G. WILLIAMS.
Car-Axle Box-Slide.

No. 204,178. Patented May 28, 1878.

Fig. 1.

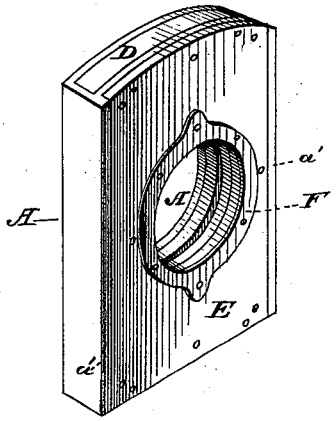


Fig. 2.

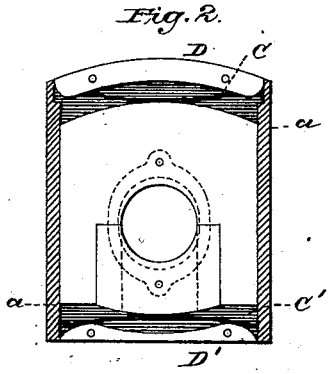
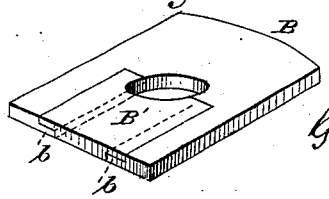


Fig. 3.



Attest:

Dennis Ellis
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UNITED STATES PATENT OFFICE.

GEORGE WILLIAMS, OF MYSTIC BRIDGE, CONNECTICUT.

IMPROVEMENT IN CAR-AXLE-BOX SLIDES.

Specification forming part of Letters Patent No. **204,178**, dated May 28, 1878; application filed May 4, 1877.

To all whom it may concern:

Be it known that I, GEORGE WILLIAMS, of Mystic Bridge, in the county of New London and State of Connecticut, have invented a new and useful Improvement in Slides for Car-Axle Boxes; and do hereby declare the following to be a full, clear, and exact description thereof, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

In said drawings, Figure 1 represents my slide in perspective. Fig. 2 represents a vertical section of the same. Fig. 3 is a detail view of my inner asbestus slide.

The objects of my invention are as follows: First, to provide a slide having a second slide within it, which receives most of the wear, and can be easily replaced without injuring the outer slide or casing; secondly, to provide a friction-surface in contact with the axle-journal, which is of soft and incombustible material, thus combining the advantages of the ordinary leather or rawhide and wooden slides; thirdly, to adapt the sections of the inner slide to take up wear by spring pressure, and yet perfectly protect the necessary springs from injury: fourthly, to provide the outer slide with a soft facing next the wheel, and to protect said soft surface from injury by fire; finally, to unite all the above elements and parts in a single compact article of manufacture and sale, which may be handled, packed, and shipped without risk of injury. These objects are accomplished by the construction, combination, and arrangement of the various portions of my slide, as hereinafter fully set forth.

In the annexed drawings, A designates a metallic casing forming the body of my outer slide. It is preferably a single casting, but may be made in any convenient manner.

In shape it is rectangular, or approximately so, and its thinness from side to side gives it that flat appearance usual in slides for car-axle boxes. The middle part of said casing or outer slide A is hollow, as shown at *a*, and it has a recess on its inner side, extending from top to bottom, and of such width as to leave only a narrow vertical rim, *a'*, on each side.

The aforesaid middle space *a* receives an inner slide of asbestus, consisting of two sections, B B', which are provided with corresponding mortises and tenons *b*, so that they will slide freely toward one another, so as to take up wear. They are forced together by the constant pressure of two springs, C C'. These springs bear against head-pieces D D', (preferably of wood,) which close the upper end and lower end of said outer slide or casing A. Said head-pieces are firmly secured by riveting or in any convenient way, and said springs are then protected on all sides by said casing, inner slide, and head-pieces against all possibility of injury. This is a very important feature, for these slides as a whole constitute an article of manufacture. It is inconvenient to have the springs quite separate from them, and if externally attached injury is almost sure to follow. The springs, by my construction and arrangement, may also be left without fastening of any sort, which greatly facilitates their removal in case they cease to work well after long use. The same is true of the sections of the inner slide. As soon as either one of the head-pieces D or D' is removed the contents of space *a* may be easily dislodged. The inner faces of said head-pieces are preferably made either convex or concave, to add to the efficiency of the springs. But this is not absolutely necessary. The construction of said inner slide is such that it extends within the central opening A' of the outer slide, thus forming a smaller opening, which receives the axle-journal. The circular edge of said inner slide thus first receives the wear of said journal. Its softness gives it all the advantage of leather or textile fabrics in lessening friction, and it cannot be set on fire. Asbestus has heretofore been used in car-axle boxes as a lubricating bearing, but its use in slides is thought to be new.

The space between rims *a' a'* in that face of casting A which is the nearer to the car-wheel holds a leather shield, E, which lessens friction in case of contact between the slide and the wheel. This shield is riveted or secured in any other convenient manner to casing A. F designates a thin annular guard of metal surrounding opening A', and riveted through said shield E to casing A. Its office is to prevent the edge of said shield around said open-

ing from being unduly worn or fired by the friction of the car-axle journal. It also aids in holding said shield to its place.

The slide forms, as a whole, a compact flat box-like article, every part of which is fully protected from injury. It may be freely handled, or even subjected to rough usage. It can be packed into small space, having no projecting parts to take up room. It combines the merits of ordinary wooden or metallic slides, and adds others peculiar to itself.

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

1. The combination of casing A, sections B B′, head-pieces D D′, and springs C C′, the said casing and head-pieces inclosing and protecting the other parts named, substantially as set forth.

2. Casing A, having rims or ribs *a′ a′*, in combination with a soft shield, E, and an annular guard, F, arranged substantially as set forth.

3. As an article of manufacture, a slide for car-axle boxes consisting of rectangular casing A, shield E, annular guard F, head-pieces D D′, springs C C′, and asbestus sections B B′, all constructed and arranged substantially as set forth.

I here set my hand this 3d day of July, 1877.

GEORGE WILLIAMS.

Witnesses:

J. B. GRINNELL,

J. E. WILLIAMS.