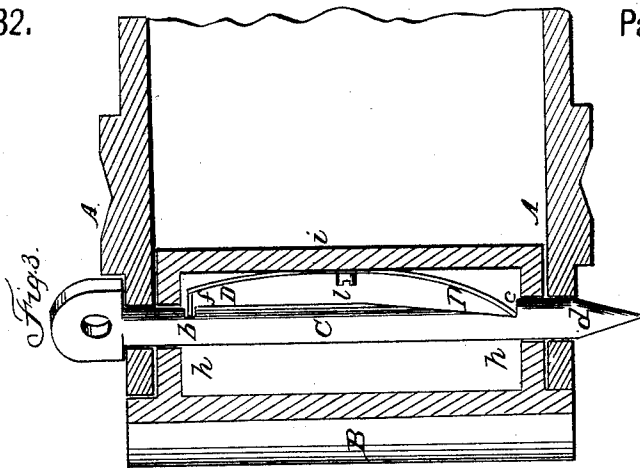
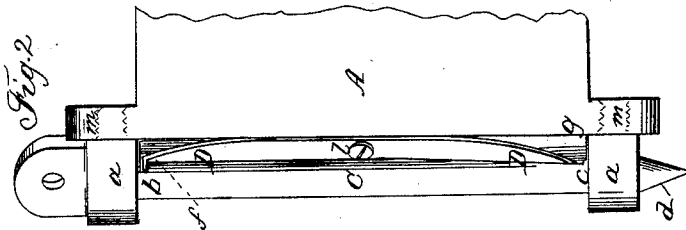
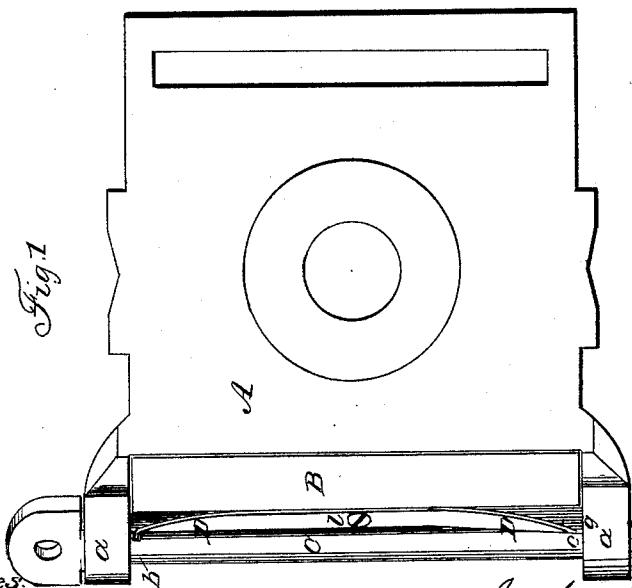
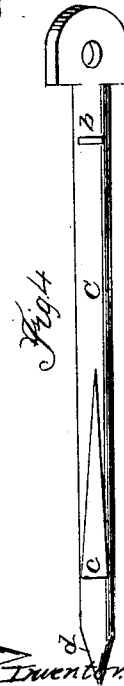


CLUTE & KIMMEY.

Car-Axle Box.

No. 38,032.

Patented Mar. 31, 1863.



Witnesses:
A. C. Klink
C. H. Fowler

Inventor:
Jacob D. Clute &
Philip Kimmey
By *Wm. H. Hays*
J. S. Brown

UNITED STATES PATENT OFFICE.

JACOB O. CLUTE AND PHILIP KIMMEY, OF ALBANY, NEW YORK

IMPROVEMENT IN FASTENING COVERS TO AXLE-BOXES.

Specification forming part of Letters Patent No. 38,032, dated March 31, 1863.

To all whom it may concern:

Be it known that we, JACOB O. CLUTE and PHILIP KIMMEY, of Albany, in the county of Albany and State of New York, have invented a new and useful improvement in fastening the front plates or covers of axle-boxes of car and other wheels; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, making part of this specification.

Figure 1 is a plan view of an axle-box, provided with our improvement; Fig. 2, a view representing a method of applying the improvement to axle-boxes now in use; Fig. 3, a section showing the modification of the method of applying the invention; Fig. 4, a separate view of the fastening-bolt.

Like letters designate corresponding parts in all the figures.

The imperfections of all fastenings now in use arise principally from their tendency to work loose by the incessant vibrations and shocks to which they are subjected when cars are in motion, and from their inconvenience in frequently unfastening and fastening the covers for greasing and cleaning the axle-journals. Our invention is intended to remedy these defects.

Let A in the accompanying drawings represent an axle-box, and B the cover or removable cap, which may be hinged to the axle-box, or simply fit into a suitable recess in the box.

In the ordinary method, which we design, of constructing our improvements, as in Fig. 1, we cast or form two ears, *a a*, upon opposite sides of the axle-box, and pass the fastening-bolt C, or its equivalent, through the same, as shown, leaving some space between the bolt and cover B. In this space is located a spring, D, generally attached at its center to the cap or cover B by a screw, *l*, or otherwise, the two ends of the spring reaching outward, so as to bear with sufficient force against the bolts. One end of the spring has a right-angled hook or bend, *f*, which springs behind a shoulder, *b*, against a flattened side of the bolt, and the other end, *g*, of the spring, without any bend or hook, springs against another flat side of

the bolt behind a shoulder, *c*. At *b* there may be a mere notch in the bolt; and it is not absolutely necessary, though of course preferable, to have both ends of the spring bear against flattened sides and behind shoulders to hold the bolt in. The functions of this combined bolt and spring are twofold—namely, to secure the bolt itself in place, and to hold the cap or cover B in place so tightly as to exclude dust and other extraneous substances.

The bolt is readily inserted by the spring by having the inserted end *d* pointed, as shown, and pushing it directly in, and turning round, if necessary, and it is as readily withdrawn by just simply turning it part way round till a smooth side is brought against the spring, the bolt itself acting as a cam to lift the spring from the flat sides *b c*, when the latter no longer offer any resistance to the direct withdrawal of the bolt. But when the bolt B is once inserted, and its flat surface or surfaces brought against the spring, the latter, by its force, prevents the bolts turning of itself, as well as holds it from being directly drawn out, and in the same act it holds the cover tightly in place.

Many axle-boxes now in use have projecting flanges, as in Fig. 2, through which screw-bolts pass to secure the covers thereto.

We propose to apply our invention to these axle-boxes by making separate ears *a a*, provided with screw-shanks, which are screwed into the flanges *m m*, tapped for the purpose, substantially as shown in said Fig. 2. Thus the invention is applied at a trifling cost above that of replacing the old cover when lost off, as frequently happens.

Another modification of our invention is shown in Fig. 3. Here, instead of having the ears project outward from the axle-box, their equivalents *h h* are formed on the cover or cap itself, and project inward into the axle-box. Then there is a cross bar, *i*, connecting their inner ends, and to this cross-bar the spring *l* is attached, and acts against the bolt C in the same manner as in the first method described above, the bolts passing through holes in the side of the axle-box. There are some advantages in this method, in having all parts inside and no projections.

What we claim as our invention, and desire to secure by Letters Patent, is—

The combination of a flat-sided bolt, C, or its equivalent, with a spring, B, for fastening the covers or caps of car-axle boxes, substantially as herein specified.

The above specification of our improvement

in fastening the front plates or covers of car axle-boxes signed by us.

JACOB O. CLUTE.

PHILIP KIMMEY.

Witnesses:

D. G. LITTLEFIELD,

IRA JAGGER.