

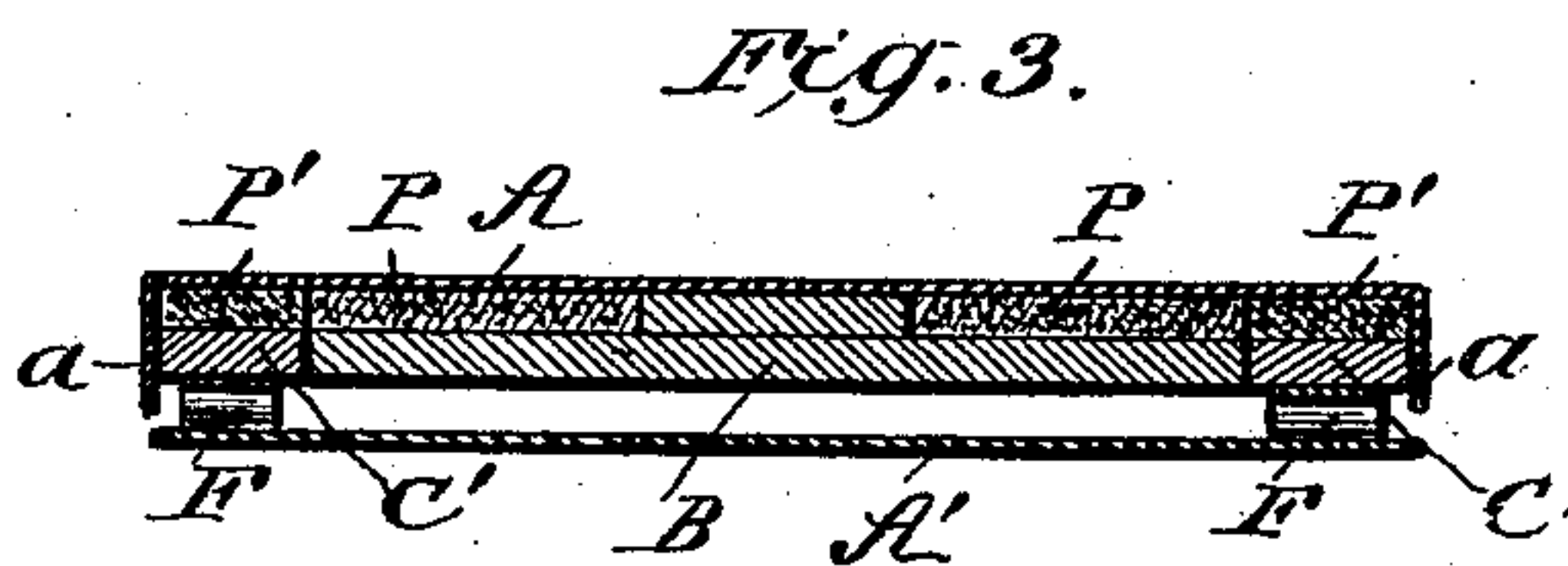
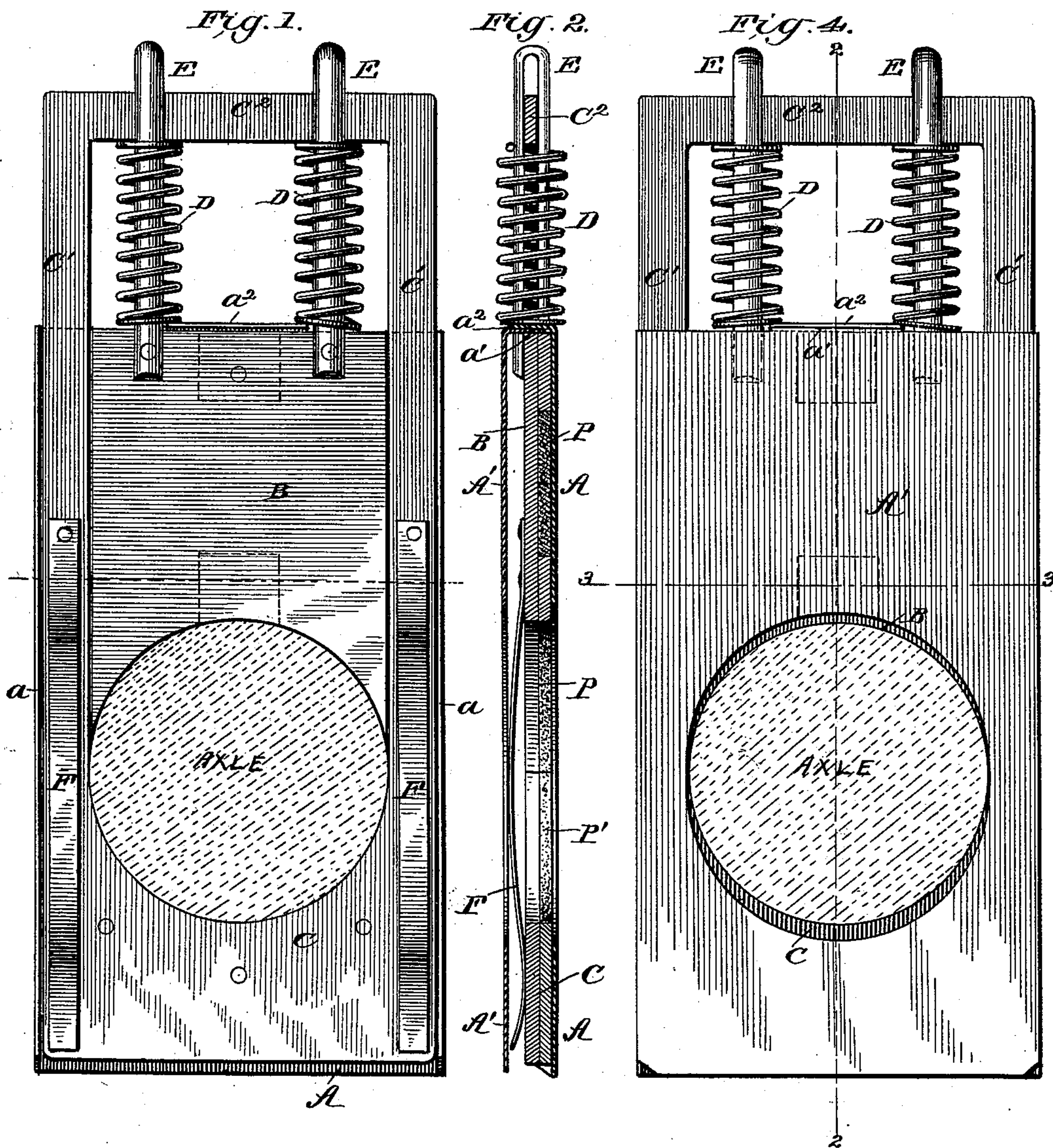
(No Model.)

