

W. H. FITZ GERALD.

Improvement in Axle-Box Covers.

No. 114,122.

Patented April 25, 1871.

FIG. 1.

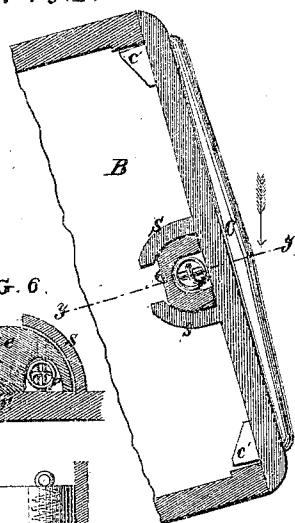


FIG. 6.

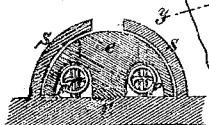


FIG. 5.

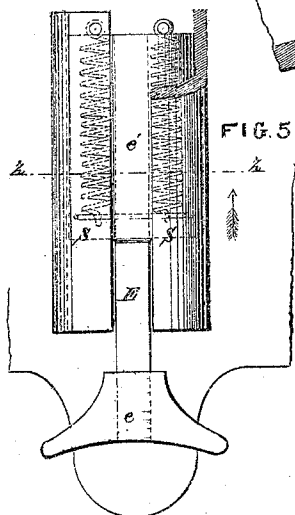


FIG. 2.

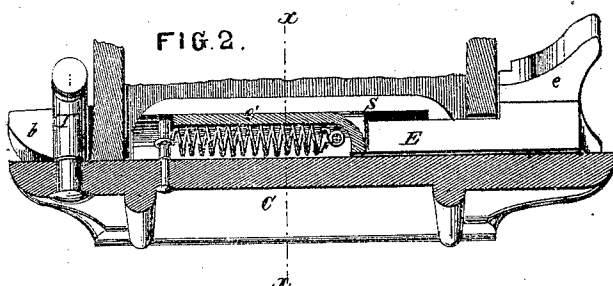
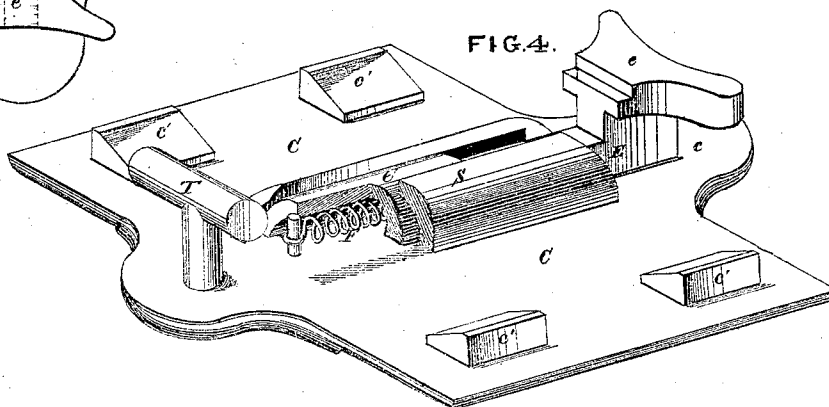


FIG. 4.



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FIG. 7.

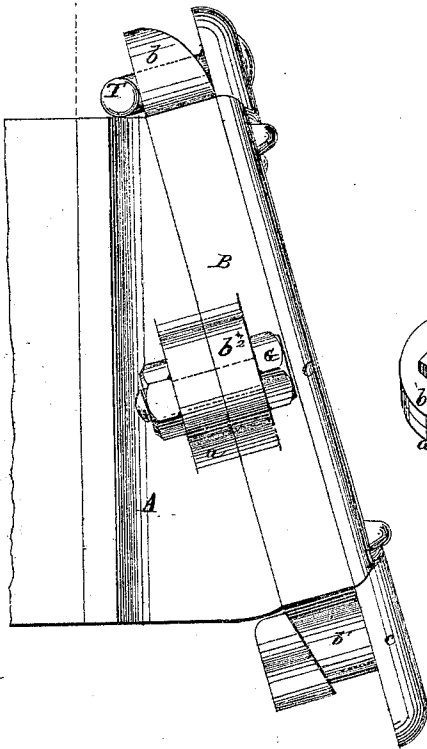


FIG. 8.

