No. 877,318. PATENTED JAN. 21, 1908.

R. E. FRAME.

DUST GUARD FOR CAR AXLE JOURNAL BOXES.

APPLICATION FILED MAR. 9, 1907.

Fig. 1.

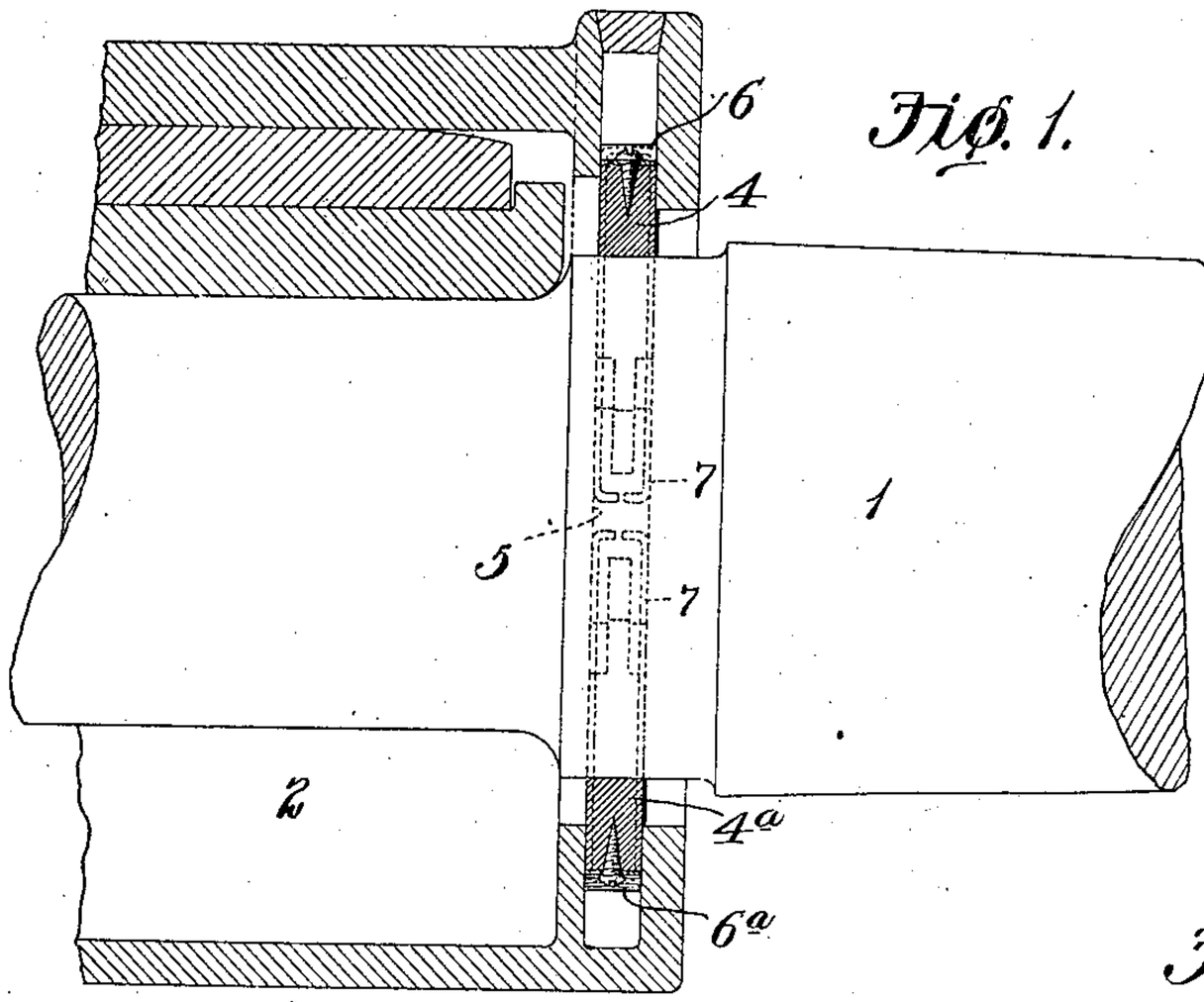


Fig. 2.

