2 Sheets--Sheet 1.

R. BREWER.

Railroad Car Axle-Boxes.

No. 139,655. Patented June 10, 1873.

Fig. 1.

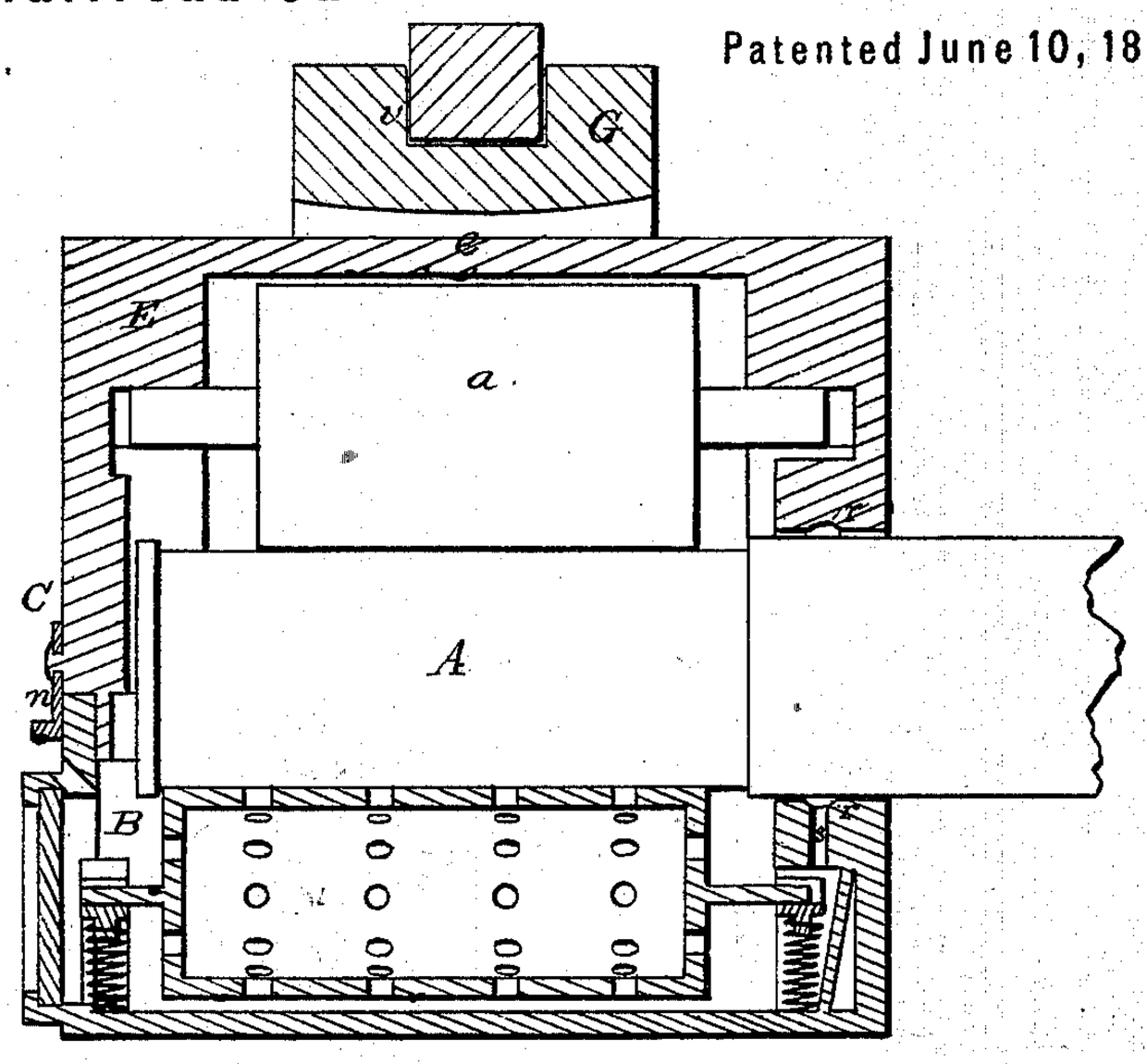
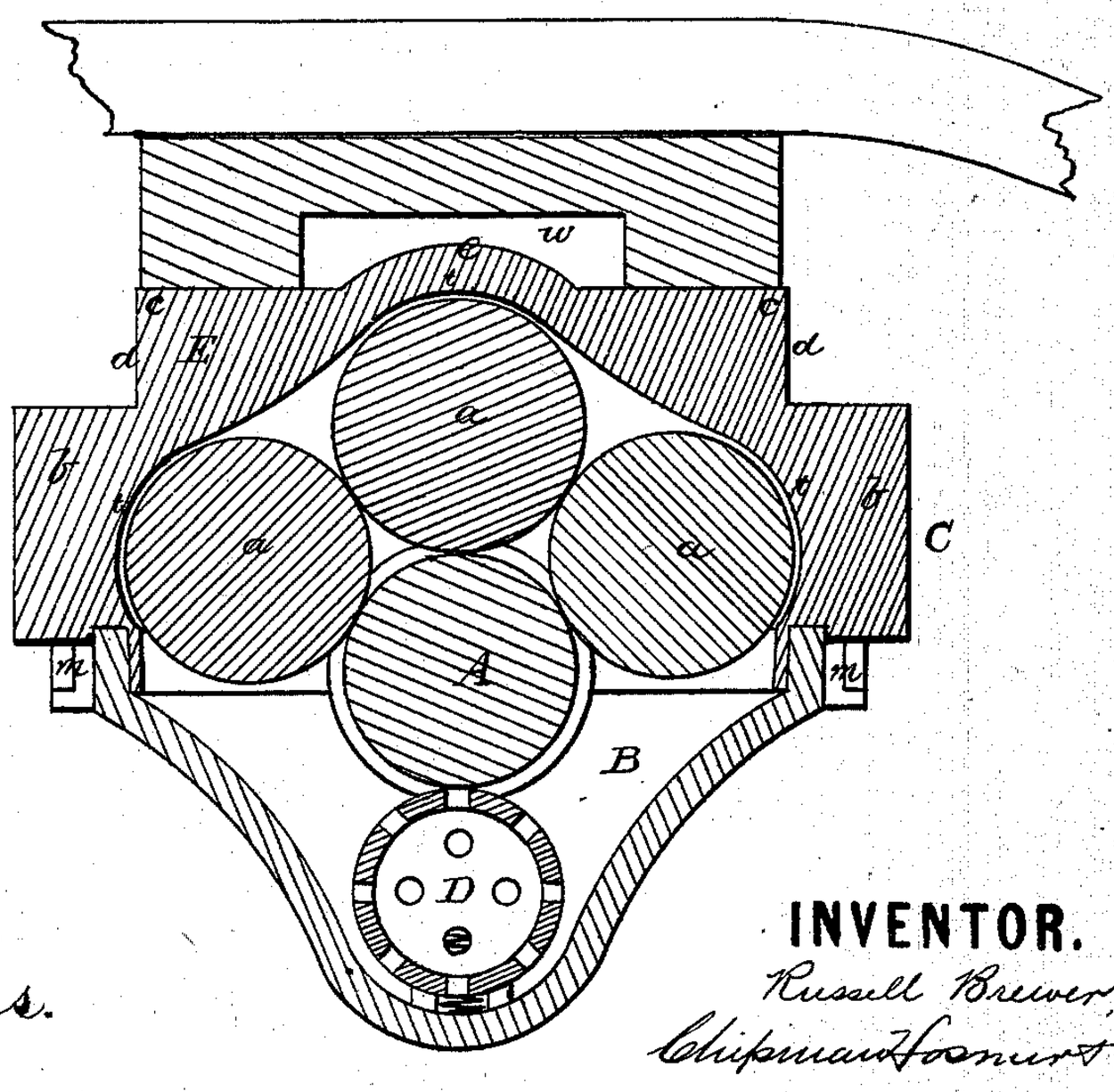


