2 Sheets—Sheet 1.

D. H. DOTTERER.

Car-Axle Box.

No. 67,638.

Patented Aug. 13, 1867.

Fig. 1.

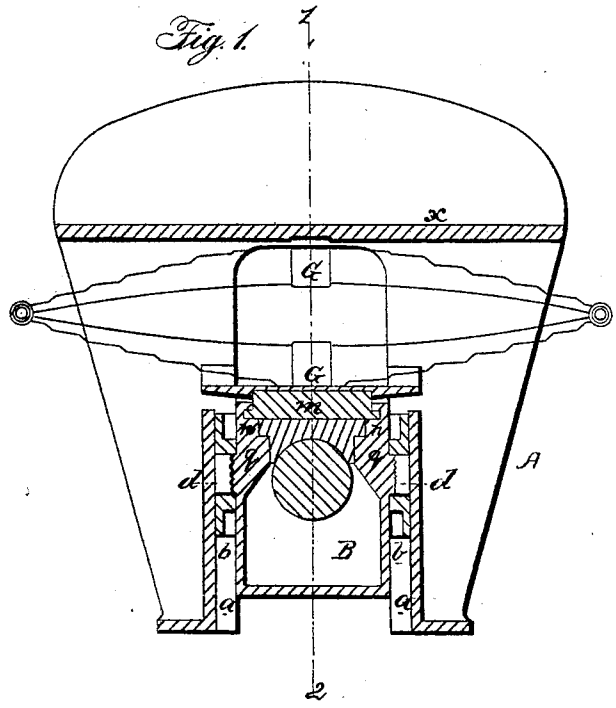
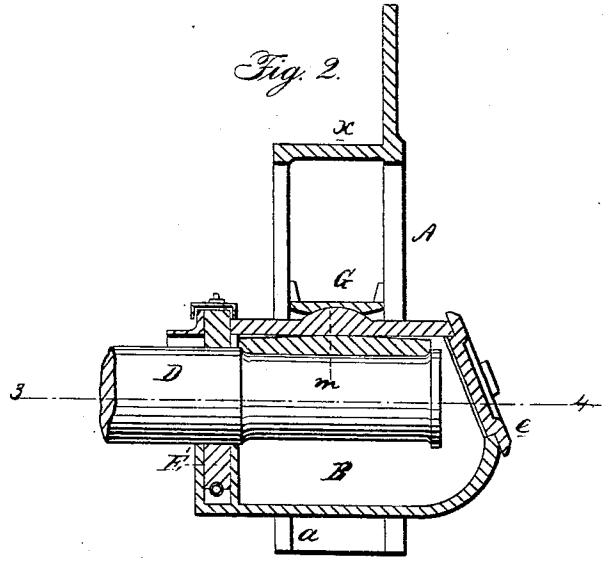


Fig. 2.



Witnesses:

Wm. Albert Steel.

John Parker

Inventor:

D. H. Dotterer.

AN. PHOTO-LITHO. CO. N.Y. (OSBORNE'S PROCESS.)

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Fig. 4.

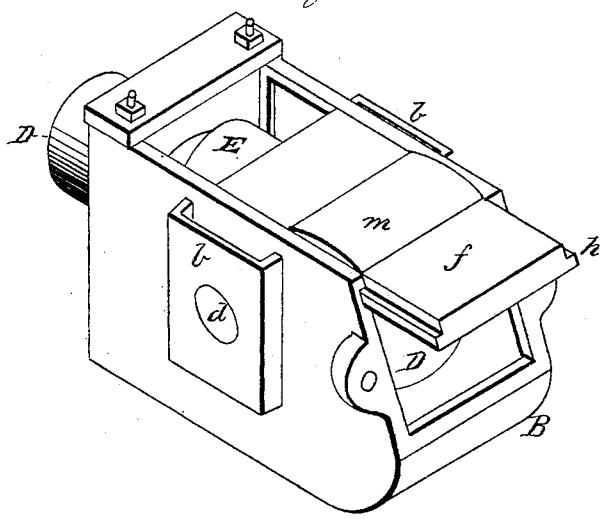
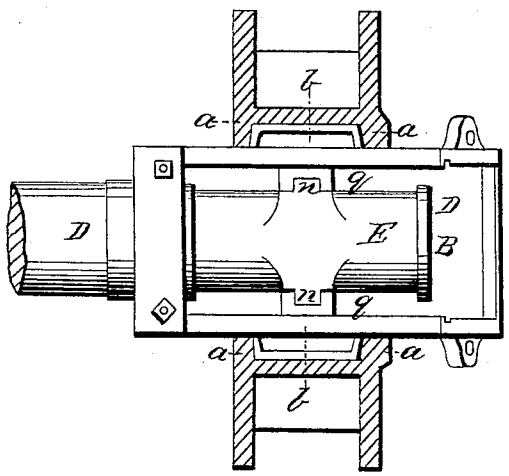


Fig. 3.



