

(No Model.)

W. A. WARMAN.

DUST GUARD AND OIL SAVER FOR CAR AXLES.

No. 512,926.

Patented Jan. 16, 1894.

Fig. 1.

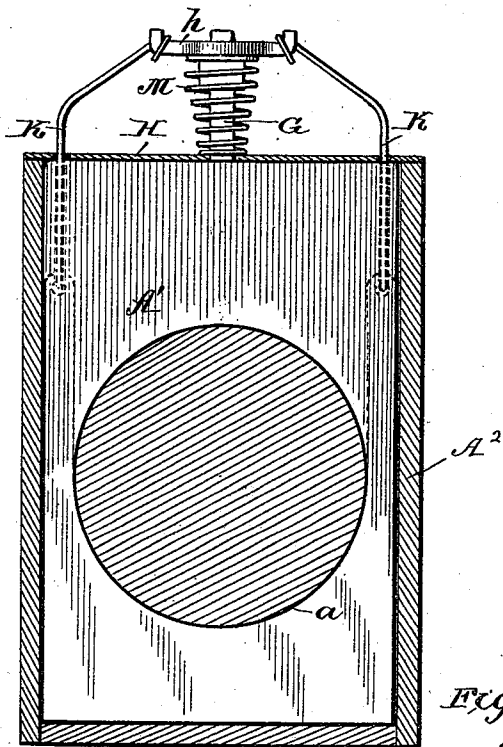


Fig. 2.

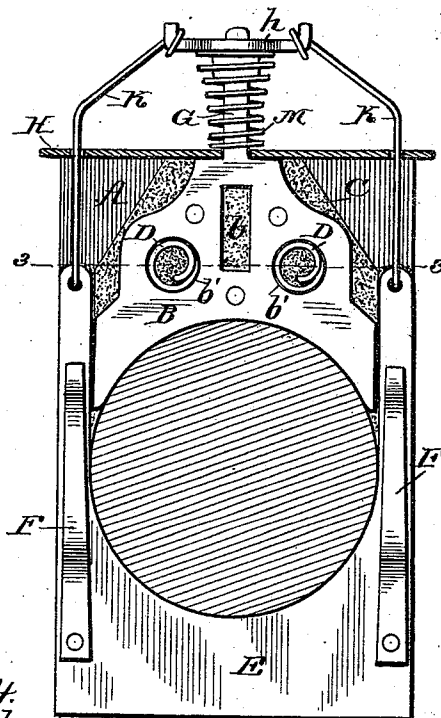


Fig. 4.

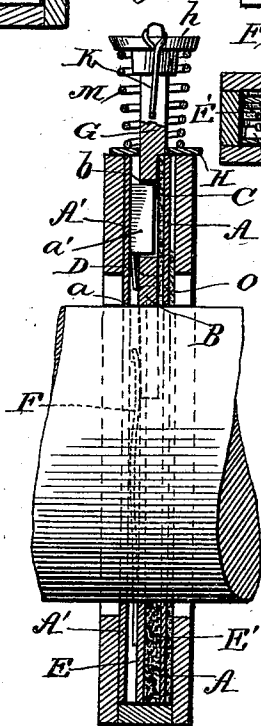


Fig. 3.

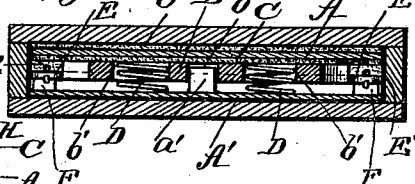
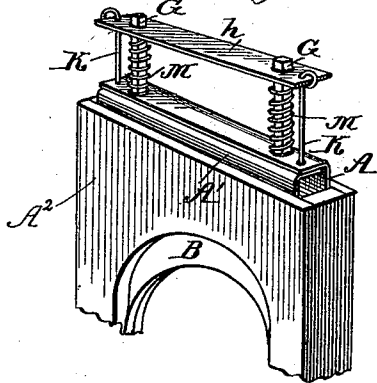


Fig. 5.



WITNESSES:

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WILLIAM A. WARMAN, OF MONCTON, CANADA.

DUST-GUARD AND OIL-SAVER FOR CAR-AXLES.

SPECIFICATION forming part of Letters Patent No. 512,926, dated January 16, 1894.

Application filed June 6, 1893. Serial No. 476,752. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM A. WARMAN, residing at Moncton, in the Province of New Brunswick and Dominion of Canada, have invented a new and useful Improvement in Dust-Guards and Oil-Savers for Car-Axles, of which the following is a specification.

