

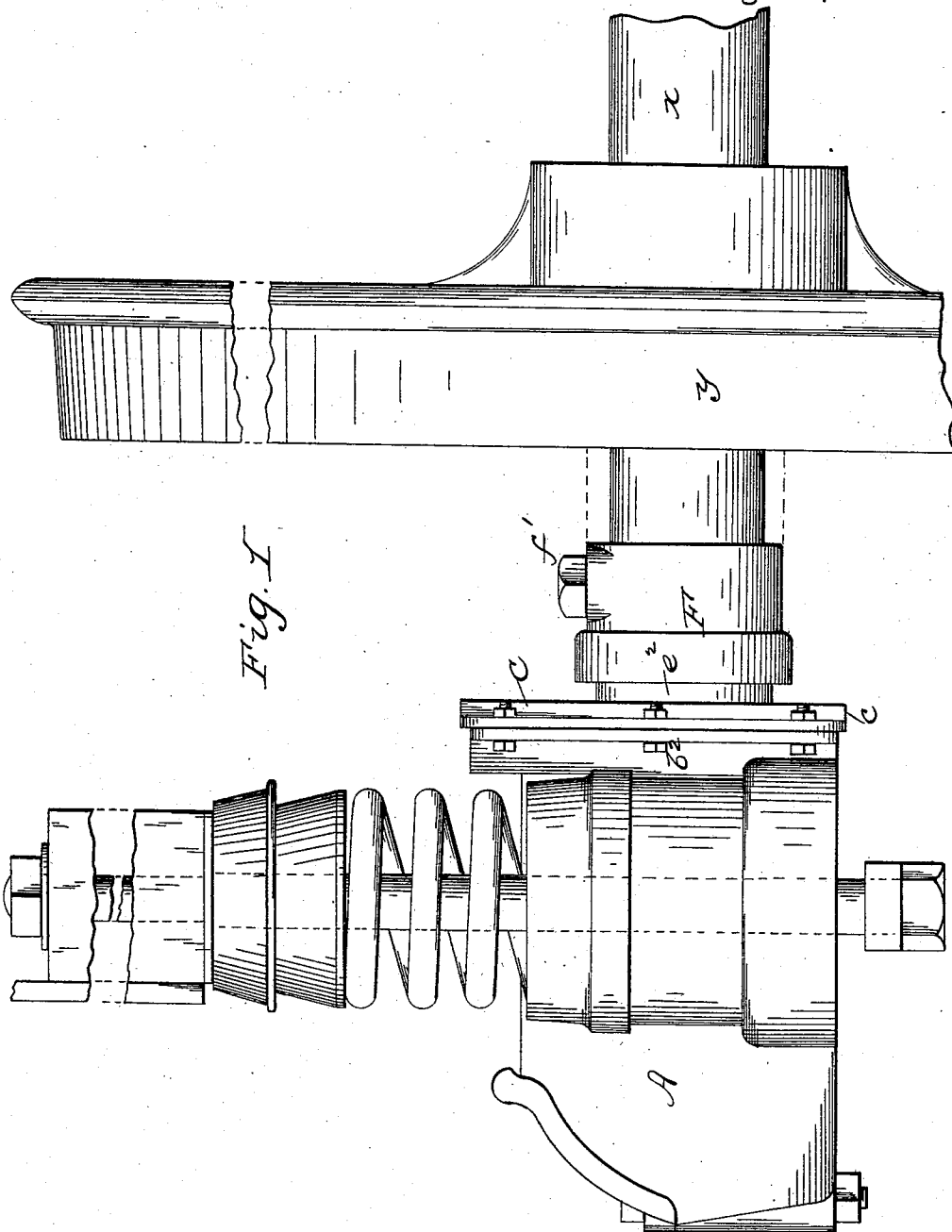
(No Model.)

3 Sheets—Sheet 1.

G. M. BRILL.  
CAR AXLE BOX.

No. 324,220.

Patented Aug. 11, 1885.



WITNESSES:

*T. F. Holden.*  
*M. F. Halleck*

INVENTOR,

*George Martin Brill*

*By S. J. Vanstavern*  
ATTORNEY

(No Model.)

3 Sheets—Sheet 2.

G. M. BRILL.

CAR AXLE BOX.

No. 324,220.

Patented Aug. 11, 1885.

