No. 646,462. Patented Apr. 3, 1900.

W. M. RYAN.

DUST GUARD.

(Application filed June 12, 1899.)

(No Model.)

Fig. 1.

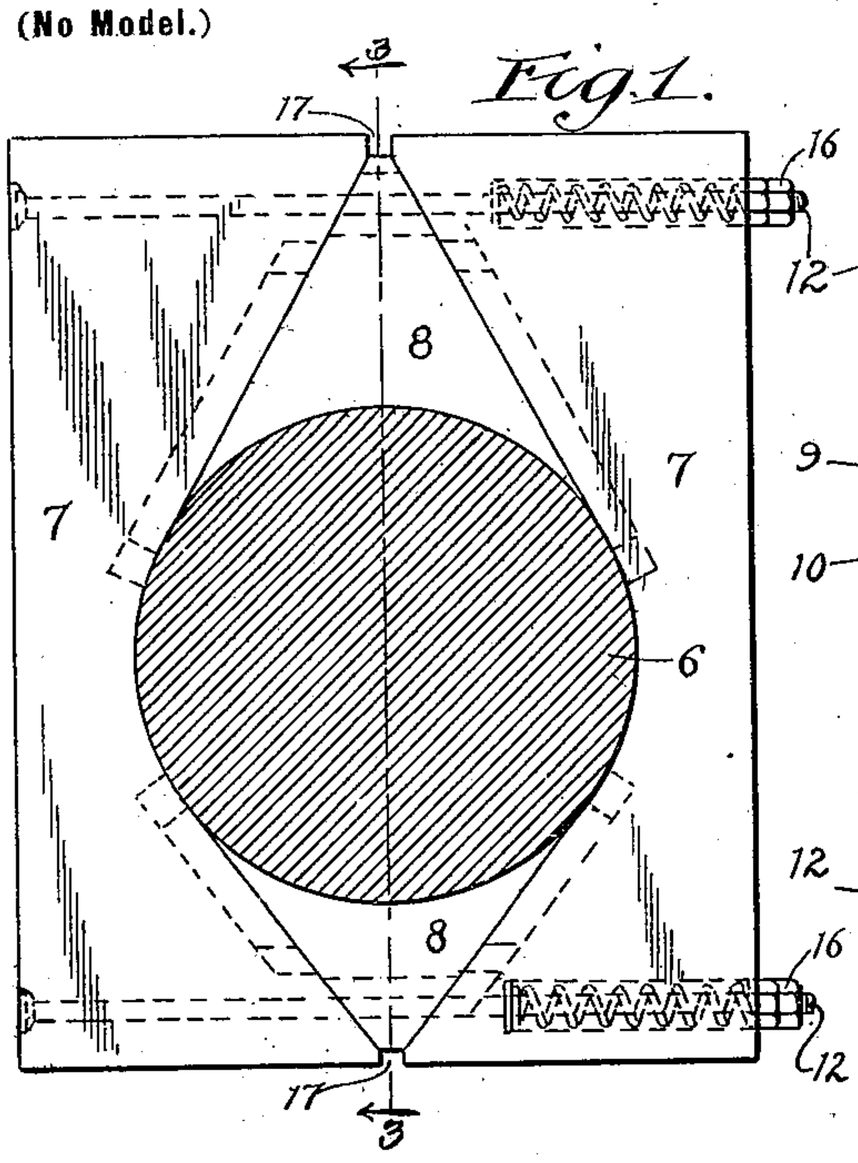


Fig. 2.

