

G. R. MENEELY.

Improvement in Journal-Boxes.

No. 131,454.

Patented Sep. 17, 1872.

Fig. 1.

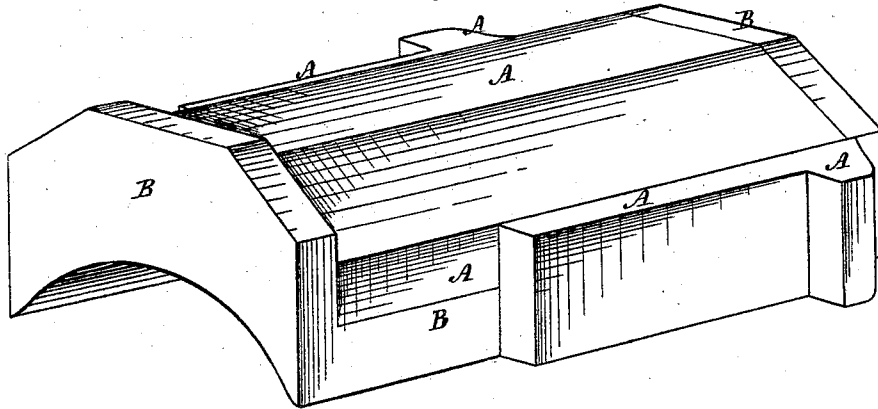
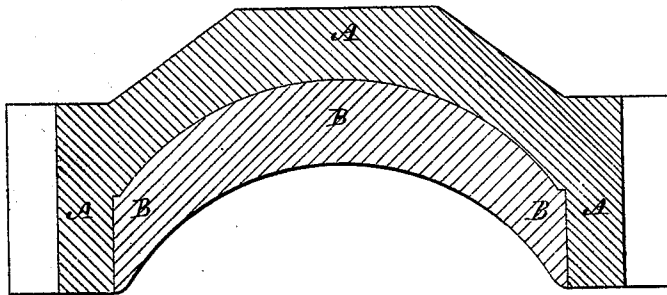


Fig. 2.



Witnesses.

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UNITED STATES PATENT OFFICE.

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IMPROVEMENT IN JOURNAL-BOXES.

Specification forming part of Letters Patent No. 131,454, dated September 17, 1872.

To all whom it may concern:

Be it known that I, GEORGE R. MENEELY, of West Troy, in the county of Albany and State of New York, have invented certain new and useful Improvements in Journal-Boxes for Railroad-Cars and other purposes; and I do hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawing making a part of this specification, in which—

Figure 1 represents, in perspective, a view of so much of a journal-box or axle-bearing as will illustrate my invention; and Fig. 2 represents a transverse section through the same.

I am aware that a journal-box has been made of a brass lining and a cast-iron body, when the iron in a molten state is cast upon the brass. This makes an indifferent journal-box, because the cast-iron is too brittle to withstand the usage that railroad-car journal-boxes must endure, and the strength, if it have any, must be given to it by the brass, which in turn must be so soft that it will not resist the wear incident to it; besides, there would be little or no economy in such a union of metals, as the brass is very expensive. Again, the pouring of molten iron upon the brass, which is comparatively cold, will tend to chill the iron at the point of union, rendering it still more brittle at that point, and less disposed to fuse or weld with the brass. My invention differs entirely from the above in process, in material, and in product. In the first place, my invention consists in a journal-box composed of a brass or bronze lining and a malleable cast-iron back, by which means I can produce a much stronger box, with harder brass or bronze, and with more economy, because I use less of the more expensive metal. Secondly, I fuse or weld the two metals by pouring the molten brass or bronze upon the malleable iron, by which process I retain the greater strength of the malleable-iron; and this enables me to use a harder brass or bronze lining, not depending upon the metal for strength, but for endurance. Thirdly, I produce a journal-box with

a malleable back and a hard brass or bronze lining, which could not be produced by pouring molten iron upon the brass; for, as above stated, this would produce a chill, a bad weld, and the iron could not be made malleable after that operation, as it could not be malleable when it was in a molten state. The union between cast-iron poured in a molten state upon brass in a cold or semi-heated state cannot fairly be called a weld or a thorough fusing of the two metals. There is a bubbled or burnt-metal union, but no inherent strength in the metal, such as journal-boxes must be capable of enduring.

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

The malleable-iron back is represented at A, and may be made of any suitable shape, form, or size, and with such flanges, shoulders, and beveled or rounded surfaces as will make it readily applicable to its purpose; and B represents the brass or bronze lining thereof.

The back A, having been cast of proper shape, size, and form, is rendered malleable by the usual well-known process. The inner or concave surface of the back having been suitably cleaned, the molten brass or bronze is poured in or over the cleaned surface of the back until a weld or thorough union of the metals is made, and the remainder of the molten brass or bronze is filled in. The process I prefer is that patented to me 21st May, 1872.

It is not pretended that a malleable cast-iron back is so good as a wrought iron or steel back, but it is much cheaper, and on that account would be used in many cases where, probably, the other would not be. When of malleable cast-iron, it is shaped, except as to the fine exterior dressing, in a mold. When of wrought-iron or of steel, they have to be wrought or swaged out into shape and form, which, owing to the many lines, angles, shoulders, and flanges of a journal-box requires time and is expensive.

The brass or bronze by my process will form almost as perfect a weld or union with the

malleable cast-iron back as with wrought-iron or steel, and makes a cheap and quite useful box for many purposes.

Having thus fully described my invention, what I claim as a new article of manufacture, is—

A journal-box or bearing, composed of a malleable cast-iron back and a brass or bronze

lining, the two being welded or united by pouring the molten brass or bronze over, upon, and into the malleable cast-iron back, as herein described, and for the purposes set forth.

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Witnesses:

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