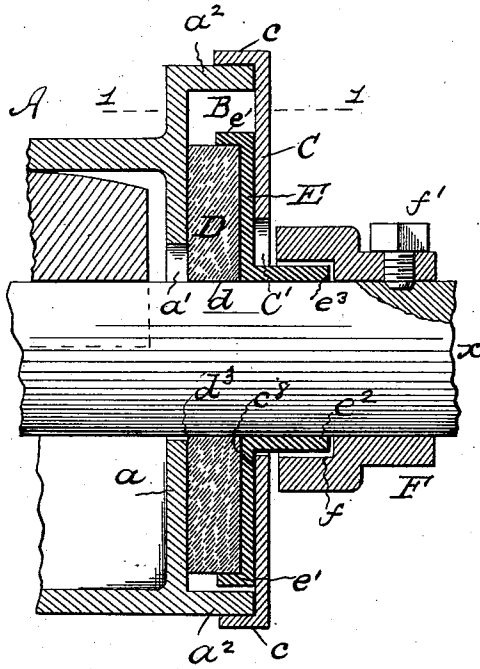


Fig. 2

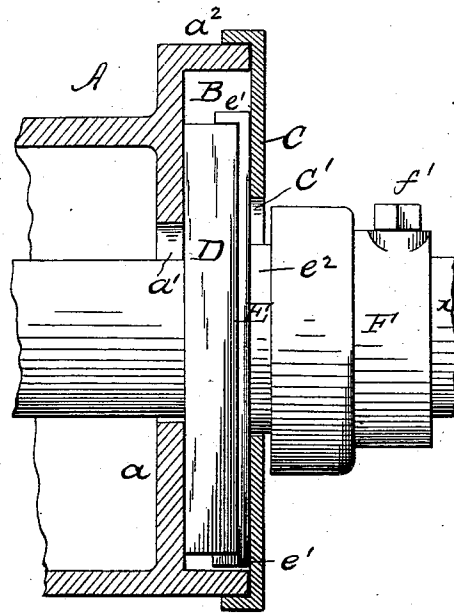


Fig. 3

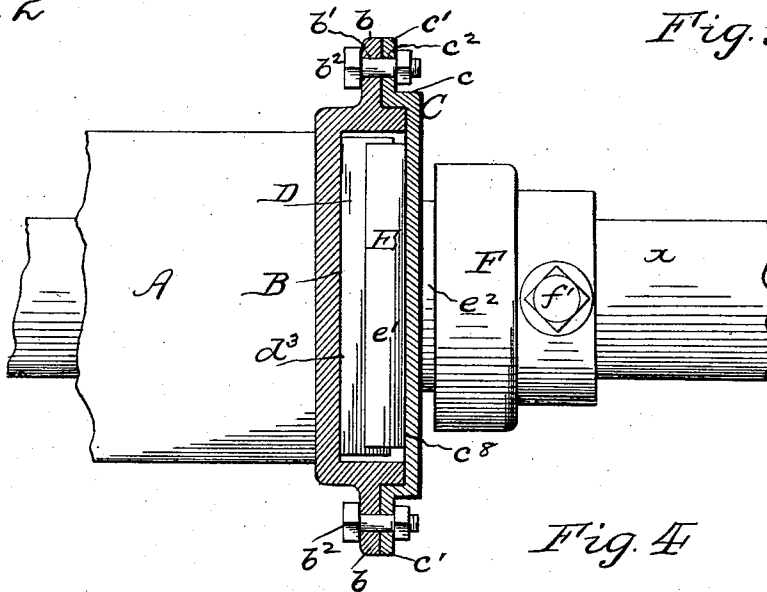


Fig. 4

*WITNESSES:*

T. F. Holden.  
M. J. Halleck.

INVENTOR  
George Martin Brill

By S. J. VanStavoren  
ATTORNEY

(No Model.)

3 Sheets—Sheet 3.

G. M. BRILL.  
CAR AXLE BOX.

No. 324,220.

Patented Aug. 11, 1885.