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United States Patent Office.

D. H. DOTTERER, OF PHILADELPHIA, PENNSYLVANIA.

Letters Patent No. 67,638, *dated August* 13, 1867.

IMPROVEMENT IN AXLE-BOXES AND HANGERS.

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, D. H. DOTTERER, of Philadelphia, Pennsylvania, have invented an Improvement in Axle-Boxes, and Hangers for the same; 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, and to the letters of reference marked thereon.

My invention consists of an axle-box, provided with trunnions fitted to sliding-boxes, which are adapted to guides formed in the hanger, all substantially as described hereafter, so that the box may be self-adjusting to the various alterations in the position of the axle, and so that undue friction, heating, and wear and tear of the journals and their bearings may be prevented. A rounded projection on the top of the box, adapted to a cavity in a saddle which is arranged to slide in the hanger, permits the box to be self-adjusting without interfering with the free movement of the usual springs.

My invention further consists in the peculiar manner, described hereafter, of adapting the journal-bearing to the box, and in a sliding-cover, which permits ready access to the interior of the box, the withdrawal of the bearing, and the detaching of the box from the hanger without the delay and tedious manipulation demanded in performing the same operations with ordinary axle-boxes and hangers.

In order to enable others skilled in the art to make and apply my invention, I will now proceed to describe its construction and operation. On reference to the accompanying drawing, which forms a part of this specification—

Figure 1 is a vertical section of my improved axle-box and hanger for railroad cars.

Figure 2, a section on the line 1 2, fig. 1.

Figure 3, a sectional plan on the line 1 2, fig. 2, and

Figure 4 a perspective view.

Similar letters refer to similar parts throughout the several views.

The hanger A is of the usual form, but has two vertical and parallel guides formed on it by ribs *a*, fig. 3, each guide being adapted to receive a sliding-block, *b*, and each block to receive a trunnion, *d*, one of which projects from each side of and forms a part of the box B, as seen in fig. 1. This box is open at the top and at the front end, and to the latter is secured the usual detachable door. A detachable sliding-cover, *f*, is fitted to the top of the box, in the manner best observed on reference to the perspective view, fig. 4, there being on the opposite edges of the cover ribs *h*, adapted to grooves formed in the inside of the box, this cover being retained in its place by the detachable door *e*, as seen in fig. 2. The journal of the axle D is introduced into the box as usual, through the rear of the same, where there is a packing, the construction and arrangement of which it will be unnecessary to explain, as it forms no part of my present invention. A bearing, E, adapted to the journal is introduced into its place through the open top of the box, and this bearing has on the opposite sides projecting lugs *n*, which fit snugly in recesses formed in projections *q* cast on the inside of the box, as seen in fig. 3. On the top of the sliding-cover *f* is a rounded projection, *m*, fig. 2, forming the segment of a circle struck from the centre of the trunnions, and this projection is adapted to a concavity in the under side of a saddle-plate, G, which is arranged to slide vertically in the hanger, and between the top of which and the plate *x* of the hanger intervenes the spring, shown by red lines in fig. 1, or any of the usual springs employed in connection with axle-boxes and hangers.

The above-described axle-box possesses several advantages over those constructed and adapted to hangers in the usual manner:

First. The box is permitted to vibrate and accommodate itself to the varying positions assumed by the axle, and this without interfering with the free movements of the spring. It will be readily understood that by this feature of my invention, undue friction of the axle against the bearing and undue wear and tear and heating of both are prevented.

Second. Access can be readily had to the interior of the box, all that is necessary being to raise the car just sufficiently to remove the weight from the cover *f*, detach the door *e*, and withdraw the said cover, after which the bearing E may be easily removed and as easily replaced, and the journal and the interior of the box cleansed with facility. To any one familiar with the tedious manipulation and delays occasioned in removing

the bearing from and gaining access to the interior of an ordinary axle-box, the advantage of this feature will be apparent.

Third. The box itself can be more readily detached from the hanger than ordinary boxes.

Fourth. As the main pressure is exerted on the cover *f*, all other portions of the box, excepting where the trunnions and projections *q* are situated, may be very thin and light, the lower portion of the box having no other duty to perform than that of containing the lubricating material.

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

1. An axle-box, provided with a detachable bearing, E, a curved projection, *m*, fitting a recess in an adjustable saddle, and with trunnions *d d* fitted to sliding-blocks *b*, which are adapted to guides formed in the hanger, all substantially as described.

2. The combination of the rounded projection *m* on the top of the box with a saddle, G, adapted to the hanger, and having a cavity for receiving the said projection, all substantially as and for the purpose herein set forth.

3. The bearing E, adapted to the journal of the axle, and having lugs or projections *n* fitting into recesses in the box as set forth.

4. The sliding-cover *f*, fitted to the top of the box for withdrawal from the same, substantially in the manner described.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

D. H. DOTTERER.

Witnesses:

H. HOWSON,

JOHN WHITE.