

G. W. DISMAN.

Axle-Box.

No. 65,356.

Patented June 4, 1867.

Fig. 2.

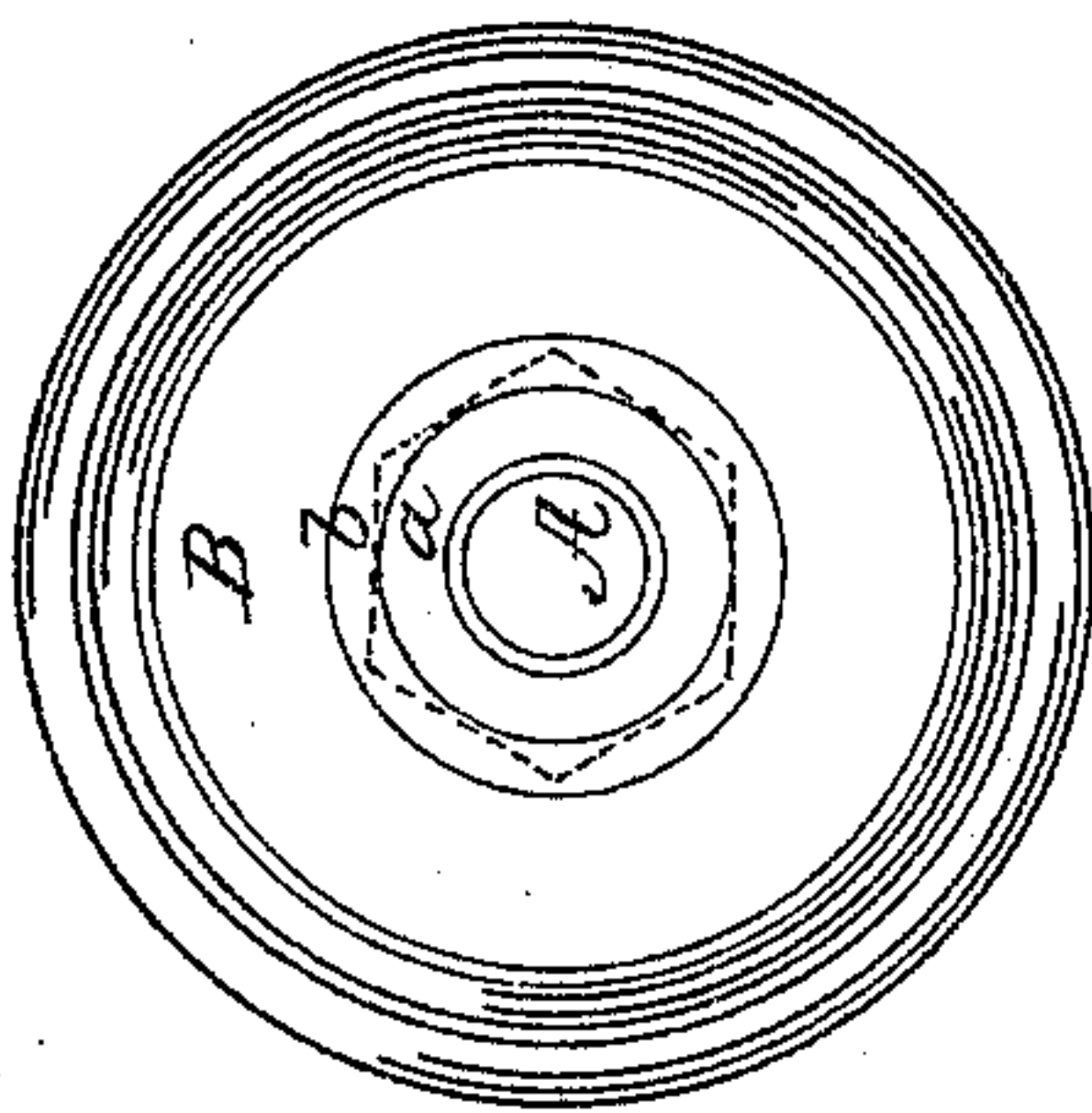
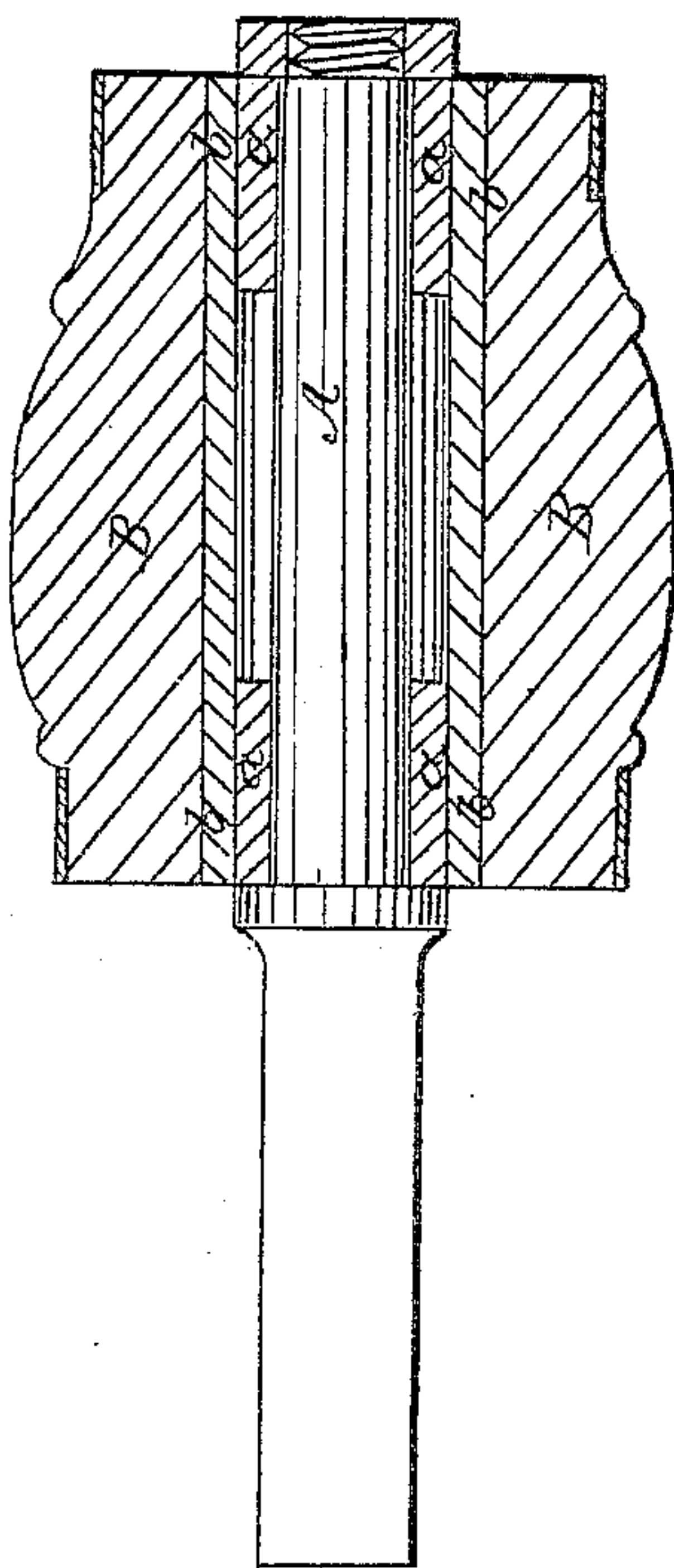