F. P. THOMPSON.

DUST GUARD AND OIL SAVER FOR CAR AXLE BOXES.

No. 540,522.

Patented June 4, 1895.



WITNESSES:  
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# UNITED STATES PATENT OFFICE.

FREDERIC PEMBERTON THOMPSON, OF FREDERICTON, CANADA.

## DUST-GUARD AND OIL-SAVER FOR CAR-AXLE BOXES.

SPECIFICATION forming part of Letters Patent No. 540,522, dated June 4, 1895.

Application filed January 23, 1894. Serial No. 497,794. (No model.)

*To all whom it may concern:*

Be it known that I, FREDERIC PEMBERTON THOMPSON, of Fredericton, New Brunswick, Canada, have invented a new and useful Improvement in Dust-Guards and Oil-Savers for Car-Axle Boxes, of which the following is a specification.

My invention relates to that class of devices known as dust guards, or dust collars, for car axle boxes, the same being in the nature of self adjusting plates that closely embrace the axle where it protrudes through, which plates prevent the entrance of dust and the waste of the oil.

It relates more especially to that form of dust guard or collar in which two concave bearing edges are held respectively against the top and bottom surfaces of the axle and are pressed together by means of springs, which cause them to tightly close about the axle, and by advancing to a close fit as fast as they wear, maintain always a tight joint at this point.