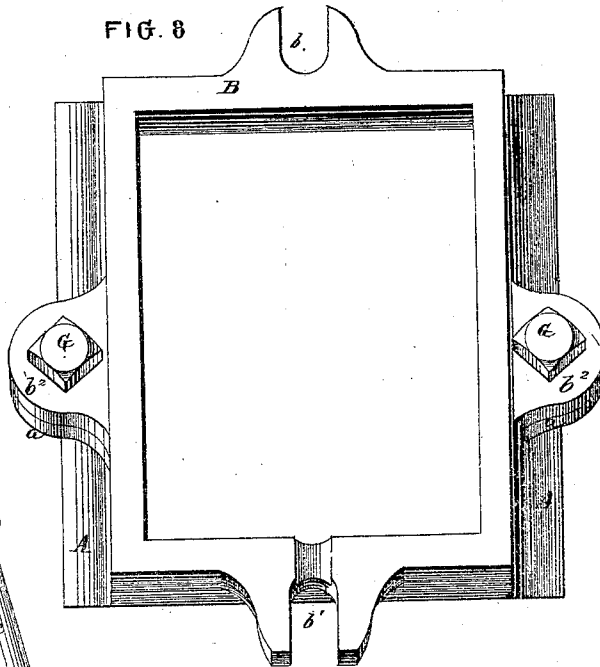


FIG. 9.

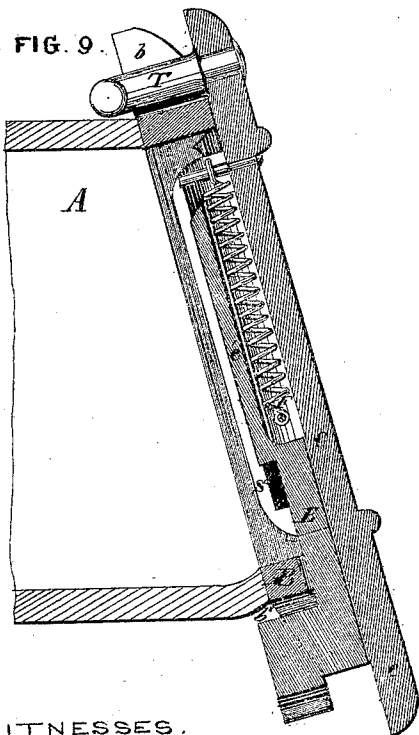
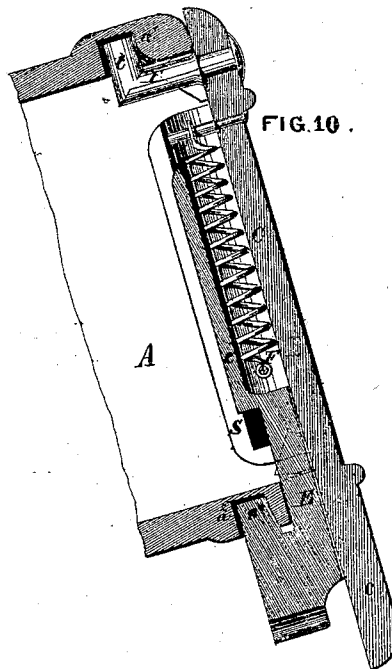


FIG. 10.



WITNESSES.

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UNITED STATES PATENT OFFICE.

WALTER H. FITZ GERALD, OF BROOKLYN, NEW YORK, ASSIGNOR TO HIMSELF AND ISALAH A. HUSON, OF JERSEY CITY, NEW JERSEY.

IMPROVEMENT IN AXLE-BOX COVERS.

Specification forming part of Letters Patent No. **114,122**, dated April 25, 1871.

I, WALTER H. FITZ GERALD, of Brooklyn, in the county of Kings and State of New York, have invented certain new and useful Improvements in Axle-Box Covers for Railway-Cars and other purposes, of which the following is a specification:

Nature and Objects of the Invention.

My invention relates to a detachable cap or cover for axle-boxes which admits of being set in position or removed in an instant, while at the same time it has no liability of working loose or becoming accidentally detached.

My improvements consist, first, in constructing axle-box covers with a spring latch or bolt which, in connection with a suitable stud or hook on its other end or side and lugs upon the box, will hold the said cap or cover firmly in the position as hereinafter explained; second, in a manner of constructing the said latch or bolt, which adapts it to hold more securely, as hereinafter explained; third, in an appliance by which my improved cap or cover may be used in connection with axle-boxes of common form.

Description of the Accompanying Drawing.

Figure 1 is a vertical section of my improved cap or cover, showing a part of the axle-box to which it is applied. The line *x x* in Fig. 1 indicates the plane of section. Fig. 2 is a horizontal section of the same at *y y*, Fig. 1. Fig. 3 is a top or face view of the box with the cover removed. Fig. 4 is a perspective view of the under or inner part of the cover, with portions broken away to expose the bolt-spring. Fig. 5 is an under-side view of a portion of a cover, showing two springs applied to the bolt. Fig. 6 is a transverse section at *z z*, Fig. 5. Fig. 7 is a side elevation, showing a manner of applying my cap or cover to a common axle-box by the interposition of a casket to receive and attach it. Fig. 8 is a top view of said casket and box with the cover removed. Fig. 9 is a central vertical section of the parts shown in Fig. 7. Fig. 10 is a central vertical section of a common box made without lugs, with my cover applied.