Fig. 1.



Witnesses:

*J. S. Patten*  
Thos J. Chamberlain

Inventor:

*G. W. Disman.*  
By Atty. *A. B. Stoughton*

# United States Patent Office.

GEORGE W. DISMAN, OF UPPER SANDUSKY, OHIO.

*Letters Patent No. 65,356, dated June 4, 1867.*

## IMPROVEMENT IN THE APPLICATION OF SOFT-METAL BEARINGS FOR WAGON AND CARRIAGE-BOXES.

The Schedule referred to in these Letters Patent and making part of the same.

### TO ALL WHOM IT MAY CONCERN:

Be it known that I, G. W. DISMAN, of Upper Sandusky, in the county of Wyandott, and State of Ohio, have invented a new and useful Improvement in the Application of Soft-Metal Bearings for Wagons and Carriage-Boxes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, making a part of this specification, in which—

Figure 1 represents a section through a carriage-hub and box or bearing, and showing the axle-journal in full; and

Figure 2 represents an end view of the hub, bearing, and journal.

Similar letters of reference, where they occur, denote like parts in both the drawings.

I am aware that soft-metal composition has been molten and run into boxes to make journal-bearings; this I do not claim, as neither the alloy so used, nor the means of using it, will accomplish my purpose or attain the result I attain. In carrying out my invention I prefer to use what I term "silicated copper," a mixture of copper and glass, patented to me on the 27th February, 1866, though I can use copper alone, or copper and other soft metal, that will make an alloy of such density as not to be molten by pouring molten iron around it.

My invention consists in first preparing the metal rings, bearings, or thimbles; and slipping or fitting them on to a sand or other core, and then casting the iron on to or around them, so that the shrinking of the cast-iron or other outer metal shall tightly hold the bearings or boxes, as will be explained.

To enable others skilled in the art to make and use my invention, I will proceed to describe the same with reference to the drawings.

*a a* are two copper rings, or rings of which copper is the main component, their inner bore corresponding to the shape and size of the journal *A* that is to run in or against them. These rings or thimbles *a a* may have upon their exterior surfaces ribs, or projections, or grooves for the external cast metal to hold to, to prevent the rings from moving. The rings thus prepared are placed on a sand or other core, at proper distances apart, and then a pipe or tube of cast iron or other similar metal, *b*, is cast around or against them, in a proper mould, which completes the carriage-box.

This box is set in the hub *B* in any of the well-known ways, and the hub secured to the journal *A* by a nut or otherwise. It may be necessary to pass a reamer through the rings after they are cast into the outer pipe or tube, as the cast-metal may spring or warp in cooling, but, as a general thing, they will be found to be accurately in line with the journal.

What I claim as my invention, is—

Making carriage-boxes by first preparing soft-metal rings of copper, or of a composition of which copper is the basis, and placing said rings upon a sand or other core, and laying them in a properly-prepared mould, and running molten cast iron on or around said rings, as and for the purpose described.

G. W. DISMAN.

Witnesses:

A. B. STOUGHTON,

EDM. F. BROWN.