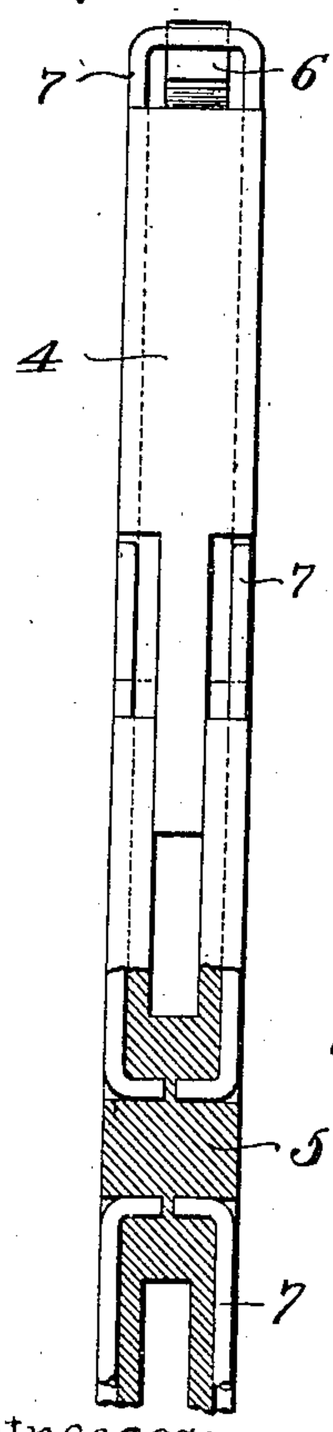


Fig. 3.

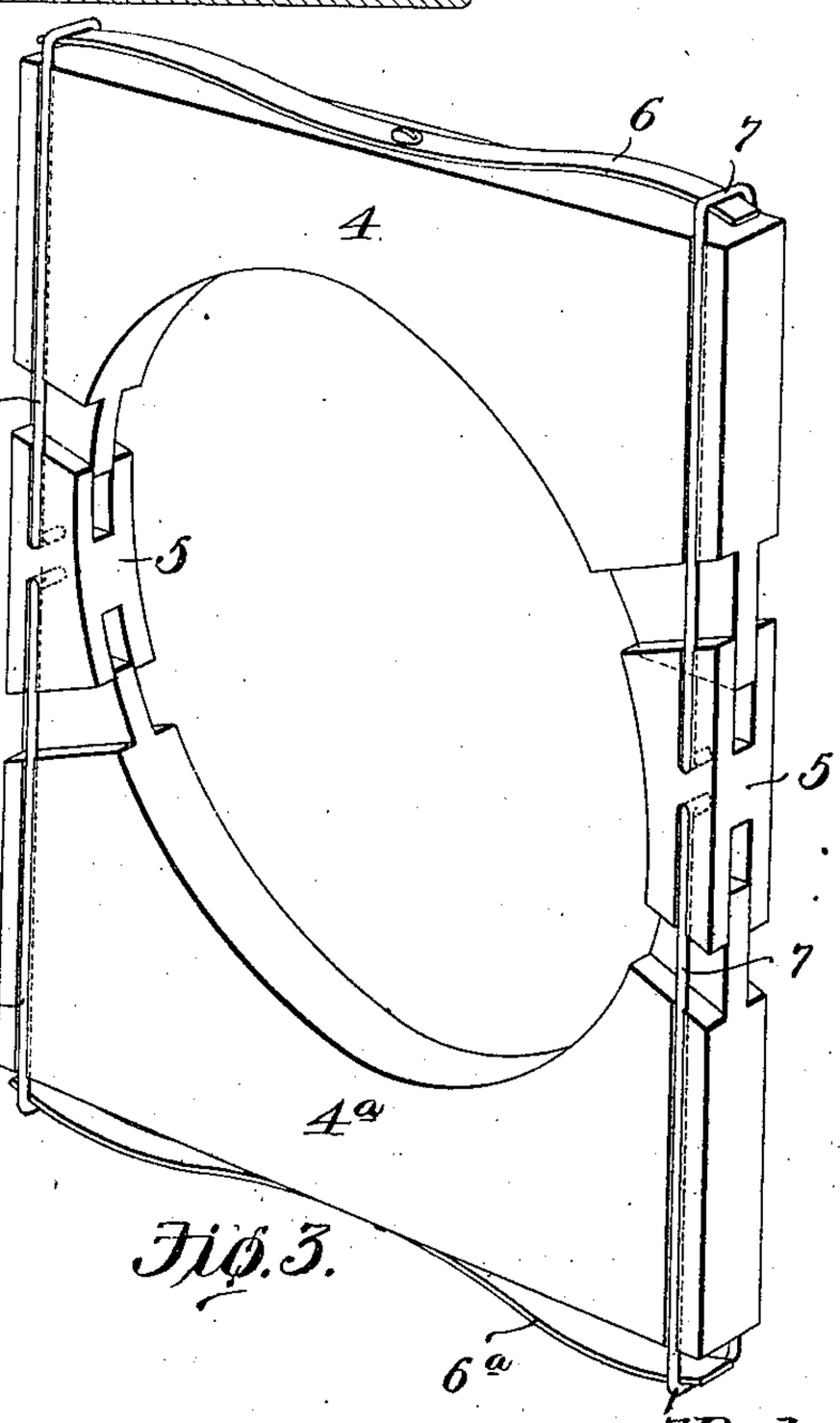
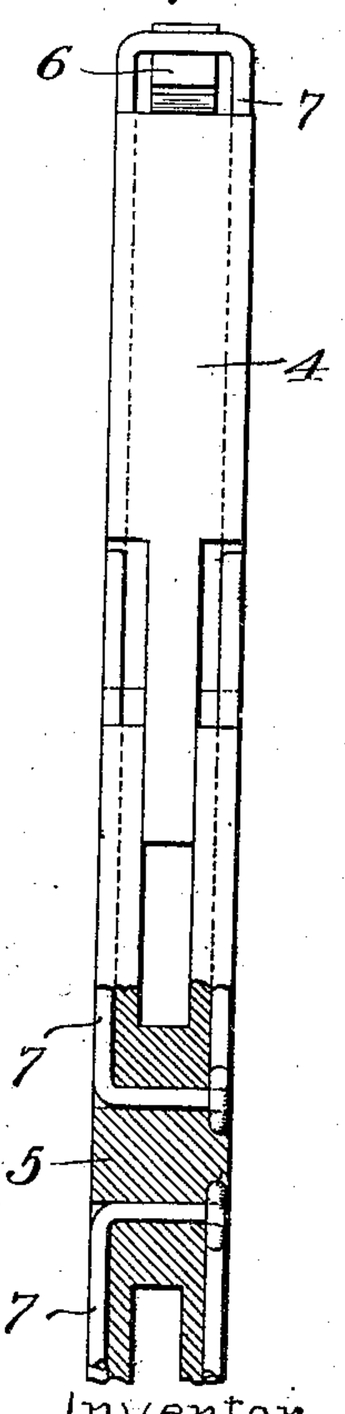


