

(No Model.)

M. B. JONES.
ANTIFRICTION JOURNAL BEARING.

No. 503,143.

Patented Aug. 15, 1893.

Fig. 1.

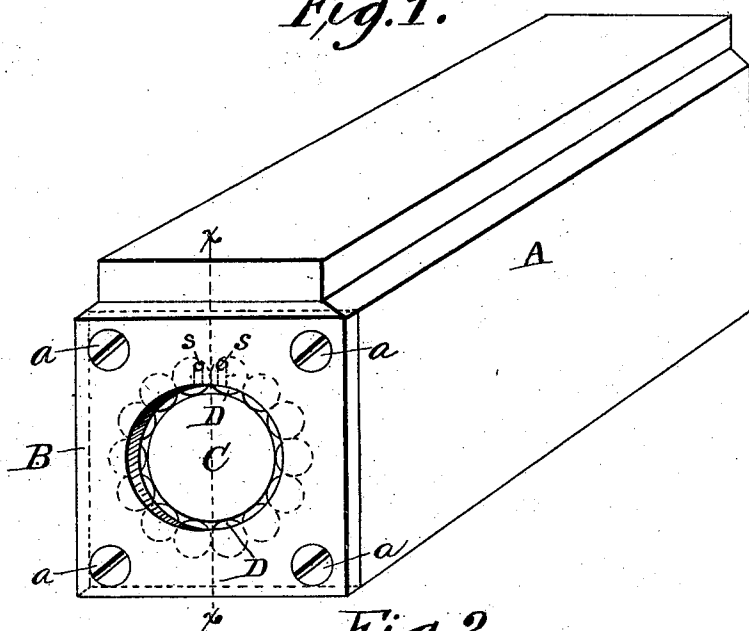


Fig. 2.

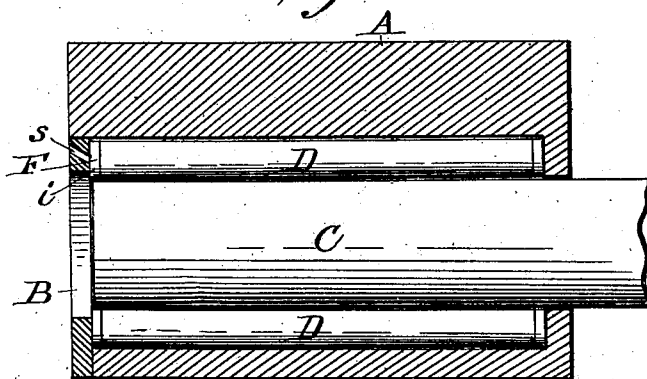
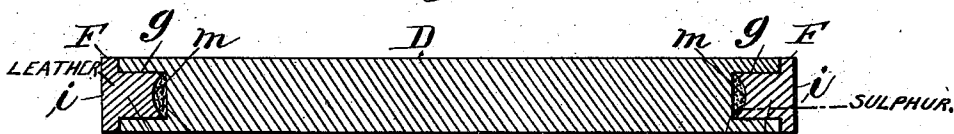


Fig. 3.



Witnesses *h p*
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UNITED STATES PATENT OFFICE.

MATHIAS B. JONES, OF BINGHAMTON, NEW YORK.

ANTIFRICTION JOURNAL-BEARING.

SPECIFICATION forming part of Letters Patent No. 503,143, dated August 15, 1893.

Application filed January 31, 1893. Serial No. 460,414. (No model.)

To all whom it may concern:

Be it known that I, MATHIAS B. JONES, a citizen of the United States, residing at Binghamton, in the county of Broome and State of New York, have invented certain new and useful Improvements in Antifriction Journal-Bearings; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in anti-friction journal bearings.

The objects of my invention are to reduce to a minimum the frictional area of the contacting surfaces between the ends of the rollers and casing and thus promote the efficiency of such bearing by preventing an end thrust or movement of the anti-friction rollers, and at the same time to combine with means for these purposes a device which will give warning of a hot journal box in time to prevent any damage to the journal.

To these ends my invention consists of the parts and combinations of parts, as hereinafter described and particularly claimed.

My invention is illustrated in the accompanying drawings in which—

Figure 1, is a view in perspective of the journal box, showing heads of the journal, anti-friction rollers, and cap; Fig. 2, a central longitudinal view, partly in section, on line *x, x*, of Fig. 1, and Fig. 3, a detail sectional longitudinal view of a roller showing caps and receptacles for heat indicator.

Referring to the drawings, A, represents the journal box, which is adapted to be used with all car axle boxes of usual form in use at the present time on railroad cars. It is a solid cast iron box, oblong in shape, although it may be made in other forms, and is cast in one piece except the cap head, B. This head is square, conforming to the form of the end of the box, has a plane inner surface which forms a rest for the anti-friction rollers, and which is secured to the box by means of screw bolts, *a*.

C is the journal resting in bearings consisting of a set of longitudinal rollers, D. These rollers are shown in Figs. 1 and 2, and in detail in Fig. 3. They are each provided at both ends with a leather cap, F. To receive such

caps the roller is provided with a socket, *g*, at its opposite ends. The caps are in the form of a stopper, having a flat head, *z*, with flanges which together extend over and cover the end of the roller, and a plug part, *h*, fitting in the socket, *g*. The inner end of the plug, *h*, may be made concave as shown to form a recess, *m*, or a space may be otherwise formed or provided for between the end of the plug and the end of the roller, to hold a quantity of sulphur, *p*.

The object of the leather cap described is to provide an anti-friction bearing for the head of each roller against the plane surface of the head of the journal box, when end thrust or movement takes place, and the object of the employment of the sulphur is to indicate by the smoke and odorous fumes, especially the latter, produced when the journal becomes hot, the presence of such heat and by this warning to prevent the destruction of the journal by heat. I prefer that the cap should be made of leather, as it is the best material of which I am at present aware for the purpose intended; and I prefer the use of sulphur for the same reason. But I do not desire to restrict myself to those particular materials if equivalent materials performing the same functions in the same or a better manner be employed. The leather cap is anti-friction padding and the sulphur a combustible indicator.

The journal cap, B, is provided with a shoulder, to make a tight fit on the box, is also provided with oil holes, *s*, through which oil may be supplied to the rollers and journal, and is open at the center to expose the ends of the journal and the anti-friction rollers.

I do not limit myself to the square cap head as this may be made in other shapes, without departing from my invention.

Having thus described my invention, what I claim is—

1. In a journal bearing the combination with a box provided with the cap having a plane inner surface, of the journal, the anti-friction bearing rollers each provided with a leather cap at its opposite ends, a receptacle between such cap and the roller and sulphur within such receptacle, substantially as and for the purpose described.

2. A journal bearing comprising the rollers,

D, each provided with end anti-friction pad-
dings, in combination with the box and its re-
movable head, having an inner plane surface
against which said padded ends may contact,
5 substantially as described.

3. The box in combination with the journal
and the anti-friction rollers, said rollers pro-
vided with the receptacles, and combustible

material in said receptacles, substantially as
described. 10

In testimony whereof I affix my signature in
presence of two witnesses.

MATHIAS B. JONES.

Witnesses:

M. D. TAFT,

C. E. DEMERIE.