(No Model.)

W. DAWSON & E. J. FROST.

DUST GUARD FOR CAR AXLE BOXES.

No. 368,281. Patented Aug. 16, 1887.

FIG. 1.

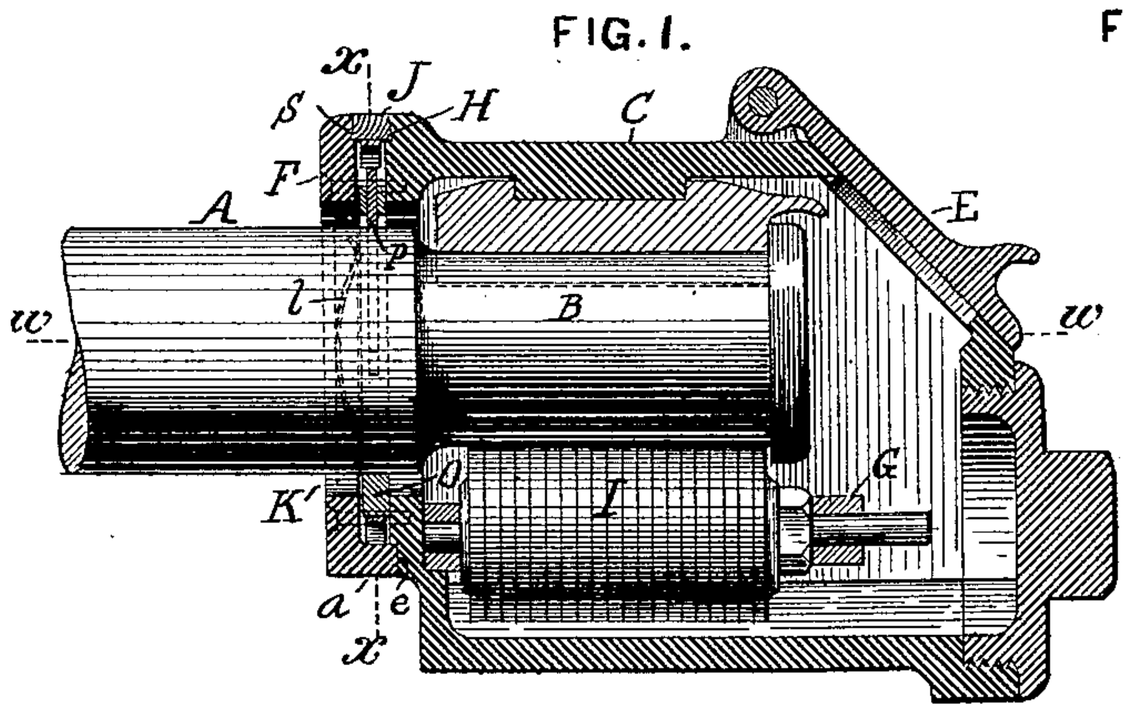

FIG. 2.

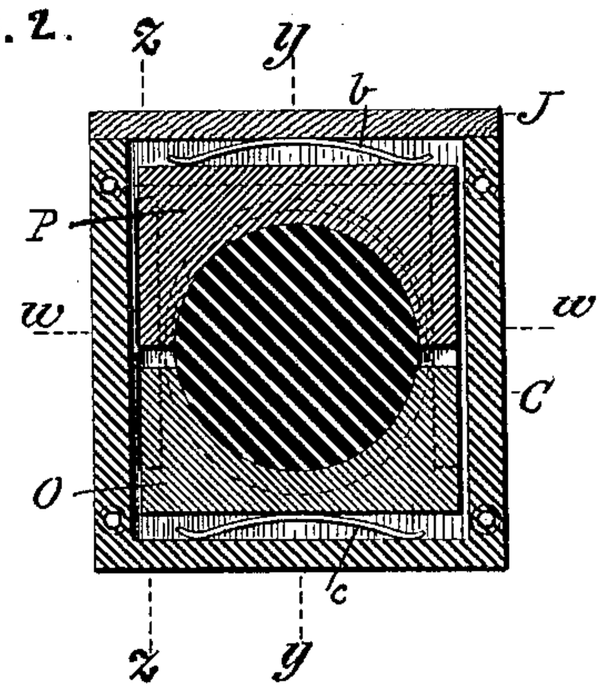

FIG. 3.