Fig. 4.



Witnesses:
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By Bakewell Lemmall Attys.

UNITED STATES PATENT OFFICE.

ROBERT E. FRAME, OF ST. LOUIS, MISSOURI, ASSIGNOR OF ONE-HALF TO HERBERT W. WOLFF, OF ST. LOUIS, MISSOURI.

DUST-GUARD FOR CAR-AXLE JOURNAL-BOXES.

No. 877,318. Specification of Letters Patent. Patented Jan. 21, 1908.

Application filed March 9, 1907. Serial No. 361,461.

To all whom it may concern:

Be it known that I, ROBERT E. FRAME, a citizen of the United States, residing at St. Louis, Missouri, have invented a certain new and useful Improvement in Dust-Guards for Car-Axle Journal-Boxes, of which the following is a full, clear, and exact description, such as will enable others skilled in the art to which it appertains to make and use the same, reference being had to the accompanying drawings, forming part of this specification, in which—

Figure 1 is a vertical sectional view of a journal box showing my improved dust guard in position; Fig. 2 is a fragmentary side elevational view, partly in section, illustrating my improved dust guard; Fig. 3 is a detail view of the dust guard; and Fig. 4 is a fragmentary side elevational view, partly in section, illustrating a modified form.

This new invention relates to a new and useful improvement in dust guards for car axle journal boxes, the object being to construct a guard in such manner and of such materials that it may be cheaply manufactured, and easily and quickly inserted in or removed from position.

The dust guard is composed essentially of four members in the form of segmental sections having telescopic engagement with each other, two of said members or sections being spring-pressed against the car axle so as to take up wear, and at all times make a close joint so as to exclude dust from the interior of the box, the other of said members being connected to the springs which bear upon the first-mentioned members, said last two members being held in equilibrium at all times with respect to said first two members.

In the drawings, 1 indicates the axle and 2 the journal box which is of usual and well-known construction. The inner end of the journal box is provided with a recess for the dust guard.