My invention consists in the special construction and arrangement of these parts of a dust guard, whereby it is made very simple, cheap, and practical in construction, as well as very convenient and effective in use, which I will now proceed to describe more fully with reference to the drawings, in which—

Figure 1 is a side view of the dust-guard with the outer face-plate removed. Fig. 2 is a longitudinal section taken through the line 2 2 of Fig. 4. Fig. 3 is a transverse section through line 3 3 of Fig. 4. Fig. 4 is an outside view of the dust-guard.

In the drawings A and A' are two external metal plates which form the containing case. One of these plates A is flanged at its sides *a a* so as to inclose the bearing plates within, and the other plate A' is preferably flat except for a short flange *a'* at the top. Both plates have a hole in them somewhat larger than the axle.

B and C are the two closure plates contained within the case, and bearing respectively, the one upon the top of the axle, and the other against its bottom. For this purpose the upper plate B has its lower edge semi-circular to correspond to the top half of

the axle, while the upper edge of plate C is of a corresponding shape so that the two together completely inclose and closely embrace the axle between them. The plate C is made in one piece with two parallel bars C' C' and a cross bar C<sup>2</sup> connecting them at the top, all of which parts may be cheaply stamped from heavy sheet metal. The plate C with its bars C' C' fit snugly but easily within the flanges *a a* of the outer case, so that they move freely within the same in vertical direction. The plate B is riveted at *r* fast to the back plate A, and is made of a width just sufficient to lie between the bars C' C' of plate C, and in the same plane therewith, forming a guide surface at its edges for the rectilinear movement of the bars C' C'.

D D are spiral springs arranged between the upper edge of plate B and the lower edge of the cross bar C<sup>2</sup> of lower bearing plate C. The tension of these springs forces the upper plate B downward, and draws the lower plate C upward, and thus holds these plates always tightly closed around the axle. These springs are wound upon duplex or double branched stems E, which are made in one piece with two parallel legs which straddle the cross bar C<sup>2</sup>, and have their lower ends riveted fast to the upper bearing plate B and the outer case plate A. As the plates B and C move toward or from each other, these duplex stems guide the cross bar C<sup>2</sup>, and also act as stops to prevent the unlimited upward movement of the cross bar from the expansion of the spiral springs.

The case plate A' is held at a little distance away from the plates B and C by flat bowed springs F F riveted to the side bars C' C' to hold the parts elastically together, and the plates A and A' have between the spiral springs lapped flanges *a' a'* to hold them against vertical displacement.

To cause the bearing surfaces of the dust guard to fit tightly against the axle there is attached to the upper bearing plate between it and the casing a packing P of asbestos, leather or other flexible material, and a similar packing P' is attached to the lower bearing plate for the same purpose. To hold the bearing plate B a proper distance from the outer casing A to permit of the insertion of



the packing P, spacing blocks s s' are fixed between the same in the same plane with the packing.

With this construction of dust guard, it will be seen that the plate C with its arms C' and cross bar C<sup>2</sup> entirely surrounds the inner plate and its connections like a yoke, forming an inclosing frame and making the device a self contained one, in which the tension of the springs is exerted directly upon the two parts without intermediate or supplemental parts, or extra connections, thus greatly conducing to the simplicity, strength, durability, and practical constructions of the device. If desired more or less spiral springs D may be used.

Having thus described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. In a dust guard for car axle boxes as described, the combination with the upper bearing plate and the lower bearing plate having a yoke shaped frame surrounding the upper

plate; of one or more spiral springs arranged between the two, and corresponding stems having doubled or parallel branches straddling the top part of the frame of the lower bearing plate, and secured to the upper bearing plate, and extending through the springs substantially as shown and described.

2. A dust guard for car axle boxes consisting of outer case plates A A' having flanges a a' a<sup>2</sup>, and openings for the axle, the upper bearing plate B fastened to the outer case plate A, the lower bearing plate C having inclosing frame C' C' C<sup>2</sup> all made in one piece, the interposed spiral springs D D, and the double branched parallel stems extending through the springs and straddling the inclosing frame bar C<sup>2</sup> substantially as and for the purpose described.

FREDERIC PEMBERTON THOMPSON.

Witnesses:

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