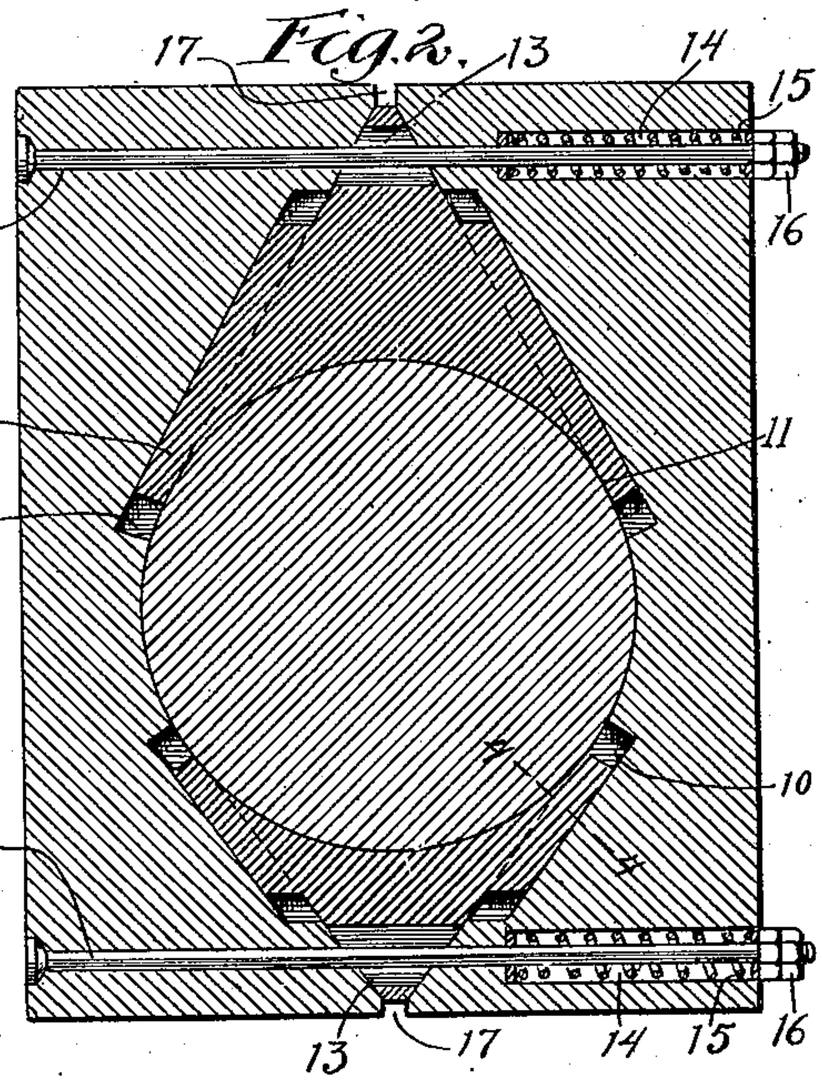


Fig. 4.

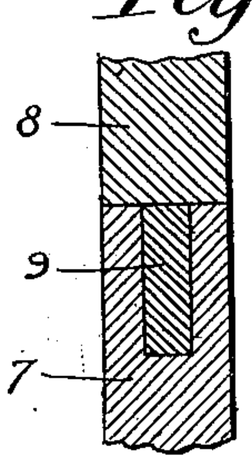


Fig. 3.