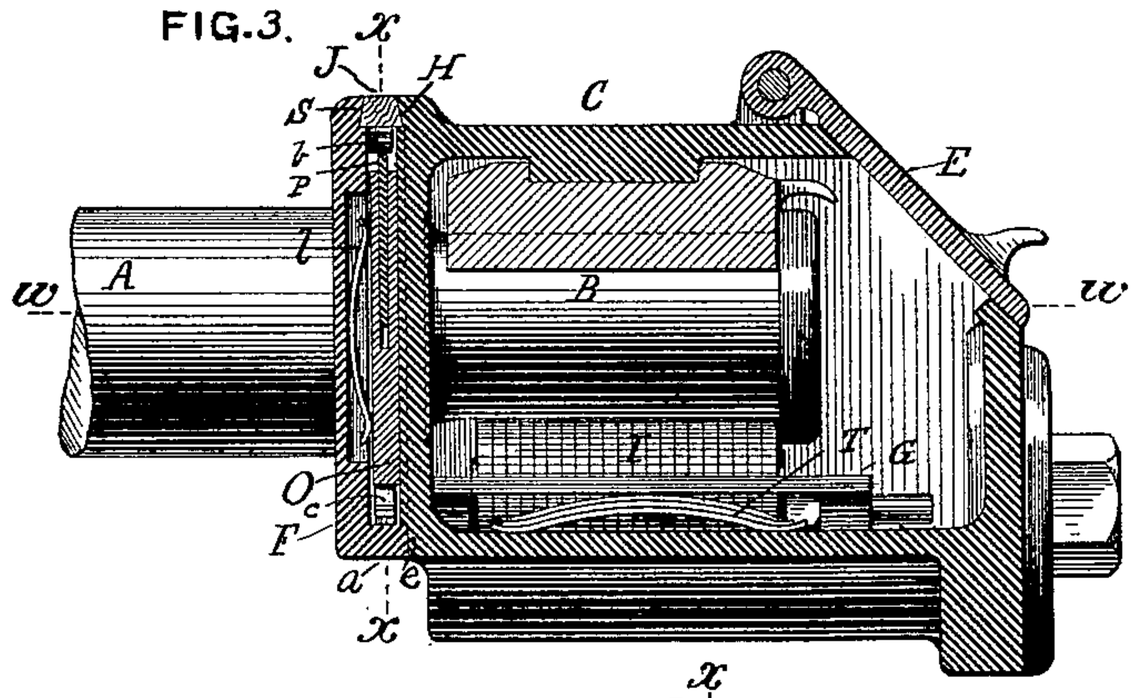

FIG. 4.

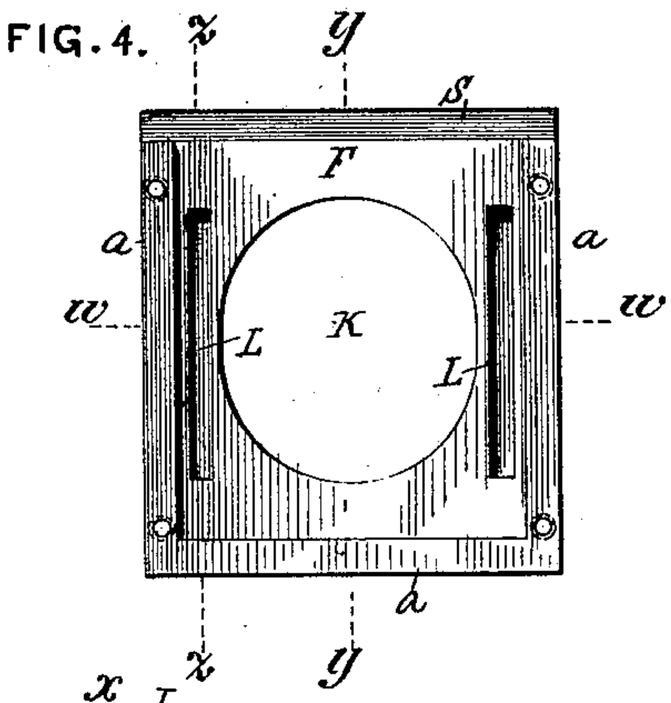

FIG. 5.

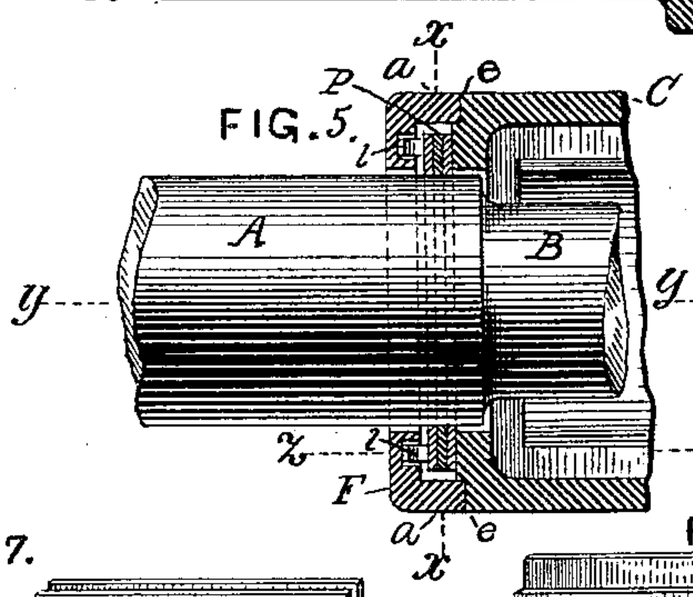

FIG. 6.