Fig. 2.



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2 Sheets--Sheet 2.

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Fig. 3.

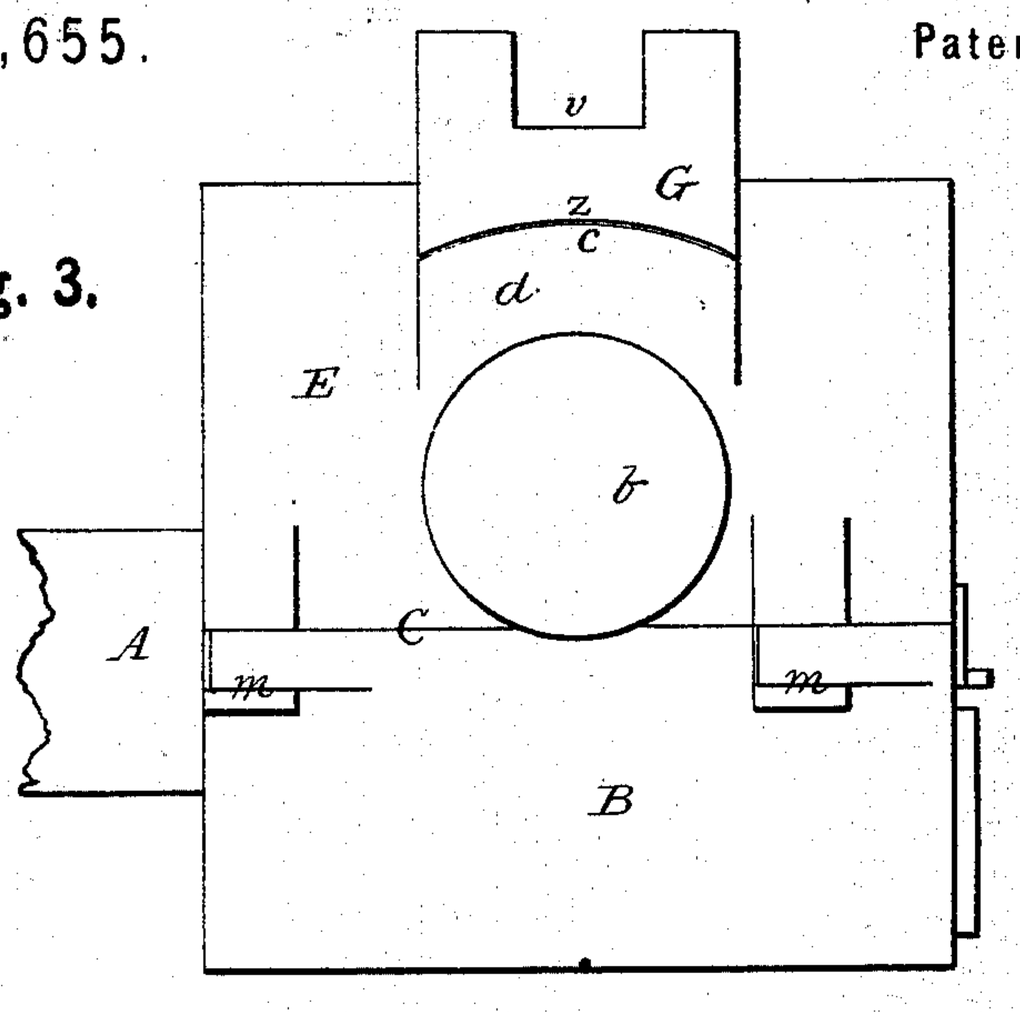


Fig. 4.

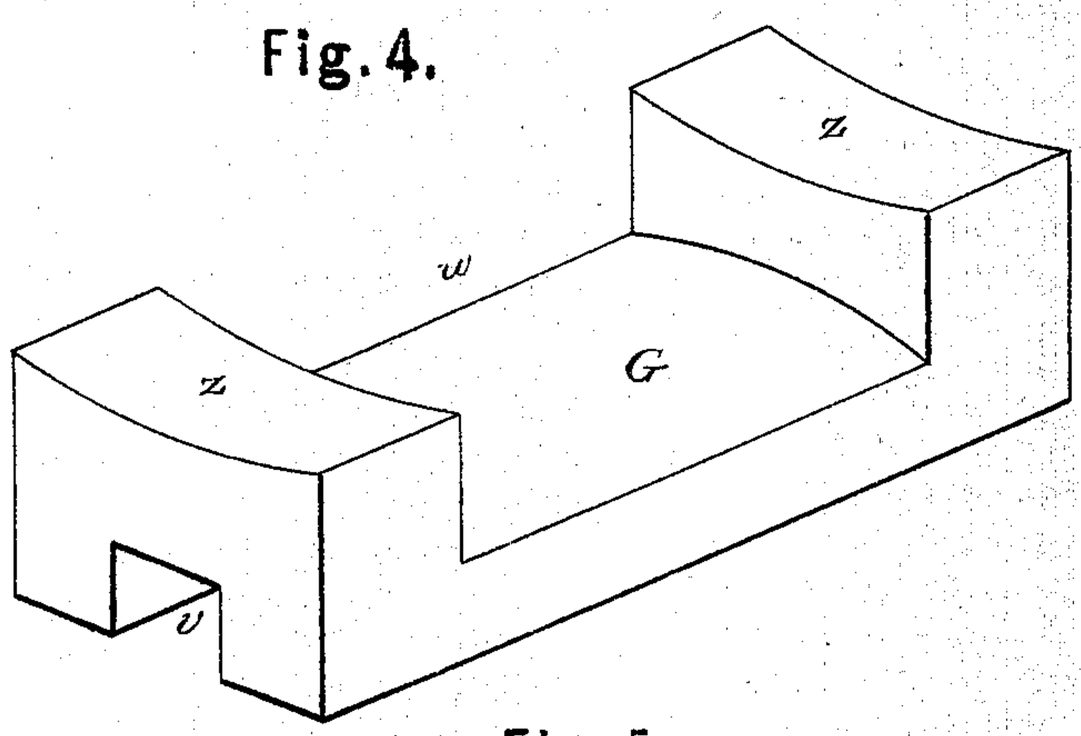
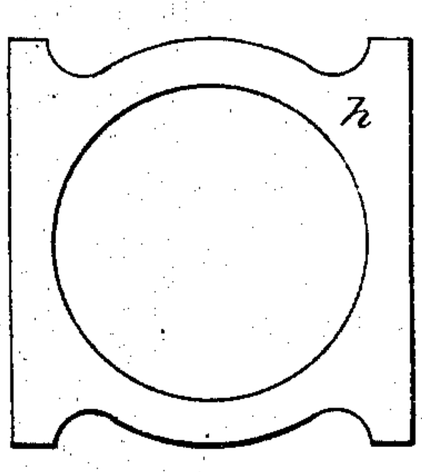


Fig. 5.



