S. T. SHELLEY.

Car-Axle Box.

No. 45,870. Patented Jan. 10, 1865.

Fig. 2.

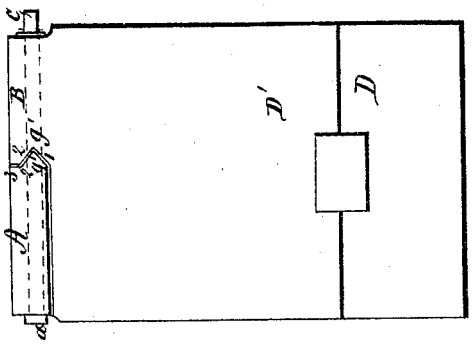


Fig. 1.

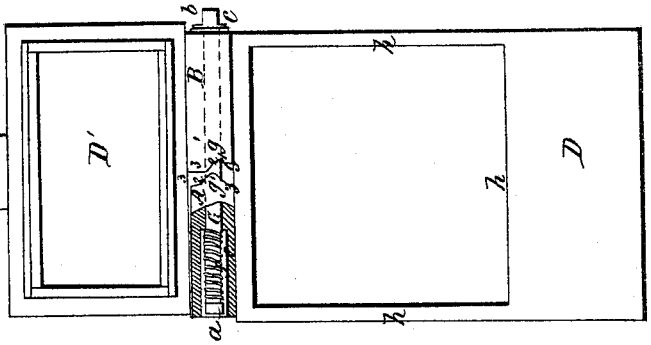
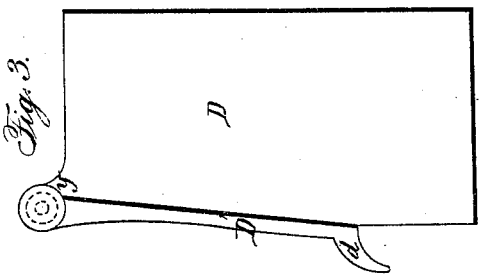


Fig. 3.



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

UNITED STATES PATENT OFFICE.

S. T. SHELLEY, OF LOUISVILLE, KENTUCKY.

IMPROVEMENT IN RAILROAD AXLE-BOXES.

Specification forming part of Letters Patent No. **45,870**, dated January 10, 1865.

To all whom it may concern:

Be it known that I, S. T. SHELLEY, of Louisville, in the county of Jefferson and State of Kentucky, have invented a new and useful Improvement in Axle-Boxes for Railroad-Cars; and I do hereby declare that the following is a full, clear, and exact description thereof, which will enable those skilled in the art to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a front view of an axle-box made according to my invention, the cover being partly thrown up. Fig. 2 is a like view showing the cover down. Fig. 3 is a side view of the axle-box.

Similar letters of reference indicate corresponding parts.

This invention consists in a new mode of fastening a cover to an axle-box by means of a cam-joint hinge and a reciprocating spring-bolt, so that the cover is held by the spring in whichever position (open or closed) it is left.

D is the axle-box, and D′ its cover, the latter having a curved finger, *d*, at its lower end to enable one to take hold of it with readiness. The contour of the box is shown in the drawings, and it has an opening, *h*, on its front side to give access to the axle which is to be inclosed by it. The opening *h* is covered by the cover D′, which depends from a cam-joint hinge, A, formed on a portion of the upper front edge of the box D. The hinge A has an orifice made through it to receive a bolt, C, by which it is connected to another cam-joint hinge, B, formed on a portion of the upper edge of the cover. A part of the orifice made in the hinge A is enlarged, as at *e*, to receive a spiral spring, *f*, which is wound about the bolt, being held thereon by its head *a*, which is of such a diameter as to move freely within the enlarged chamber *e*. The bolt is of such a length as to extend through both hinges, and is secured by a washer, *b*, and key, *c*, on the outer end of the hinge B, the position of the key *c* being adjusted so that when the cover is down, as in Fig. 2, the head *a* of the bolt will enter the enlarged chamber *e* a sufficient distance to close it and prevent the entrance of dust and foreign matters. A cam, *g*, is formed across the inner face of the hinge A of the form shown in Figs. 1 and 2, composed of the angular sides 1 2, which are bisected by the orifice which receives the bolt C, and of the straight sides 3, extending on opposite sides of the cam to the periphery of the hinge. The inner face of the hinge B of the cover is also formed with a cam-joint composed of two straight edges, 3, of equal size with the straight edges 3 of the other joint, and with a cam-groove, *g′*, whose angular sides 1 2 have surfaces equal with the angular sides 1 2 of the cam *g*. When the cam and cam-groove articulate, as seen in Fig. 2, the joint is closed, which takes place when the cover is closed and when it is open, the extent of motion of the cover being half a complete revolution about its bolt or axis. A stop, *y*, is raised behind the hinge upon the top of the box D and clear across it to limit the movement of the cover in that direction.

The cover in Fig. 1 is shown partly raised. When its upward or opening movement is completed, the sides of the cam *g* and cam-groove *g′* articulate, the action of the spring being to draw them together and hold them so, whether the cover be opened or closed.

It will be observed that the coiled spring is confined between the head of the bolt and the bottom of the enlargement *e*, and that when the cover is opened the side 1, Fig. 2, of the cam *g* travels along the opposing side 1 of the groove *g′* until the point of the cam reaches the straight edge 3 of the hinge-joint B, over which it travels until the sides 2 of the cam and groove meet, when the spring draws the cam and groove together and the cover flies wide open, and is held so by force of the spring. The same action, but in reverse order, takes place when the cover is closed.

I claim as new and desire to secure by Letters Patent—

1. Hinging the covers of axle-boxes by means of a cam-joint hinge constructed substantially as described working on a reciprocating spring-bolt or its equivalent.

2. Making an enlargement, *e*, in the hinge A for receiving the bolt-head and spring *f*, in combination with the reciprocating bolt C and the hinge A, for the purpose of protecting the spring and bolt from dirt and other obstructions, substantially as described.

S. T. SHELLEY.

Witnesses:
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