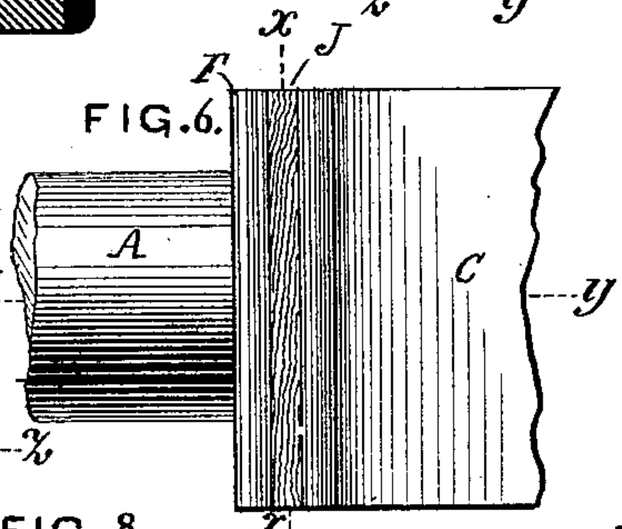

FIG. 7.

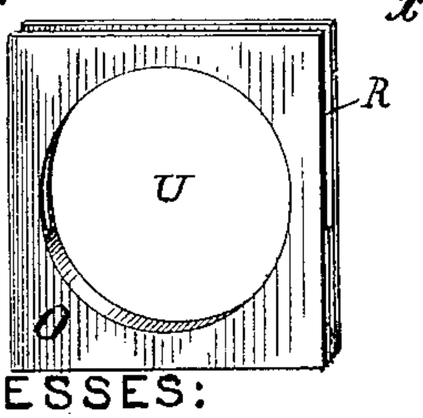

FIG. 8.

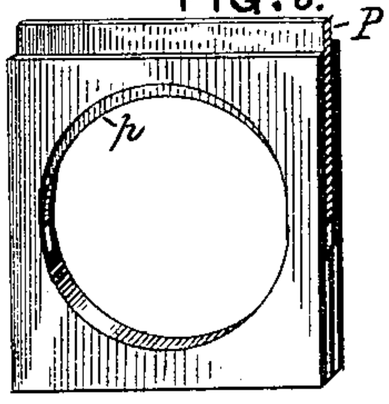

FIG. 9.

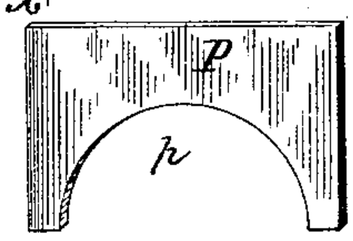

FIG. 10.

WITNESSES:

Geo. A. Vaillant.

C. H. Marple.

INVENTORS,

Wm. Dawson & E. J. Frost

By Hollingsworth & Bailey

Attorneys

UNITED STATES PATENT OFFICE.

WILLIAM DAWSON AND EDWARD J. FROST, OF PHILADELPHIA, PENNSYLVANIA.

DUST-GUARD FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 368,281, dated August 16, 1887.

Application filed February 25, 1886. Serial No. 193,122. (No model.)

To all whom it may concern:

Be it known that we, WILLIAM DAWSON and EDWARD J. FROST, of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Dust-Guards for Car-Axle Boxes, &c., whereof the following is a specification, reference being had to the accompanying drawings.

Our invention is specially valuable in connection with such a lubricating device as is described and shown in Letters Patent No. 325,668, dated September 8, 1885, granted to us, and in the drawings of the present application we have shown it as applied to such a lubricating device, although we do not desire to restrict our claim to its use in that connection.

In the use of lubricators of that description it is especially desirable to exclude dust; and while dust-guards have been devised for that purpose, we believe that heretofore they have not gone into extended use, owing to difficulties of their application, which it is the object of the present invention to avoid.

In the accompanying drawings, Figure 1 represents a vertical section through the dust-guard and adjacent parts on a plane running through the center of the car-axle. Fig. 2 is a cross-section on the plane *x x* of Fig. 1. Fig. 3 is a vertical section on the plane *z z* of Fig. 2. Fig. 4 is an inside view of the cap or back of the guard. Fig. 5 is a partial horizontal section on the plane of *w w*. Fig. 6 is a partial top view of the device; and Figs. 7, 8, 9, and 10 are detail views in perspective of portions of the guard.

