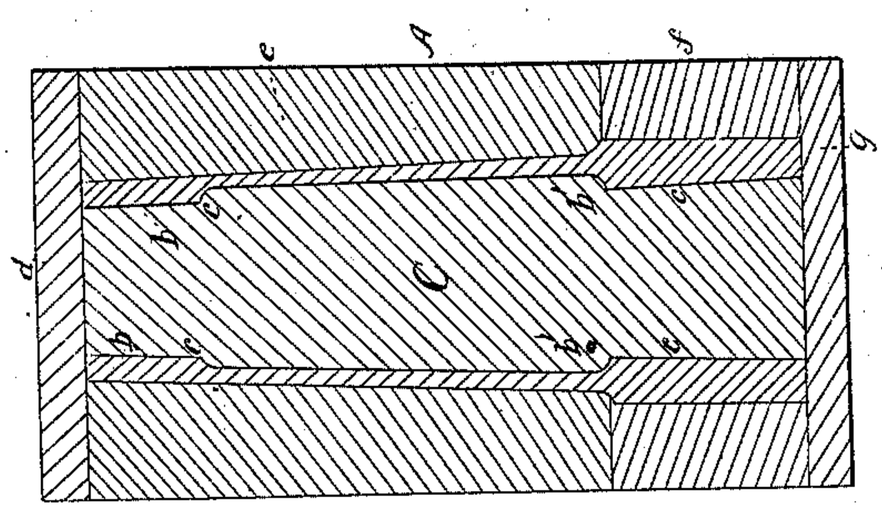


Fig. 4.

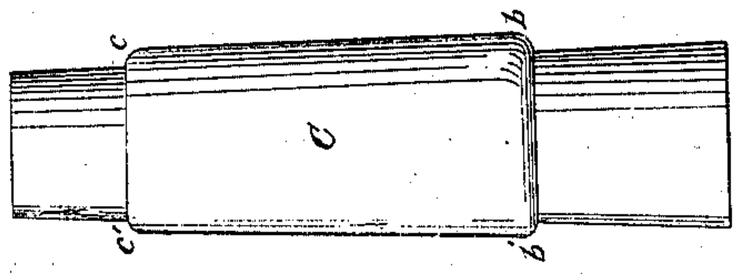


Fig. 3.

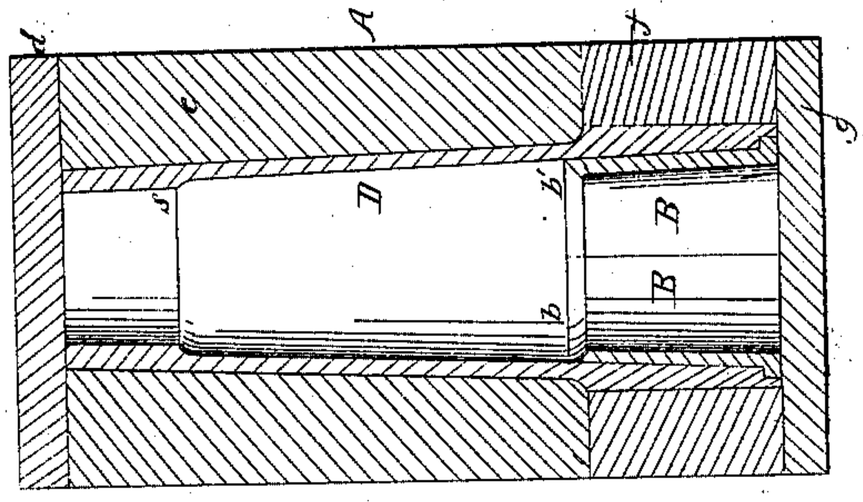


Fig. 2.

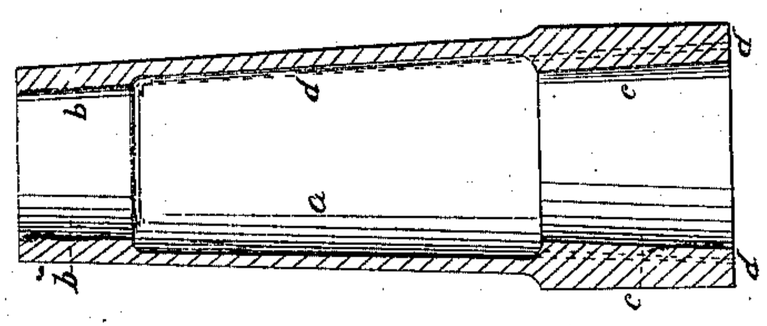


Fig. 6.