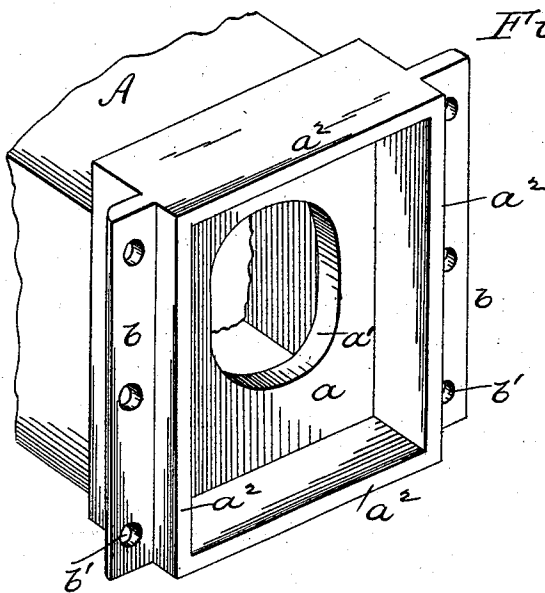


Fig. 5

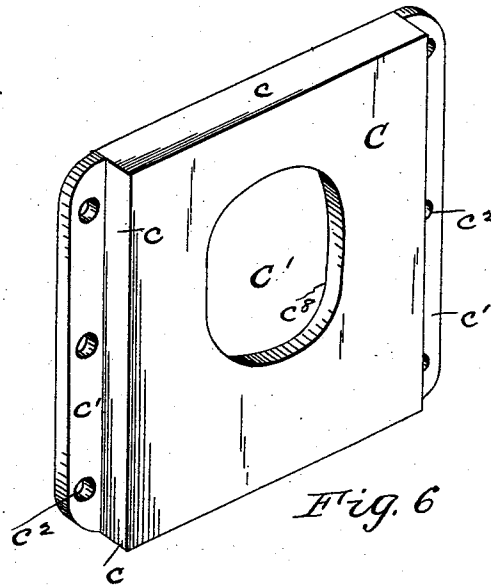


Fig. 6

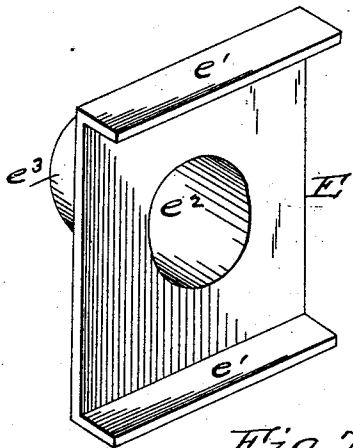


Fig. 7

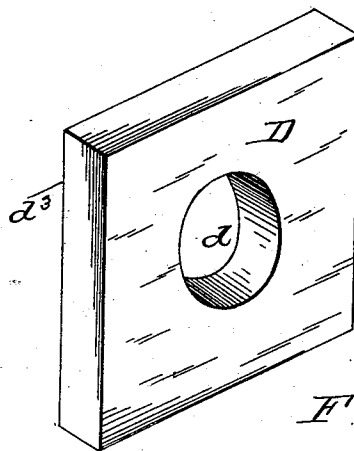


Fig. 8

WITNESSES:

T. F. Holden.  
M. J. Halleck

INVENTOR,

George Martin Brill

By S. J. Vombavoren  
ATTORNEY

# UNITED STATES PATENT OFFICE.

GEORGE MARTIN BRILL, OF PHILADELPHIA, PENNSYLVANIA.

## CAR-AXLE BOX.

SPECIFICATION forming part of Letters Patent No. 324,220, dated August 11, 1885.

Application filed March 31, 1885. (No model.)

*To all whom it may concern:*

Be it known that I, GEORGE MARTIN BRILL, a citizen of the United States, residing at Philadelphia, in the county of Philadelphia and State of Pennsylvania, have invented certain new and useful Improvements in Car-Axle Boxes, of which the following is a specification, reference being had therein to the accompanying drawings, wherein—

Figure 1 is a side elevation of a part of a car, axle, wheel, and axle-box, showing my improvements. Fig. 2 is a broken longitudinal section of the rear portion of the axle-box, drawn to an enlarged scale, showing the dust-shield and the collar on the axle. Fig. 3 is a like view, partly in elevation, of same. Fig. 4 is a horizontal section on line 1 1, Fig. 2. Fig. 5 is a broken perspective of the rear end of axle-box. Fig. 6 is a perspective of removable cap or cover for back end of axle-box, and Figs. 7 and 8 are detail perspectives of parts of the dust-shield.

