No. 687,959. Patented Dec. 3, 1901.

F. B. HARRISON.

DUST GUARD FOR JOURNAL BOXES.

(Application filed Jan. 8, 1901.)

(Model.)

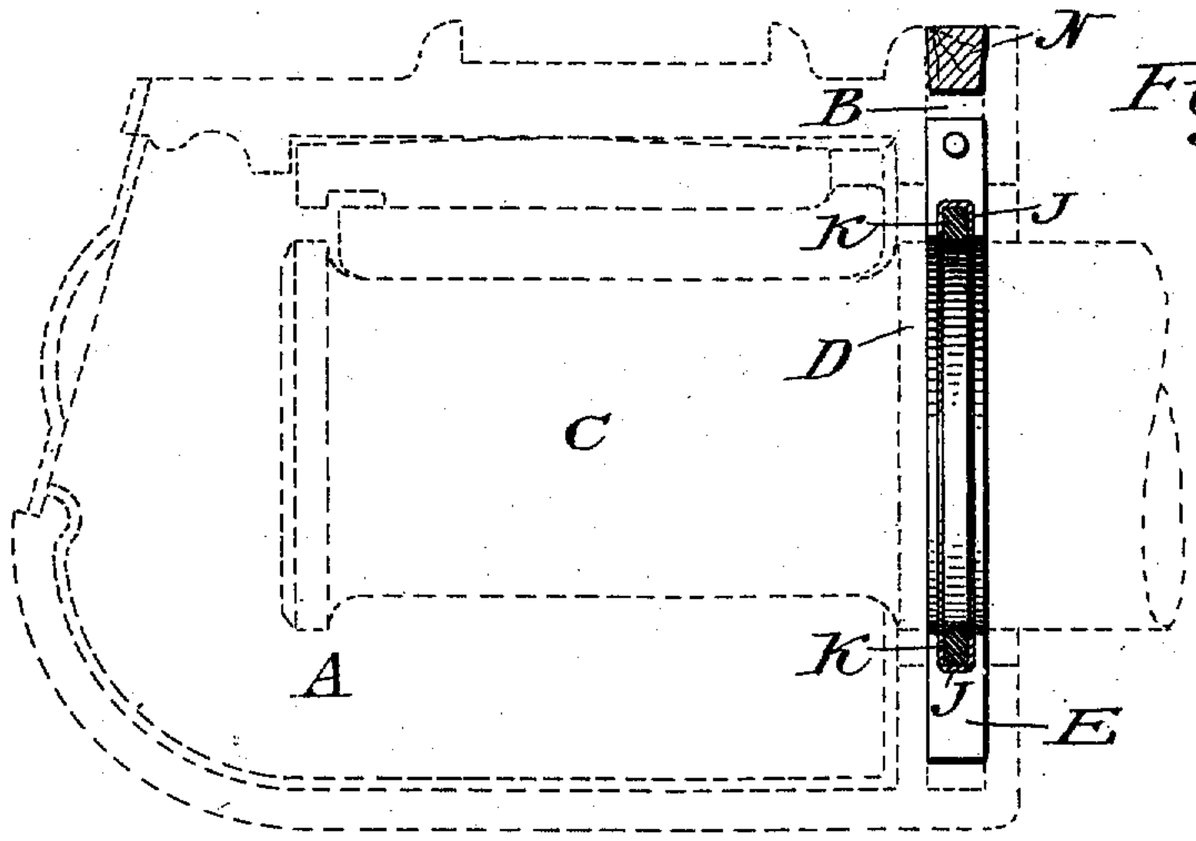


Fig. 1.

Fig. 2.