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UNITED STATES PATENT OFFICE.

RUSSELL BREWER, OF NEW YORK, N. Y.

IMPROVEMENT IN RAILROAD-CAR AXLE-BOXES.

Specification forming part of Letters Patent No. **139,655**, dated June 10, 1873; application filed May 18, 1872.

To all whom it may concern:

Be it known that I, RUSSELL BREWER, of New York, in the county of New York and State of New York, have invented a new and valuable Improvement in Railroad Journal Boxes and Bearings; and I do hereby declare that the following is a full, clear, and exact description of the construction and operation of the same, reference being had to the annexed drawings making a part of this specification, and to the letters and figures of reference marked thereon.

Figure 1 of the drawings is a representation of a longitudinal vertical section of my invention. Fig. 2 is a transverse vertical section of the same. Figs. 3, 4, and 5 are details.

This invention has relation to journal-boxes for railroad cars; and it consists, first, in the construction and novel arrangement of devices whereby the boxes are rendered steady upon the journals, the usual grinding movement of the journal in its box being, by this invention, converted into a movement of the equalizer or car-bearing upon its seat; and in the construction of the axle-box in sections, with sliding connections.

In the accompanying drawings, the letter A designates the car-wheel journal. B represents the lower section of the box C. This lower section constitutes an oil-holder, and it tapers from each side to a narrow channel at the base, within which rotates a perforated oil-distributing cylinder, D, the journals of said cylinder being seated upon spring-bearings, which serve to keep it always in contact with the under side of the car-wheel journal. Within the upper section E of the box are located the bearing-rollers *a a a*, usually made of equal diameter with the journal A, and provided with elongated journals to give lateral play, required by the longitudinal shifting of the journal A constantly in the box. Externally, the box C is provided with journals *b b*, having their axis of rotation at right angles with and a little above the axis of the journal A. It is also provided with a convex bearing-seat, *c*, concentrically arranged above each journal *b*, said seat *c* being usually connected with said journal *b* by a shoulder-face, *d*. Between the convex seats *c* is arranged a rise or convex rib, *e*, which acts in the way of a stop to prevent the bearing-block from sliding longitudinally off the seat. The hook-connections by means of which the sections of the box are attached together are lettered *m m*, a latch *n*, being employed to secure them. G represents the bearing-block, having a concave bearing-face, *z*, at each end, a slot, *v*, or other device on the upper surface to receive the end of the equalizer-bar or car-bearing proper, a cleft or recess, *w*, being left between the bearings *z z*, to receive the stop-ridge *e*. When in operation, the journals *b b* are designed to play up and down in the slots of the pedestal, and to have a free rotary movement therein, while the bearing-block G has a free movement within obvious limits on the convex bearing-seats *c*. Should it be found in practice that the journal *b* will tend to wear in the pedestal disadvantageously, the sliding seat *h* may be introduced into the pedestal-slot to receive said journal. Immediately within the orifice through which the journal A enters the box are broad flanges, which embrace the journal. A channel, *r*, extends around the inner surface of the flanges to guide the surplus oil back into the oil-chamber through the perforation *s*, leading to the inner journal of the oil-cylinder. The upper section of the box is a strong casting, and is provided inside with slightly-concave faces *c c*, near which the anti-friction rollers *a a* move when in revolution, sufficiently close to keep a thin film of oil between said faces and the rollers.

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

1. The axle-box C, provided with the journals *b b*, arranged at right angles with the car-wheel journal, and having the convex bearing-seats *c*, and convex rib *e*, substantially as specified.

2. The journal bearing-block G, having concave bearing-faces *z*, recess *w*, and slot *v*, in combination with a journal-box, substantially as specified.

3. The combination of the upper section E, lower section or oil-reservoir B, and journal bearing-block G, arranged as specified.

4. The combination of the axle-box C, having the concave lubricating-faces *t*, rotating oil-cylinder D, anti-friction rollers *a*, all of the same diameter, and arranged and operating in the manner set forth.

In testimony that I claim the above I have hereunto subscribed my name in the presence of two witnesses.

RUSSELL BREWER.

Witnesses:

D. D. KANE,

GEO. E. UPHAM.