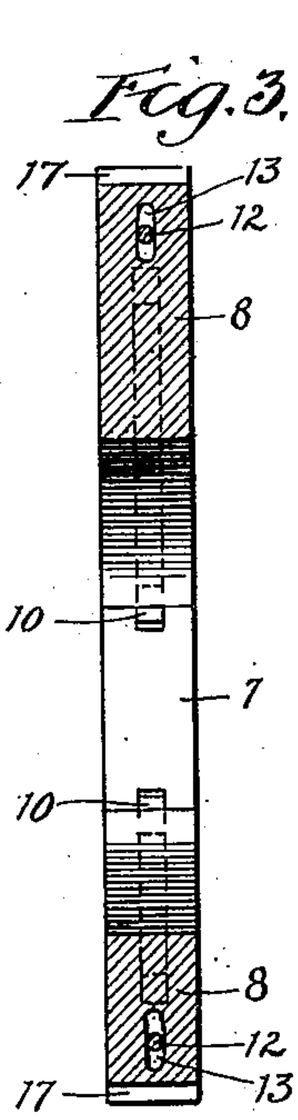
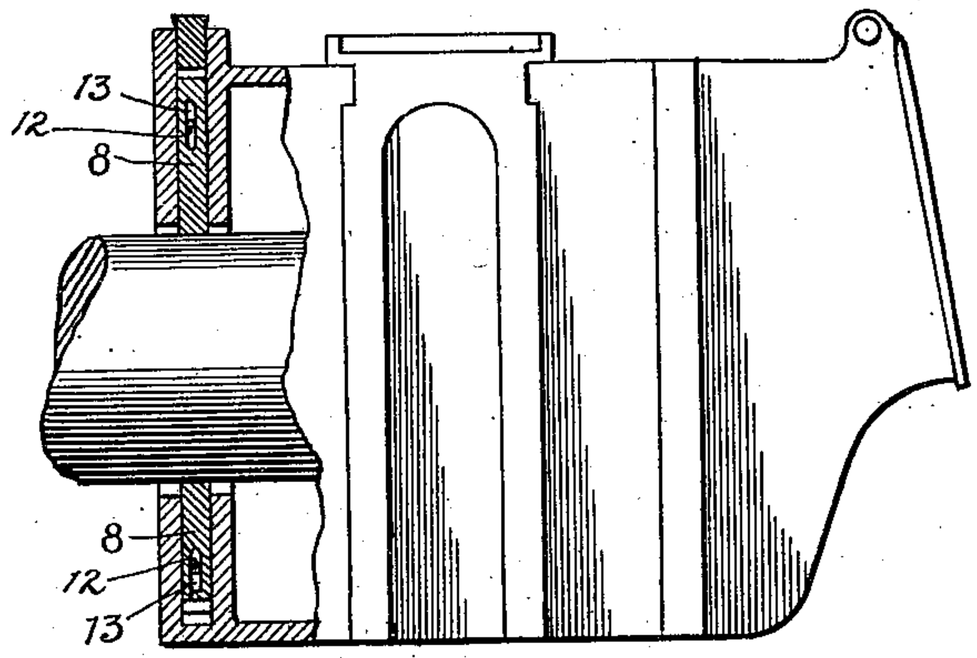


Fig. 5.



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UNITED STATES PATENT OFFICE.

WILLIAM M. RYAN, OF CHICAGO, ILLINOIS.

DUST-GUARD.

SPECIFICATION forming part of Letters Patent No. 646,462, dated April 3, 1900.

Application filed June 12, 1899. Serial No. 720,201. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM M. RYAN, a citizen of the United States, residing in Chicago, Cook county, Illinois, have invented a certain new and Improved Dust-Guard, of which the following, taken in connection with the accompanying drawings, is a specification.

Generally speaking, the object of my invention is to provide a simple and inexpensive dust-guard for axles or journals which will fit at all times tightly around the axle or journal and automatically take up the wear that occurs from the rotation of the axle within the guard.

More specifically my invention has for its object the provision of a dust-guard for axles having a wedge-piece embraced between two side pieces and improved and novel devices whereby both the side pieces and the wedge-piece are held in position and advanced so as to keep tight as their bearing edges wear.

In the practice of my invention I place the wedge-pieces above and below the axle to bear against the top and bottom thereof and arrange the side pieces vertically within the containing recess or housing, there being preferably devices at both top and bottom for holding the parts together and the whole guard being of considerably-less width than depth or height. By this construction I am enabled to use wedge-pieces of suitable shape and yet large in size without being cramped for space and to apply the spring holding devices to the side pieces with maximum facility.

In journal-boxes as commonly constructed, in which the recess designed to receive the guard is of greater dimension one way than it is the other—that is, which is of considerably-greater depth than width—no dust-guard having wedge-pieces embraced between side pieces, the side pieces being arranged horizontally or at the top and bottom of the axle, can be applied with very satisfactory results, because the ordinary space allowed adjacent to the axle, at each side thereof, is so small that it would be impossible to arrange within it wedge-pieces of proper shape having at the same time sufficient size and strength to have any appreciable wearing capacity.

For holding the side pieces in operative position and causing them to bear against the axle and at the same time advance the wedge-pieces so that they will also press against the axle I employ a spring device having a rod connecting the ends of the two side pieces and provided with a spring located in a recess within one of the side pieces and adapted to place the rod under tension. Such a spring device I prefer to employ at each end of the guard, the rod being arranged so that it passes through an elongated hole or opening in the point of each of the wedges, and thereby serves the better to hold the several parts together.