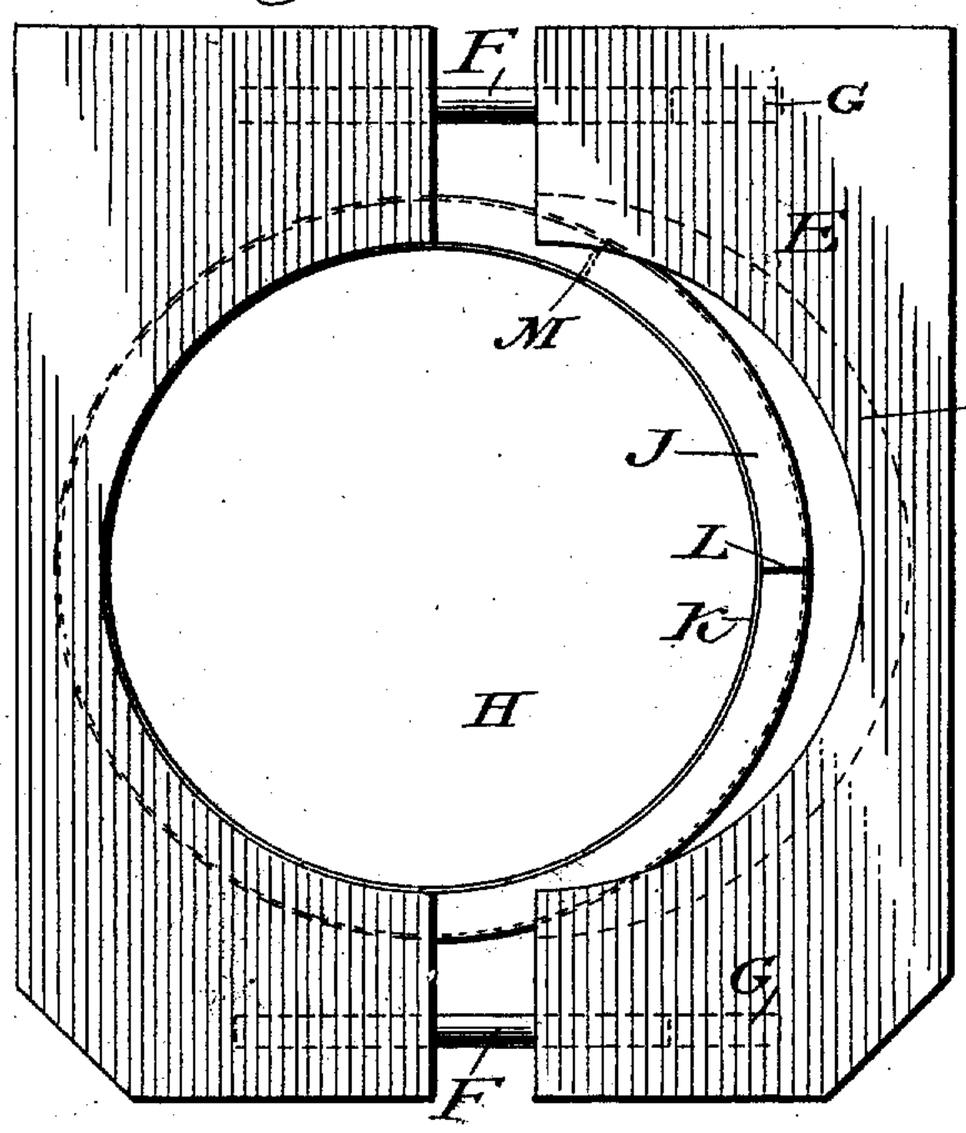


Fig. 3.

