C. A. HUSSEY.

Railway Axle Boxes.

No. 157,832. Patented Dec. 15, 1874.

Fig. 1.

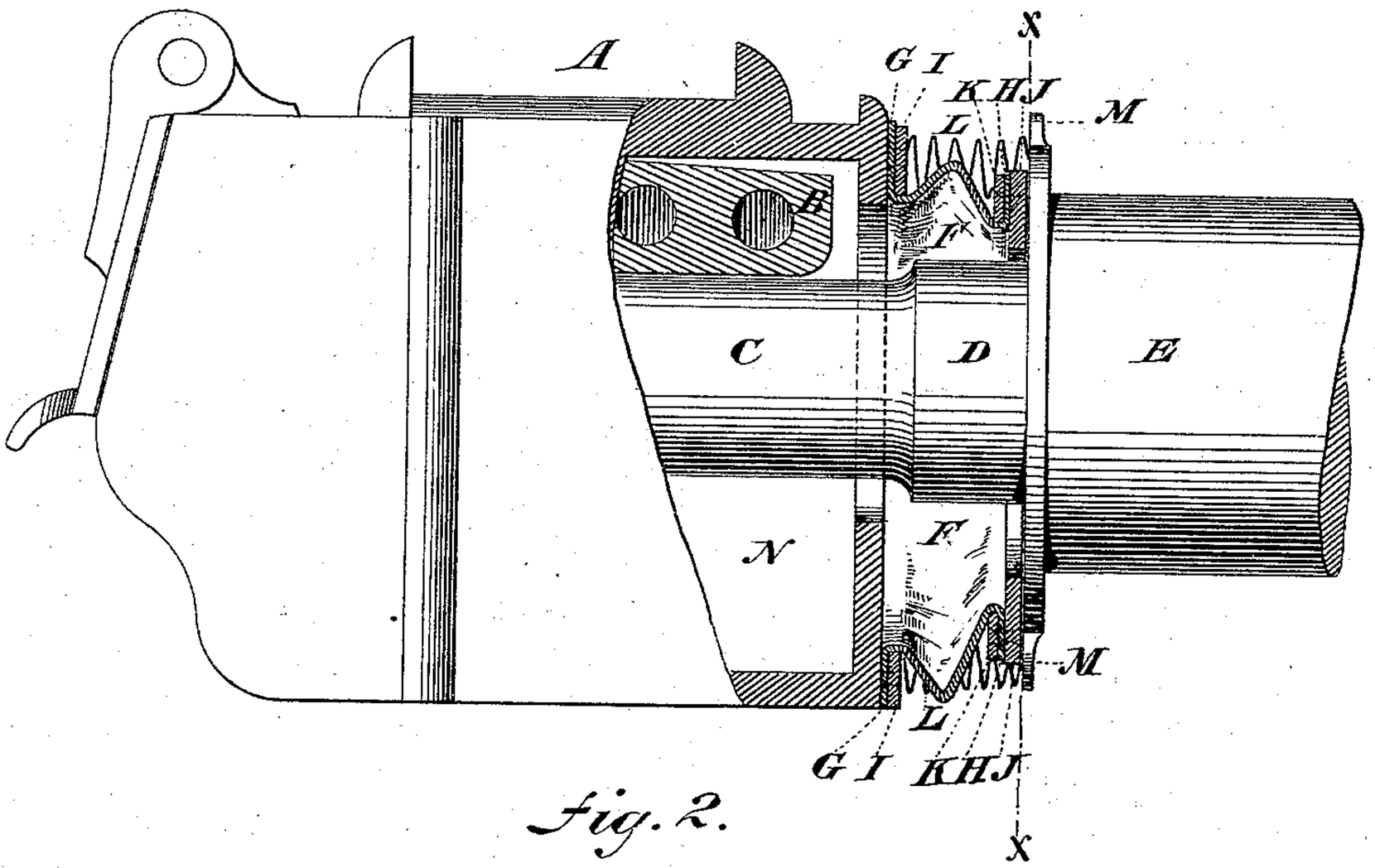

Fig. 2.