In order to more surely secure a perfectly-tight guard, I provide the meeting edges of the side pieces and wedges with a tongue and groove, the groove being somewhat longer than the tongue and the tongue arranged to reinforce the corners of the wedge in a manner which will be hereinafter more particularly described, so that they will not be as liable to break away and leave openings where the dust can enter.

The above, as well as such other objects as may hereinafter appear, I obtain by means of a construction which I have illustrated in preferred form in the accompanying drawings, in which—

Figure 1 is an elevation showing a dust-guard embodying my invention. Fig. 2 is a section of the same. Fig. 3 is a section taken on the line 3 3 of Fig. 1. Fig. 4 is an enlarged section on the line 4 4 of Fig. 2, and Fig. 5 is a partial view showing a journal-box with my invention applied thereto.

The axle or journal is indicated at 6. Upon each of its sides is a side piece 7 7, arranged to bear against the journal, at the sides thereof, but cut away to make a wedge-shaped opening, into which are inserted the wedge-pieces 8, the connection between the meeting edges of the side and wedge pieces being made by a tongue 9 and groove 10, the latter being preferably formed in the side pieces and the former being somewhat shorter than the grooves and constructed to reinforce the points or parts of the wedges marked 11 and prevent any breaking thereof at such place. The two side pieces are connected by rods 12, arranged to pass through the ends thereof in the manner clearly shown in Fig. 2, and also passing through an elongated opening 13

in the points of the wedge-pieces. Surrounding the rod and resting within recesses 14 within one or the other of the side pieces are located springs 15, which bear against the nuts 16 in a direction to draw the side pieces together, there being a space at 17 which prevents the side pieces from coming in contact until the guard is considerably worn. The tension of the springs operating on the rods acts to crowd the wedge-pieces inwardly toward the axle in a manner which will be clearly understood without further explanation. The parts having been put together, as shown in Fig. 2, the whole is then placed in the recess within the journal-box in a vertical position, as indicated in Fig. 5, the wedge-pieces 8 being arranged to bear against the axle upon its upper and lower sides and the side pieces being arranged to bear against the axle on either side thereof.

By the construction which I have described it is obvious that I secure a dust-guard which although simple and inexpensive in construction will be especially effective, particularly because by the use of my improved spring device all the several parts will be securely and reliably held with an even pressure in intimate contact with the axle from four sides at the same time, and thus the wear will be more evenly taken up than is possible with any construction which is forced toward the axle from two sides only or the parts of which are not held by even and well-distributed pressure.

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

1. A dust-guard comprising the combination with two side pieces, of a wedge-piece between the said side pieces, said wedge-piece having an opening in the point thereof, and a rod connecting said side pieces and passing through said opening.

2. A dust-guard for axles comprising the combination with two side pieces, of a wedge-piece between the two side pieces, a rod connecting said side pieces and a spring surrounding said rod and operating to draw the side pieces together, and thereby project the wedge-piece against the axle, and means for holding the side pieces together at the ends opposite said wedge-piece.

3. A dust-guard for axles comprising the combination of two side pieces, two wedge-pieces embraced between the ends of said side pieces on opposite sides of said axle, a rod passing through each of the two adjacent ends of said side pieces and a spring acting upon each of said rods, whereby to hold the side pieces and wedge-pieces all against the axle with evenly-distributed pressure.

4. A dust-guard for axles, having two side pieces, two wedge-pieces embraced between the adjacent ends of said side pieces, and a spring device at each end of the guard constructed to connect the side pieces and at the same time force the wedge-pieces against the axle.

5. A dust-guard for axles, having two side pieces, two wedge-pieces embraced between the adjacent ends of said side pieces, and spring-pressed rods passing through holes in the points of the wedges arranged at each end of the guard constructed to connect the side pieces and at the same time force the wedge-pieces against the axle.

6. A dust-guard for axles comprising the combination with a journal-box having a containing-recess, of a guard composed of vertical side pieces one on each side of the axle, and wedge-pieces between the two side pieces, one arranged to bear against the top and the other against the bottom of the axle, and means whereby to hold both the side pieces and the wedge-pieces against the axle with evenly-distributed pressure.

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