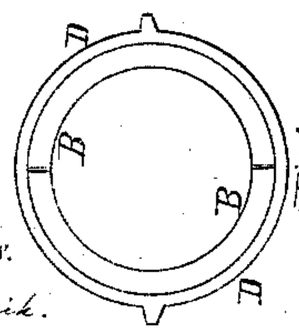
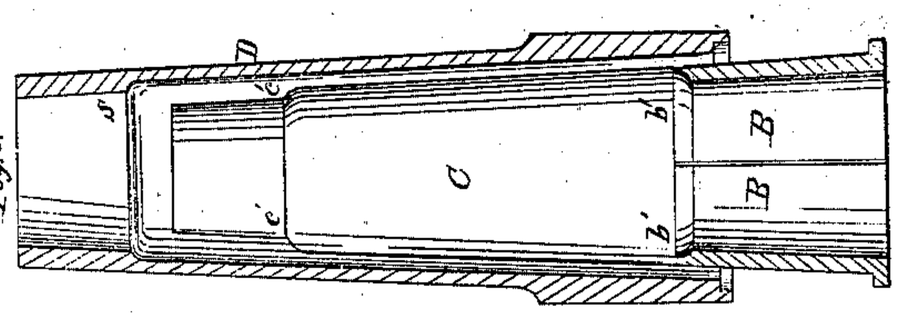


Fig. 1.



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UNITED STATES PATENT OFFICE.

JAMES G. HOLT, OF CHICAGO, ILLINOIS, ASSIGNOR TO OSCAR G. LANGI AND CHAS. B. BROWN, OF SAME PLACE.

IMPROVEMENT IN CASTING THIMBLE-BOXES.

Specification forming part of Letters Patent No. **32,264**, dated May 7, 1861.

To all whom it may concern:

Be it known that I, JAMES G. HOLT, of Chicago, in the county of Cook and State of Illinois, have invented a new and improved article of manufacture—to wit, a seamless cast-iron thimble-box with two internal projecting bearings; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, forming a part of this specification, in which—

Figure 1 represents the style of box-pattern used in molding my seamless thimble-boxes with two internal end bearings. Fig. 2 is a section of one of the improved thimble-boxes. Fig. 3 represents a sectional view of the flask, the box-pattern, and the inner end-bearing patterns. Fig. 4 shows the sand core; and Fig. 5 is a section view of the flask, sand core, and thimble-box as they appear after the casting operation has been performed. Fig. 6 is an end view of the divided bearing-pattern and the box-pattern.

Similar letters of reference in each of the several figures indicate corresponding parts.

The nature of my invention may be said to consist in a new article of manufacture produced by a new method—to wit, a seamless thimble-box for the axles of wagons and other vehicles, with an auxiliary internal projecting end bearing produced by using, in combination with the ordinary pattern-flask and sand core, an inner end-bearing pattern made in two or more pieces.

Seamless thimble-boxes have heretofore been cast vertically; but in order to allow the box-pattern to be withdrawn from the core they could not be made with a projecting bearing at the inner or largest end of the box. The seamless thimble-boxes as made heretofore have only one projecting bearing at the outer or smallest end, as indicated by full red lines in Fig. 2, and the thimble bears in the box, as represented by red dotted lines *a a* in said figure.

In the ordinary box, it will be seen, the edge *d* only of its inner or largest end forms the bearing for the largest part of the thimble, and consequently it rapidly wears away, which would not be the case if the box had an inner projecting bearing at the largest as well as at the smallest end.

My seamless thimble-boxes are made with two projecting bearings, *b c*, as represented in Fig. 2. The peculiar means employed by me for the purpose of producing these seamless thimble-boxes with two projecting bearings will now be described.

The flask-patterns A, made in several pieces, *d e f g*, surround the box-pattern D, which is made in one piece. This box-pattern is made with an inner projecting rim, *s*, at its upper end, (the whole mold standing vertical,) so as to form the outer or smallest projecting bearing, *c*, of the box. The remainder of the inside of the box-pattern is made of a uniform taper, as represented in Fig. 1.

The base of the box-pattern D rests on the horizontal flange of an auxiliary bearing-pattern B B, the vertical part of the bearing-pattern B B fitting into the inner or widest end of the box-pattern, as seen in Figs. 1 and 3. The sand core C is formed within the box-pattern, and then the sections of the flask-pattern A are removed, so as to allow the box-pattern D to be withdrawn in a vertical direction. As the box-pattern is withdrawn vertically, the sand core C is left standing, with the bearing-pattern B B around its largest end, as represented in red in Fig. 1. This bearing-pattern B B being made in two or more sections, it can now be withdrawn sidewise, so as to leave the sand core C standing, with circular shoulders *b′ c′* at its upper and lower ends, as seen in Fig. 4. The sections of flask-pattern A are then replaced, when the mold will be ready for casting.

Thimble-boxes cast in this manner are seamless, as the box-pattern D is made of one piece, and they are provided with two projecting bearings, *b c*, one at each end, (see Fig. 2,) corresponding to the shape of the core C, as represented at *b′* and *c′* in Fig. 5.

What I claim as my invention, and desire to secure by Letters Patent, is—

A new article of manufacture produced by a new method—to wit, a seamless thimble-

box for the axles of wagons and other vehicles, with two internal projecting end bearings produced by using, in combination with the ordinary pattern-flask and sand core, an inner end-bearing pattern made in two or more pieces, substantially as and for the purposes set forth.

The above specification of my improvement in thimble-boxes signed by me this 2d day of April, 1861.

JAMES GILBERT HOLT.

Witnesses:

ROBERT MALCOM,

EDMUND KNAUER.