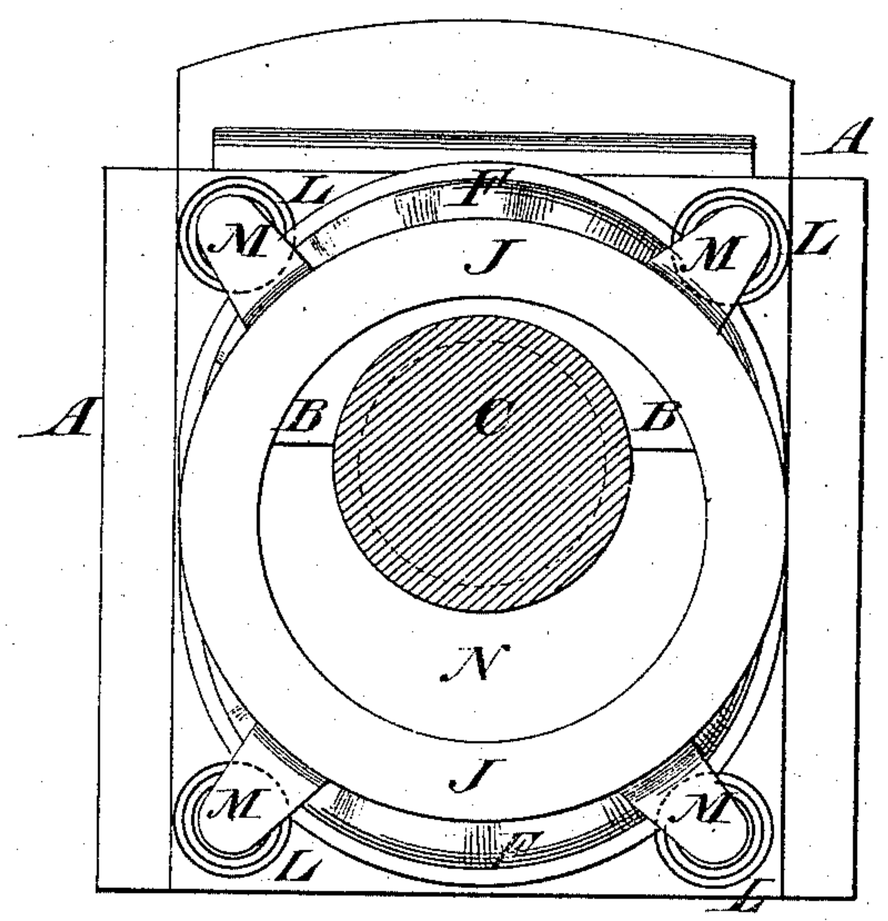

Fig. 3.

WITNESSES:

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CHARLES A. HUSSEY, OF NEW YORK, N. Y.

IMPROVEMENT IN RAILWAY AXLE-BOXES.

Specification forming part of Letters Patent No. **157,832**, dated December 15, 1874; application filed October 10, 1874.

To all whom it may concern:

Be it known that I, CHARLES ALBERT HUSSEY, of the city, county, and State of New York, have invented a new and useful Improvement in Railroad Axle-Boxes, of which the following is a specification:

The damage and trouble caused by the entrance of dust and grit into the boxes of railroad-axles is very great, as it causes the journal to heat and wear out, and, by heating and wearing the journal, or heating or wearing the brass over the journal, the axle is thrown from its true position, and is much more likely to be broken than it is when it rests fairly in its box. It has heretofore been considered impossible to make the box perfectly tight, so that the dust and dirt would be excluded. The old dust-plate, which works with the axle, does not exclude the dust, as it is subject to the lateral motion of the axle, and is constantly vibrating, and any slight wearing of the parts leaves an open joint for dust and grit to enter and reach the journal.

The invention will first be fully described, and then pointed out in the claims.

In the accompanying drawing, Figure 1 is a longitudinal view, partly in section, to show the journal and leather packing arranged to form a tight connection against the wheel. Fig. 2 is a vertical section of Fig. 1, taken on the line *x x*.

Similar letters of reference indicate corresponding parts.

A is the axle-box. B is the brass which bears on the journal. C is the axle-journal. D is the axle. E represents the hub of the wheel. F is the leather packing, which is stamped from a single piece, so as to form two flanges, G and H, which allows it to be fastened to the back end of the box by the ring I, and to the large ring J by the ring K. These rings I and K are fastened by means of screws or rivets, as may be desired, or in any suitable manner. The large ring J and the outer surface of the wheel-hub (which are placed in contact with each other) are nicely faced off in the lathe, so that they will run tightly together and keep a close joint at all times. The leather between the flanges G H is made of conical form in cross-section, or is left loose and baggy, so that it will readily expand and contract, and allow of any movement of the axle or box up or down or laterally. L are spiral springs, attached to the corner of the box at one end, and to arms M on the large bearing-ring J at the other end, by means of which the ring J is forced against the wheel-hub with a constant but moderate pressure, to insure a close joint at all times.

Any other suitable means may be employed for this purpose, and any other suitable flexible material may be used instead of leather. The leather packing may be made in more than one piece, and the edges may be sewed or connected together in any suitable and substantial manner.

In ordinary axle-boxes the space N below the journal is filled with cotton waste or other packing, for the purpose of absorbing the oil or lubricating material. This packing is in constant contact with the journal, and supplies oil by capillary attraction. This packing soon gathers a coating of dust and grit on its surface, and has to be frequently renewed, which is both troublesome and expensive.

By my arrangement the oil may be poured into the box, so that the journal will run in oil and not a drop can escape. The box may, by my invention, be made much smaller and shorter than usual, thus saving a material item in weight, and dispensing with the dust-plate altogether.

I do not confine myself to the precise construction and arrangement of the parts shown. The flange or ring J may be brought in contact with a flange or ring on the hub of the wheel, and there may be other variations without departing from my invention.

I am aware that it is old to secure a leather cap to an axle-box for the purpose of excluding dust; but

What I claim is—

1. The combination of the flexible packing F′ with the axle-box and axle, as and for the purpose shown and described.

2. The combination, with a car-axle hub and axle-box, E A, of the springs L, arranged to form a close elastic joint between them, as shown and described.

3. The rings I J K, combined with flanges G H, to enable the material to be held in the manner specified.

CHARLES ALBERT HUSSEY.

Witnesses:

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