L. Y. WILLIAMS.

DUST GUARD.

APPLICATION FILED JUNE 26, 1915. RENEWED OCT. 24, 1916.

1,223,649.

Patented Apr. 24, 1917.

Fig. 1.

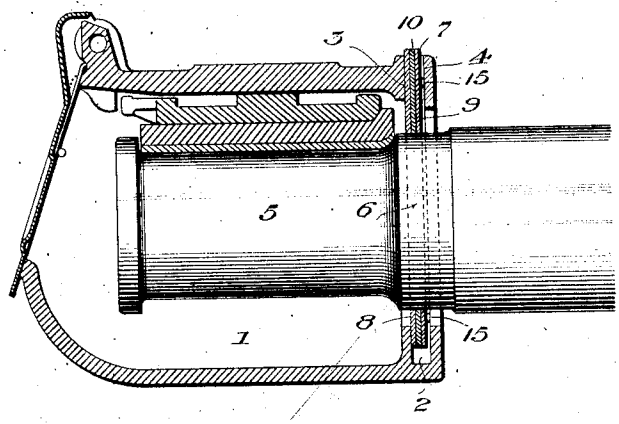


Fig. 4.

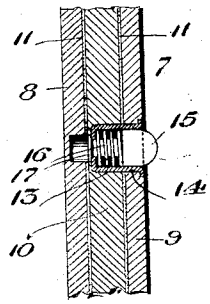


Fig. 2.

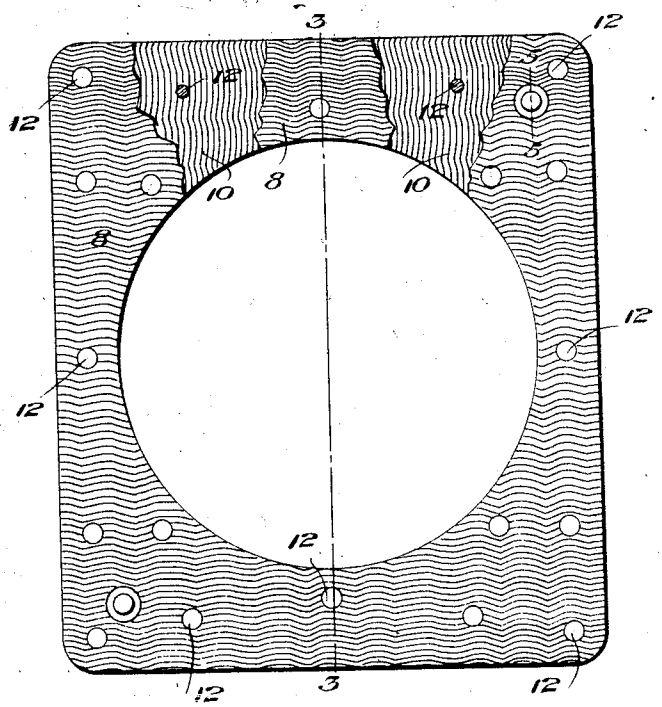
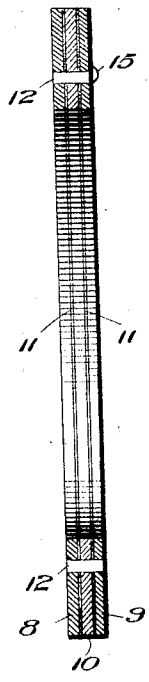


Fig. 3.



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DUST-GUARD.

1,223,649. Specification of Letters Patent. Patented Apr. 24, 1917.

Application filed June 26, 1915, Serial No. 36,418. Renewed October 24, 1916. Serial No. 127,499.

To all whom it may concern:

Be it known that I, LACEY Y. WILLIAMS, 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, of which the following is a specification.

The invention relates to dust guards for use in connection with car journal boxes, and is in part a continuation of my application for Letters Patent filed August 25, 1914, Serial No. 858,555.

The object of the invention is the provision of a guard made of wood so constructed that it will not break or split when subjected to pressure from contact with the journal or box when the box moves relative to the journal during the application of the brakes or otherwise, and which shall effectively withstand the action of water and the action of oil from the interior of the box so as not to warp.

All types of wooden guards in common use warp and split and become inoperative to exclude dust and dirt from the journal box. Even when corrugated pieces of metal or wooden strips are inserted in the material of the guard upon opposite sides, or reinforcing bars are secured to the ends and sides, the splitting is not prevented, and while the pieces of metal or wood hold the separated split parts from entire displacement the actual displacement is sufficient to form openings between the bearing edge of the guard and the journal through which dirt passes to the interior of the box.