The dust guard consists of several sections or pieces, preferably made of wood, and if desired these sections may be made up of layers of wood with the grain of each layer arranged at an angle to the direction of the grain of an adjacent layer. While these veneered sections may be employed, they are not necessary as the sections may be formed from a single piece of wood.

Referring to Fig. 3, 4 and 4ª are the top and bottom sections respectively, which sections are each provided at their inner side edges with tongues fitting in grooves in the middle side section 5. The arrangement of this tongue and groove connection could be reversed, if desired, that is, the top and bottom sections could be provided with grooves and the middle side sections with tongues. The inner edges of the tongues and the bottoms of the grooves are preferably horizontally disposed, while the shoulders on the top and bottom sections and the upper and lower edges of the middle side sections are radially disposed, so that when the top and bottom sections are distended the tongue and groove connection is still maintained, so that the sections may operate freely in approaching each other.

Means are provided for exerting yielding inward pressure upon the top and bottom sections, and while various forms of springs could be employed for this purpose I have illustrated in the drawings two leaf springs 6 and 6ª which are secured to the outer edges of the top and bottom sections, preferably by a single centrally-arranged screw. The ends of these leaf springs are thus free.

7 are wires connected in some suitable manner to the middle side sections, and which wires are looped over or engage in some manner the ends of the leaf springs 6. These wires may have their ends bent into the middle side sections, as shown in Fig. 2, or the ends may be connected together as shown in Fig. 4; or a single continuous wire may be employed to engage the ends of both of the leaf springs, said single wire being connected in some manner to the middle side sections. These wires are preferably seated in grooves in the respective sections so as not to increase the thickness of the dust guard, and also to insure freedom of movement when the dust guard is in position.

In introducing the dust guard in position the leaf spring on the top section may be removed and the dust guard arranged in the recess in the journal box, which enables the top section to be distended its full distance, and the axle introduced. The leaf spring may now be inserted in place and its securing screw screwed home. When in position it will be observed that both the top and bottom sections, which comprehend a major part of the circumference of the axle, exert an equal pressure upon the axle, and thus the middle side sections are held in equilib-

rium. Equal pressure tends to cause the top and bottom sections to wear evenly, but in the event that one should wear more than the other, equilibrium will be established between the two because of the equal spring pressure and the ability of the middle side sections to move independently of the top and bottom sections.

In wearing, the axle will wear a perfect seat in both top and bottom sections, and the springs will exert pressure to force said sections inwardly until the tongue and groove connection between said sections and the middle side sections are home.

I am aware that minor changes in the construction, arrangement and combination of the several parts of my device can be made and substituted for those herein shown and described without in the least departing from the nature and principle of my invention.

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In a dust guard, a plurality of segmental sections comprehending the major part of the circumference of the axle and arranged above and below the axle, a plurality of leaf-springs extending approximately parallel to said sections and exerting pressure upon them to force them toward the axle, other sections comprehending a minor part of the circumference of the axle, the sections first referred to being adapted to move relatively to said minor sections, and links secured at their inner ends to said minor sections and passing around the free ends of said springs; substantially as described.

2. In a dust guard, the combination with top and bottom sections comprehending the major part of the circumference of the axle, of middle side sections arranged between the top and bottom sections, the top and bottom sections being adapted to move relatively to the middle sections, leaf springs secured to the top and bottom sections, and a pair of links secured to each of said middle side sections and passing around the end portions of said leaf springs; substantially as described.

3. In a dust guard, the combination with top and bottom sections, middle side sections having tongue and groove connection with said top and bottom sections, the top and bottom sections being adapted to move relatively to said middle sections, a leaf spring mounted on each of said top and bottom sections, and wire loops engaging the free ends of said leaf springs, said wire loops being connected to said middle side sections; substantially as described.

4. In a dust guard, the combination with top and bottom sections, leaf springs connected to each of said sections, middle side sections, wire loops mounted on said middle side sections and engaging the free ends of said leaf springs, said top and bottom sections being grooved to receive said wire loops; substantially as described.

5. In a dust guard, top and bottom sections, and middle side sections, said sections having tongue and groove connection with each other, the edges of the tongue and the shoulders on the section carrying said tongue being cut at angles to each other, said shoulders being disposed radially, and the bottoms of the grooves and the outer edges of the side walls of the grooves being also cut at angles to each other; substantially as described.

In testimony whereof I hereunto affix my signature in the presence of two witnesses, this sixth day of March 1907.

ROBERT E. FRAME.

Witnesses:

WELLS L. CHURCH,

GEORGE BAKEWELL.