General Description.

B represents a portion of an axle-box, cast

with lugs *b b'*, both of which, to adapt them for use with my improved cap or cover, are formed with open slots, and one of them, *b*, is chamfered on its face, as represented. Instead of the T-bolts and nuts most commonly employed for attaching the covers of car-axle boxes, I provide the cover C on one side or end with a T-stud, T, permanently attached thereto, preferably of wrought-iron, which may be screwed or riveted into the cap, and on the other side with a sliding bolt or latch, E, working in a socket, S, cast upon the inner face of the cap, and drawn into lock by one or more springs, F, which may be of spiral or any other convenient form.

The head *e* of the latch is formed as represented to adapt it to be grasped by two fingers, in order to draw it out when the box is to be opened, and where it engages beneath the lug *b'* the surfaces of both latch and lug are preferably inclined, so that a wedge-like action will be exerted under the influence of the spring or springs F to draw the cap tightly upon the box.

The bolt or latch E may be made of cast, malleable, or wrought iron, or of a wrought-iron mandrel or spring, with a cap or socket piece, *e'*, for the spring or springs cast or shrunk upon it.

The cap or cover C is formed with a lug or projection, *c*, which covers the projecting outer end of the bolt and affords a convenient hold or bearing for the hand in retracting the bolt, as well as for elevating the cover when it is released. *c'* represents projecting stays cast upon the under surface of the cap, and serving to keep in proper position by fitting within the corners of the box.

In the illustration given in Figs. 7, 8, and 9, A may represent a part of a common axle-box, to which my invention may be adapted in the following manner: I construct a casket, B, fitting over the axle-box, and fixed thereon by bolts G, passed through lugs *b'* in the inside or outside of the said casket, located and arranged in any manner which may be necessary to adapt them to correspond with the customary lugs *a a* on the box A, which lugs are sometimes located within and sometimes on the outside of the box. The bolts being inserted and their nuts screwed firmly upon

them, the bolts are headed over the nuts to prevent the latter from working loose.

The casket B is provided with lugs *b b'*, similar to those in Figs. 2 and 3. These lugs and the stud and latch which engage therewith may in either case be arranged at the ends or sides of the box and cover, as preferred.

My aim has been, in showing these various modes of applying the invention, to exemplify the fact that it may be used in various ways without limiting my claim to the specific arrangement or location of the various parts.

If it be desired to adapt my cap or cover to a box constructed without lugs, it is only necessary to construct the stud T in a hook form, or with a longitudinal projection, *t*, engaging with a shoulder or slot, *a'*, in one end of the axle-box A, and form a notch or hook, *e'*, in the latch or bolt E, adapted to catch and hold in a slot, *a'*, which is cut for it in the other end of the box. This modification of my invention is illustrated in Fig. 10 of the drawing.

Operation.

To place the cap or cover upon the box, it is passed over the slotted lug *b* in an inclined position, with the stud T passing through the slot in said lug and engaging beneath it. The cap is then brought down, the bolt or latch E drawn out sufficiently to catch over the end of the lug *b'*. The end of the cap being then pressed down, the bolt is drawn in by the action of the spring or springs, the transverse neck of the bolt passing within the slot of the said lug, and the head catching firmly beneath the same.

If the parts be so proportioned that the bolt or latch is not stopped by its head coming in

contact with the side of the box, but by wedging upon the inclined lug, the bolt will become locked, so that it must be released by a slight prizing action with a screw-driver or other instrument before it can be readily retracted by the hand; but by arranging the latch-head so that it will come in contact with the side of the box this locking effect will be avoided.

A very slight variation in the longitudinal prominence of the head or the transverse prominence of the wedge-surface, which variation can be made in a minute with a file, will thus change the latch so as to adapt it to lock fast when the box is closed, or to be left comparatively loose, as preferred.

Claims.

I claim as my invention—

1. The removable cover C, secured on one side by one or more studs, T, and on the other by the spring latch or bolt E, engaging beneath the lug *b*, and formed with a laterally-projecting head, for the purpose of retracting it, all substantially as herein described.

2. The latch or bolt E, constructed with an inclined or wedge-shaped holding-surface, and drawn into lock by a spring or springs, substantially as described.

3. In combination with an axle-box cover and its securing devices, constructed substantially as above specified, the casket B, constructed with bolt-lugs *b² b* and slotted tapering lugs *b b'*, and adapted, as specified, to enable the application of my improved cover to an axle-box of common form.

WALTER H. FITZ GERALD.

Witnesses:

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