Following the expenditure of much time and money in experimental work I have succeeded in curing the imperfections appertaining to the species of guards hereinbefore mentioned by making a guard of a plurality of layers or sheets of wood, one of the layers or the central layer having the grain of the wood at an angle to the grain of the other layer or layers and gluing or cementing or riveting the layers or sheets together. Further, I have found that gluing the layers together only is not sufficient to produce a serviceable guard, as the oil and moisture or water soaks into the wood disintegrates the glue and causes the separation of the layers within a short period of time so that they warp excessively. The union of the several layers by rivets only is attended by fair results, but the use of both the glue or cement and the rivets has proven most satisfactory, for the rivets hold the layers of wood together and should some oil or water penetrate the material a short distance and cause a slight separation of a layer by warping the rivets prevent any very extended displacement of the same.

Conformable to the above exposition, the present improvement consists in making a guard of a plurality of layers or sheets of wood, the grain of one layer or sheet being disposed at an angle to the grain of the other sheet or sheets and gluing or cementing and riveting the layers or sheets together.

Further, the invention consists in certain novelties of construction and combinations of parts as herein set forth and claimed.

The accompanying drawing illustrates by way of example a guard with the improvements embodied therein, the guard comprised of a plurality of sheets or layers of wood and constructed according to the best mode of procedure I have so far devised for the purpose.

Figure 1 is a vertical sectional view of a car journal box with the journal in elevation and my improved guard shown in section within the dust guard chamber.

Fig. 2 is a plan view of a three-ply guard, parts of the top being broken away to illustrate the middle layer having the grain of the wood at an angle to the grain of the outside plies or layers, also illustrating the disposition of the rivets.

Fig. 3 is a vertical section of Fig. 2 on line 3—3.

Fig. 4 is an enlarged section of Fig. 2 on line 5—5 showing a spring actuated metallic head for forcing the inner surface of the guard against the inner wall of the dust guard chamber.

Referring to the figures, 1 designates an M. C. B. car journal box; 2, the dust guard chamber; 3, the front wall; 4, the rear wall; 5, the journal; 6, the dust guard bearing surface of the journal; 7, the dust guard pressed against the surface of the front wall; 8 and 9, the outside layers or sheets of wood of the guard; 10, the middle or inner sheet or ply; 11, the cement, glue or other adhesive material uniting the layers or sheets; and 12, the rivets passed through all the sheets or layers, said rivets having heads or upset at the ends to prevent their displacement.

To prevent the dust and dirt from passing to the interior of the box through open-

ings usually present between the guard and the front wall 3 of the box at the top and bottom I place within openings 13 in the guard two or more metallic casings 14 and within the casings a shank and projecting head 15 and a spring 16 on the shank to force the head outwardly, the shank at the end 17 being upset so the shank and head cannot be forced entirely out of the casing by the spring. When the guard is inserted in the chamber the heads bear against the surface of the rear wall and the springs force the opposite surface of the guard against the surface of the wall 3 and prevent the passage of dust and dirt to the interior of the box, as shown in Fig. 1.

The guard as thus constructed fulfils the desired requirements of relatively cheap first cost, efficiency in operation and durability. The best embodiment of the invention includes three layers or sheets of wood secured together by adhesive material and firmly united by rivets.

I have found by extended experiments that the three-ply or sheet guard is the most practical and that guards of more than three sheets increase the first cost and are not more durable than the three-ply in service. Therefore, in practice the guard is preferably comprised of three sheets with the grain of one sheet of the wood angularly disposed to the grain of the other sheets and all united by adhesive material and securely riveted together, and by the term "riveted" I include the use of nails with heads with the ends upset or bent over or similar devices for performing the requisite function.

What I claim is:

1. A dust guard comprised of three sheets or layers of wood arranged with the grain of one at an angle to the grain of another, adhesive material between the sheets, and rivets passed through the sheets to form a single composite structure, said guard having a circular opening therethrough for the passage of a journal; in substance as set forth.

2. A dust guard provided with a plurality of openings, casings within the openings, shanks with projecting heads within the casings, a spring on each shank, and means for limiting the outward movements of the heads from the casings, the said springs pressing the heads outwardly when the guard is within the box chamber and forcing the guard against the surface of the front wall which bounds the said chamber.

In testimony whereof I affix my signature.

LACEY Y. WILLIAMS.