A represents the car-axle having a journal, B, which extends into the axle-box C, the latter being provided at its front end with a lid, E, for the introduction of the lubricant. At the bottom of the axle-box is a chamber to hold the said lubricant, and in said chamber a roll, I, revolves, said roll having bearings in a frame, G, supported upon elliptical springs T, and operating substantially in the manner described in the Letters Patent before referred to.

The rear face of the axle-box, C, which is rectangular in shape, is planed off smooth, and has a sunk or depressed edge, *e*, the bottom surface of said depression being parallel to the general surface of the face, except at the top of the box, where the depression is inclined, as shown at H. To this rear end of the axle-box is secured a cap, F, whose projecting flange *a* fits snugly in contact with three sides of the back of the box, the fourth side (which is the top) being, however, recessed, as shown at S, so as to leave across the entire top of the box a dovetailed slot having the overhanging sides H and S. The cap F has a vertically-elongated opening, K, (see Fig. 4,) through which the axle passes, and which allows a certain amount of play around said axle.

The space between the cap and the back of the box forms a receptacle for the dust-guard proper, which consists of the following devices:

In Fig. 7 is shown the bottom plate, O, of the dust-guard, which has an opening, U, whose bottom conforms to the periphery of the lower half of the axle A, but whose upper portion is preferably slightly larger than said axle, so as not to fit closely thereon. Said plate is slotted, as shown at R, across its entire width, and in this slot a top piece, P, fits so as to slide or telescope easily. This top piece, P, has, as is shown in Fig. 9, a semicircular opening, *p*, whose periphery conforms to the periphery of the upper half of the axle A, and when the two are put together, as shown in Fig. 8, the top piece, P, will slide down until the axle is embraced all around by the combined surfaces of the opening U and opening *p*. The top and bottom devices thus combined constitute a sectional dust-guard, and are fitted into the recess between the cap F and the back face of the axle-box, and are sustained and clamped against the axle A in the following manner: A preferably elliptical spring, *c*, is placed below the bottom piece and rests upon the bottom flange of the cap F. Said cap has also two vertical recesses, L L, adjacent to its sides, and in these recesses two preferably elliptical springs, *l l*, are placed so as to press the guard against the back face of the axle-box. The parts having been placed in this position, and the cap F having been secured by screws (shown in dotted lines in Fig. 1) to the back of the axle-box, a preferably elliptical spring, *b*, is placed upon the top of the piece P, and a dovetailed wedge, J, (see

Fig. 10,) is then driven into the dovetailed slot between the inclined surfaces S H, so as to press said spring down upon said top piece, P, and hold the entire guard in position. This wedge we prefer to construct of wood or some elastic material which can be driven in, and which will retain its position without the aid of fastenings, since we find that this construction enables us to dispense with any elaborate device for securing the parts, and at the same time can be readily withdrawn to permit their removal or replacement in case of injury.

As before stated, we do not claim, broadly, the combination, with an axle-box, of a dust-guard, but only the improved construction and novel organizations by which we are enabled to readily apply such guard within the limited space between the axle-box and the wheel, and which also permits the guard to accommodate itself to any movements of the axle while yet making a close joint against the rear end of the axle-box.

Having thus described our invention, we claim—

1. The combination, with the axle-box and a cap at the back thereof, of a dust-guard seated between said cap and said box and the springs confined between the front face of said cap and the back face of said dust-guard, and acting horizontally to thrust said dust-guard forward against said box where it surrounds the axle, so as to keep a tight joint between the guard and box, substantially as described.

2. The combination, with the axle-box, of the sectional dust-guard and the vertically and horizontally acting springs fitted to press said guard around the axle and against the axle-box, respectively, substantially as described.

3. The combination, with the axle-box, of a dust-guard, a confining-cap, and a confining-wedge, substantially as described.

4. The combination, with an axle-box having a smooth rear end and a cap fitting thereon, with an intermediate space between them, of the slotted plate O, top piece, P, sliding vertically in the slot, springs *l l*, pressing against the rear of the plate O, spring *c* beneath said plate, spring *b* above the top piece, P, and the dovetailed wedge J, arranged above the spring *b*, the whole operating substantially in the manner set forth.

5. The combination, with an axle-box and a cap having a dust-guard between them, of a spring above said dust-guard and a dovetailed wedge or retaining-piece fitting transversely across the top of the space between the said axle-box and cap and in contact with said spring, substantially as set forth.

WILLIAM DAWSON.
EDWARD J. FROST.

Witnesses:
FORREST W. WEST,
CHARLES F. ZIEGLER.