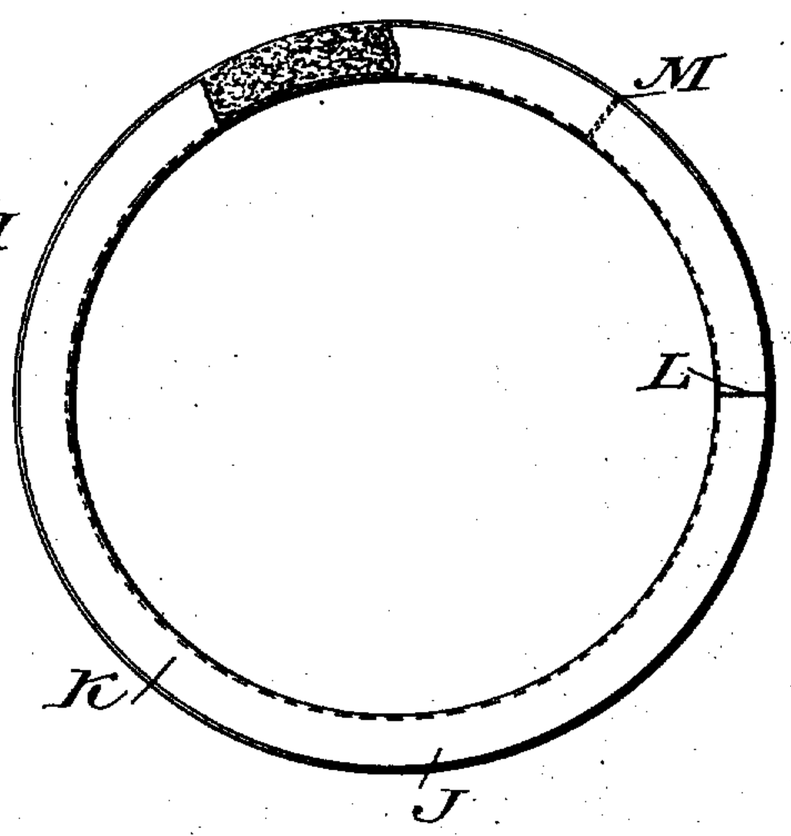


Fig. 4.

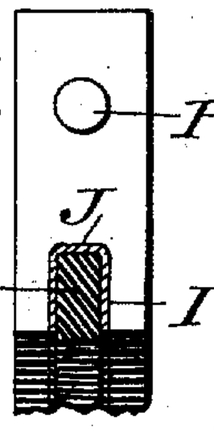
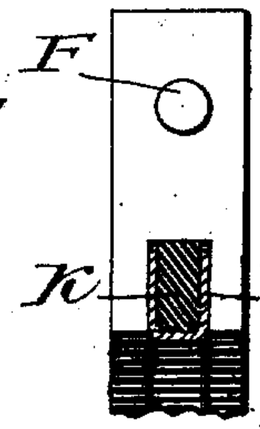


Fig. 5.



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UNITED STATES PATENT OFFICE.

FRANK B. HARRISON, OF TOLEDO, OHIO.

DUST-GUARD FOR JOURNAL-BOXES.

SPECIFICATION forming part of Letters Patent No. 687,959, dated December 3, 1901.

Application filed January 8, 1901. Serial No. 42,474. (Model.)

To all whom it may concern:

Be it known that I, FRANK B. HARRISON, a citizen of the United States, residing at Toledo, in the county of Lucas and State of Ohio, have invented certain new and useful Improvements in Dust-Guards for Journal-Boxes, of which the following is a specification.

The object of my invention is the production of a dust-guard for journal-boxes which will effectively exclude dust, sand, and other foreign matter from the interior of the box and likewise prevent the escape of oil therefrom, which will be comparatively simple in construction, cheap in first cost, and durable, which will retain its proper position within the chamber of the box when the brass wears away, which will not become deranged by any cause whatever in practical service, and which, withal, shall possess such desirable features and characteristics as will constitute it a superior means for performing the desired functions.

With the above ends in view my invention consists in certain novelties of construction and combinations and arrangements of parts, as hereinafter set forth and claimed.

The accompanying drawings illustrate one example of the physical embodiment of my invention constructed according to the best mode I have so far devised for the practical application of the principle and also one modification of the collar and ring which engage the bearing of the journal.

Figure 1 shows in dotted lines a journal-box and a journal and in full lines my dust-guard in operative position, the box and guard being in section, so as to clearly disclose the relative positions of the several parts. Fig. 2 is a plan view of the guard embracing the collar and ring, the halves of the frame of the guard being separated a short distance. Fig. 3 is a plan view of a modified construction of the collar and ring, a part of the collar being broken away. Fig. 4 is an enlarged view of a portion of the guard shown by Fig. 2, the collar and ring being in section. Fig. 5 is a view similar to Fig. 4, illustrating in section the collar and ring shown in Fig. 3.

Referring to the several views, the letter A designates a journal-box such as is in common use in connection with car-trucks; B, the dust-guard chamber, formed in the back portion of the box; C, an axle-journal, and D the dust-guard bearing of the axle. The dust-guard proper is located within the dust-guard chamber, being inserted through the opening at the top.

The letter E designates the dust-guard frame, made of any suitable material and in two similar halves, the line of division being in a vertical plane through the center. F represents dowel-pins fixed in one-half of the frame. G represents holes in the other half which receive the pins. H is a hole in the frame slightly larger than the diameter of the bearing D of the axle; I, a circular channel or groove within the body of the frame; J, a metallic spring-collar, U-shaped in cross-section; K, a ring located within the collar. L represents the free ends of the collar, M the free ends of the ring, and N is a wedge which closes the opening to the chamber at the top of the box.