My invention has relation, generally, to car-axle boxes, and particularly to dust-shields for the rear end of same; and it has for its object to so construct the rear end of the axle-box and the component parts of the dust-shield that a simple, durable, and effective shield is provided for excluding dust and preventing escape of oil from the axle-box.

My invention accordingly consists of the combination, construction, and arrangement of parts, as hereinafter described and claimed, having reference particularly to an axle-box having a single rear wall provided with a rearwardly-projecting edge flange all around the same, forming an open or outside rear end chamber, which has a removable cap or cover and receives a plate of hard wood or other suitable material secured in a metal holder or plate having a hub loosely mounted upon the axle, projecting outside of said cap and entering an annular recess in the end of a collar or sleeve firmly secured to the axle between the wheel and axle-box.

In the drawings, A represents an axle-box, which, except as hereinafter described, may be of any of the usual or well-known constructions, or as shown or otherwise, as desired. Box A has but a single integral rear wall, *a*, which has the usual axle-opening, *a'*. All

around the outside edge of wall *a* rearwardly projects a flange, *a*<sup>2</sup>, which incloses or forms an open end or outside chamber, B, on or at the rear end of box A.

C represents a cap or cover for chamber B. This cap is preferably made with an all-around edge flange, *c*, to overlap the edges of chamber B and make a closed joint therewith, and has an axial opening, *C'*. Cap C is also provided with side flanges or lips, *c'*, which abut against similar flanges or lips, *b*, formed on the outside lateral surfaces of chamber B, as shown more plainly in Fig. 4. These abutting flanges *c'* and *b* are provided with registering openings *c*<sup>2</sup> *b'*, respectively, for passage of fastening-bolts *b*<sup>2</sup> or other like devices, whereby the cap C is susceptible of being removed from box A. If desired, however, said cap may be otherwise suitably secured to box A.

In chamber B is placed an oblong, square, or other appropriately-configured block of hard wood or other suitable material, D, having axle-opening *d*. The block D is held by friction or otherwise in a metal holder or plate between its top and bottom flanges, *e'*, and said plate has a hub, *e*<sup>2</sup>, loosely mounted on the car-axle *x*, which hub projects beyond the removable cap C, and its end *e*<sup>3</sup> enters an annular recess, *f*, in a sleeve or collar, F, firmly fastened to axle *x* by a set-screw, *f'*, or other fastening device, between the car-wheel *y* and box A.

It will be noted from the foregoing that the opening *d* in block D is circular, as shown, or that it and the hub-opening of plate E snugly fit the axle; that the collar F covers the end of hub *e*<sup>2</sup>, to prevent access of dirt between the latter and the axle; that the inside surface, *e*<sup>3</sup>, of cap C impinges against the back of plate E, and that the outer surface, *d*<sup>3</sup>, of block D bears against the back of box-wall *a*; consequently the opening *a'* in the latter is effectually sealed against the access of dirt thereto and the escape of oil therefrom. As the block D and plate E do not revolve, their impinging or sealed surfaces do not wear, and therefore require little or no adjustment, and when once set up or affixed in their proper position on the box A need no further looking after or attention.

What I claim is—

1. An axle-box having rear open chamber, B, and cap C, in combination with a block, D, plate E, and collar F, substantially as shown and described. 5
2. A dust-shield for a car-axle box, composed of a block, D, and holder E, having hub  $e^2$ , substantially as shown and described.
3. The axle-box A, having rear end flanged 10 chamber, B, having outside lugs,  $b$ , in combination with cap C, block D, plate or holder E, and collar F, substantially as shown and described.
4. The axle-box A, having chamber B and 15 cap C, in combination with block D and plate E, having lips  $e'$  and hub  $e^2$  projecting through cap C, substantially as and for the purpose set forth.

5. A dust-shield for car-axle boxes, composed of a non-rotating block and holder mounted 20 on the car-axle and inclosed in a rear end chamber of the box, and having a hub projecting beyond said chamber, substantially as shown and described.

6. The combination, with box A, having 25 end chamber, B, and cap C, having axial opening C', of block D, holder E, having hub  $e^2$ , and collar F, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in 30 presence of two witnesses.

GEORGE MARTIN BRILL.

Witnesses:

HENRY F. WALTON,  
CHAS. B. PENROSE.