This invention relates to an improved dust guard and oil saver for car axles, and has for its object to provide a cheap and simple device which can be adjusted to suit various sized axles, one which will prevent the entrance of dust or the escape of oil and one that will adjust itself to take up any wear that may take place among the several elements of the device.

With these objects in view my invention consists of a rigid bearing frame or plates having a packing material between the same, and a vertically movable plate carrying a sheet of packing material which is adapted to operate in conjunction with the stationary packing and envelop the axle or shaft.

My invention consists also in the novel construction and arrangement of the several parts whereby they are properly spaced to permit the motion of the movable section, and at the same time are held firmly in their proper places.

In the drawings forming a part of this specification—Figure 1 is a face view, one side of the case being removed. Fig. 2 is a face view showing the plate A' removed. Fig. 3 is a section on line 3—3, Fig. 2. Fig. 4 is a central vertical section and Fig. 5 is a detail perspective of a modification.

In carrying out my invention, I employ two flat metallic plates A and A', both of which are provided with a large circular opening *a* for the passage of the axle or shaft. A bearing block B (of Babbitt metal or other suitable bearing compound) is rigidly secured to the inner face of the plate A at the upper end of the same, the lower edge of said block being curved to coincide with the upper edges of the opening *a*, and between the block B and plate A is secured a sheet of packing material C such as asbestos, leather or other suitable material. The lower edge of this sheet is also cut to coincide with the edges of the block B and plate A. The block B is formed with a central rectangular opening *b*

and circular openings or recesses *b'* on each side of the opening *b*. A short spiral spring D is arranged in each opening or recess *b'* and is adapted to bear upon the inner face of the plate A' when said plate is arranged in connection with the plate A, and in order to hold the plates in the proper relative positions I form a boss *a'* upon the inner face of the plate A', which boss is adapted to enter the opening *b* and thus prevent any lateral or vertical movement of the plates A and A'. A vertically adjustable plate E is arranged between the plates A and A', said plate being so formed as to straddle the bearing block B and form therewith an essentially circular opening for the passage of the axle. The inner face of this plate E is covered by a sheet of packing material E', which in conjunction with the sheet C envelops the axle and prevents the escape of oil or the entrance of dust. Bow shaped leaf springs F F are secured upon the outer face of the central plate E, near the edges of the same, said springs bearing upon the inner face of the plate A' and in connection with the springs D D hold said plate a sufficient distance away to permit the automatic adjustment of the central plate E.

In order to provide for the automatic adjustment of the central plate, I form one or more projections G which extend upward from the bearing block B and upon said projection is arranged a perforated plate H, the ends of which are connected with the ends of the central plate E by means of the rods K K. A plate *h* is also arranged upon the projection G adjacent to the plates A A', and between the plates H and *h* is arranged a spiral spring M, which tends to force the plate *h* upward and thus draw the central plate E and packing E' up against the axle making a tight joint about the same. Instead of a separate plate *h* the plates A and A' may be bent at their upper ends as shown in Fig. 5, in which the projections G and springs M are shown. The entire device as thus described is then incased in a suitable case A² of wood or other material and between the outer face of the plate A and the wooden case is arranged a sheet of packing material O, said sheet being shaped to conform to the opening in the case.

The various parts being assembled as shown

and described the operation is as follows:
The plate *h* is pressed down lowering the central plate *E*. This enlarges the central opening and the axle or shaft is then passed
5 through. As soon as the plate *h* is released the central plate is drawn up and held tight against the axle and when any wear takes place the springs will operate to move the central plate up to compensate for it. The
10 packing sheets besides closely enveloping the axle or shaft also contact with each other and thus prevent the escape of oil or the entrance of dust.

Having thus described my invention, what
15 I claim is—

1. The combination with the outer plates, of a bearing block secured thereto, the central adjustable plate adapted to straddle the

bearing block and to move between the outer plates, substantially as shown and described. 20

2. The combination with the outer plates of the bearing block having a projection, the central plate, the rods connected thereto, the spiral spring and the plates bearing upon said
spring, substantially as shown and described. 25

3. The combination with the outer plates of the bearing block recessed as described and having a projection, the spiral springs in the recesses, the central plate provided with bow springs, the rods and spiral spring
around the projection, all arranged substantially as shown and described. 30

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Witnesses:

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