It will be observed that in Figs. 1, 2, and 4 the edge of the ring projects some distance beyond the edges of the collar and that its free edge is adapted to rest in close frictional contact with the bearing D of the axle, and, further, that the location of the ring in Fig. 3 is reversed, the free projecting edge being located within the channel I of the frame. I preferably make the collar of spring metal, so that it will possess the requisite contractile power to force the free edge of the ring against the bearing D and hold it firmly in order that both the collar and ring may revolve with the journal and within the channel or groove of the frame. When the modified form illustrated in Figs. 3 and 5 is selected, the metal of the collar is of course in frictional contact with the bearing D, and both the collar and ring revolve with the journal, as in the previous case. The material for the ring may be any fibrous substance—such as leather, felt, woven fabric, or the like—or of composite formation, any material which possesses a porous or yielding nature being best adapted for the purpose. When the collar and ring are on the bearing D, the ends of the collar at L and the ends of the ring at M are obviously some little distance apart, so that the contractile power of the collar may exercise its full efficiency. By forming the frame of

the guard in two halves provision is secured for the facile adjustment of the collar within the channel, and by making the divisional line in a vertical plane through the center provision is secured for the certain retention of the parts in their proper relative positions within the chamber of the box, inasmuch as the outside edges of the frame will lie in frictional contact with the inner surfaces of the side walls of the said chamber and the separation of the parts be prevented.

From the foregoing description it is obvious that I have produced a dust-guard which fulfils all the conditions set forth as the end or purpose of my invention.

While I have specifically illustrated only one complete example of the physical embodiment of my invention and one modified construction of the collar and ring, I do not thereby intend to limit the scope thereof to such pictured representations, inasmuch as in practical application many colorable changes and modifications may be introduced without constituting a substantial departure.

What I claim is—

1. The combination with a journal, and a journal-box having a dust-guard chamber, of a dust-guard frame provided with a channel; a contractile collar U-shaped in cross-section; and a ring located in the U of said collar; in substance as set forth.

2. The combination with a journal, and a journal-box having a dust-guard chamber, of a dust-guard frame provided with a channel; a contractile collar U-shaped in cross-section and having free ends; and a ring located in the U of said collar; said ring being of smaller diameter than the said collar.

3. The combination with a journal, and a journal-box having a dust-guard chamber, of a dust-guard frame provided with a channel; a contractile collar; and a ring located in the collar; said dust-guard frame being divided into two parts by a vertical plane at right angles to the frame.

4. The combination with a journal, and a journal-box having a dust-guard chamber, of a dust-guard frame provided with a channel; a contractile collar; and a ring in the collar; said dust-guard frame being divided into two parts by a vertical plane at right angles to the frame, and said parts held one relative to the other by dowel-pins.

5. The combination with a journal, and a journal-box having a dust-guard chamber, of a dust-guard frame made in two halves and provided with a channel; a contractile collar U-shaped in cross-section; and a ring within the U of the collar; said collar and ring by the contractile power of the collar being held firmly on the journal so that they will revolve with it and within the channel of the frame.

6. The combination with a journal, and a journal-box having a dust-guard chamber, of a contractile collar U-shaped in cross-section; and a ring within the U of the collar; said collar and ring by the contractile power of the collar being held upon the journal so as to revolve with it.

7. The combination with a journal, and a journal-box having a dust-guard chamber, of a contractile collar U-shaped in cross-section and having free ends; and a ring also having free ends; said ring being held by the collar and within the U thereof, and its edge projecting outwardly beyond the edges of the U-shaped collar; in substance as set forth.

8. The combination with a journal, and a journal-box having a dust-guard chamber B with an opening at the top only, of a dust-guard frame provided with a channel; and a collar secured upon the dust-guard bearing D of the axle and adapted to revolve with the axle and within the channel of the frame; said frame being made in two parts and divided by a vertical plane at right angles to the frame and also provided with means for holding the parts in alinement, and the vertical edges of the frame adapted to frictionally engage the walls of the dust-guard chamber so as to prevent the separation of the two parts of the frame.

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

FRANK B. HARRISON.

Witnesses:
F. G. HARRISON,
F. M. DOTSON.