

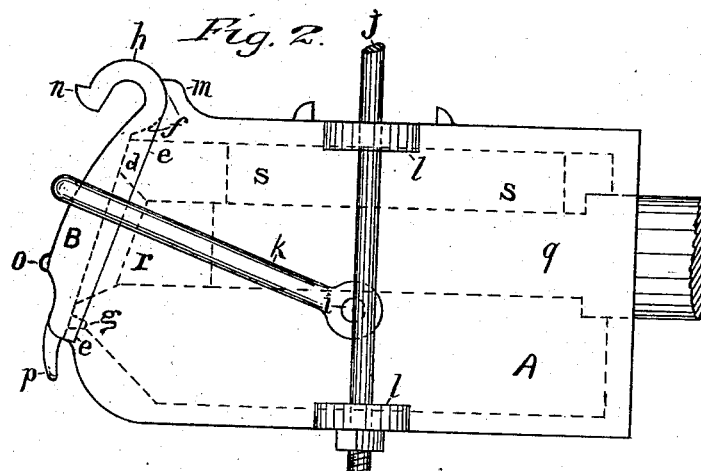
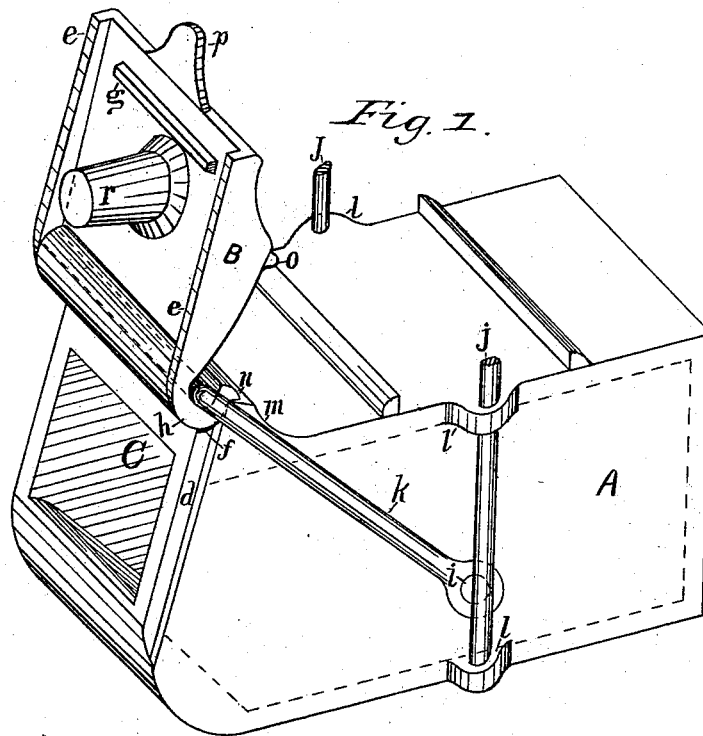
(No Model.)

A. W. ZIMMERMAN.

CAR AXLE BOX.

No. 267,050.

Patented Nov. 7, 1882.



Witnesses.
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UNITED STATES PATENT OFFICE.

ARNOLD W. ZIMMERMAN, OF SWISSVALE, PENNSYLVANIA.

CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 267,050, dated November 7, 1883.

Application filed August 16, 1882. (No model.)

To all whom it may concern:

Be it known that I, ARNOLD W. ZIMMERMAN, of Swissvale, in the county of Allegheny and State of Pennsylvania, have invented certain new and useful Improvements in Car-Axle Boxes; and I hereby declare the following to be a full, clear, and exact description thereof, which will enable others skilled in the art to which my invention relates to make and use the same, reference being had to the accompanying drawings, forming a part hereof, and in which—

Figure 1 represents a perspective view of my axle-box with the lid thereof shown open. Fig. 2 represents a side view of the same with the lid shown closed.

Like letters of reference indicate like parts.

The object of my invention is to produce a car-axle box so constructed as to be able to dispense with the collar usually made on the end of the axle, and which is expensive to make, and so as to keep the axle in its proper position at all times, and also at the same time have an automatically closing and locking lid, all constructed as hereinafter more fully described.

In the drawings, A represents the axle-box, and B its lid; C, the opening on the end of the box. The sides of the box are shouldered, as shown at *d*, as far as the cover extends, into which fit the lips *e* of the lid when closed. The upper side of the opening C and strip *m*, running across the entire width of the box, are concave, as shown at *f*, and into said concave fits the rounded exterior part of the hook *h* of the lid B, forming with it and the stirrup *k* a hinge. A strip, *g*, is also formed across the lower part of the lid, which rests on the lower side of the opening C when closed. The lid B is held in its place by a stirrup, *k*, of which the ends are formed into eyes which fit over and play on the studs *i* on each side of the box. The bolts *j*, which fasten the box to the truck-frame, are passed through the lugs *l* and close over the outer end of the stud *i*, so as to hold the eyes in place on the stud *i*. On the end of the hook *h* are, on each side, spurs *n*, which arrest the lid at the proper point when opened, as shown in Fig. 1, and on the exterior of the lid are spurs *o*, or a bead running across it,

which arrest the stirrup in its downward motion. On the lower edge of the cover is placed a small handle, *p*, and on the interior of the lid, and so as to be in line with it, a spur, *r*, which fits against the end of the axle *q*.

The outer end of the axle-box is so constructed that the convex or outer surface of the lid at the head *o* shall be slightly farther from the center of the stud *i* than the part under the hook *h* when the lid is closed, the object of which is to cause the stirrup, as it falls by its own weight, to draw the lid B inward against its seat, and so as to cause the spur *r* to be held and pressed against the end of the axle.

The hooks *n* and strip *m* are so formed as to hold the lid at rest when open, but so that a slight shock or side motion will cause it to fall closed, and then the stirrup *k* will fall down over the convex surface of the lid and hold it securely closed, and every shock while in motion will tend to tighten it. The spurs *o* are only useful when from long wear the cover and stirrup have worn away so as to permit the stirrup to drop so far as to make it necessary to prevent its dropping out. *s* represents the brass bearing of the axle-box.

The concave *f* and convex part of the hook *h* and stirrup *k* are so constructed as to work freely as a hinge when the stirrup is raised under the hook *h* to open the lid.

A lid of a car-axle box, constructed as here shown, can never be removed or lost by accident or remain open long when the car is in motion; but it will automatically close and lock itself, and at the same time hold the axle in its proper position longitudinally.

What I claim as new is—

1. A car axle-box lid convexed and hinged on its upper edge, and held in its place and forced against the box by means of a stirrup hinged to the sides of the box, and operating as a lock, and both lid and stirrup closing by gravity, substantially as specified.

2. A car-axle box lid provided with a convexed surface, placed substantially as specified, a hook, *h*, operating in concave bearing *f*, in combination with the box A, provided with studs *i* and stirrup *k*, substantially as specified.

3. A car-axle box provided with strip *m*, concave *f*, opening C, and studs *i*, in combination with a convexed lid, B, provided with hook *h*, spurs *n* and *r*, lips *e*, strip *g*, stirrup *k*, and bolts *j*, substantially as specified.
- 5 all constructed to operate substantially as specified.
4. A car-axle box provided with strip *m*, concave *f*, opening C, and studs *i*, in combination with a convexed lid B, provided with hook *h*, spurs *n* and *r*, handle *p*, lips *e*, strip *g*, stirrup *k*, and bolts *j*, substantially as specified.

ARNOLD W. ZIMMERMAN.

Witnesses:

GEO. M. SARGENT,
H. H. C. MILLER.