

G. HALL.
LINER FOR LOCOMOTIVE DRIVING BOXES AND THE LIKE.
APPLICATION FILED SEPT. 3, 1909.

946,035.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 1.

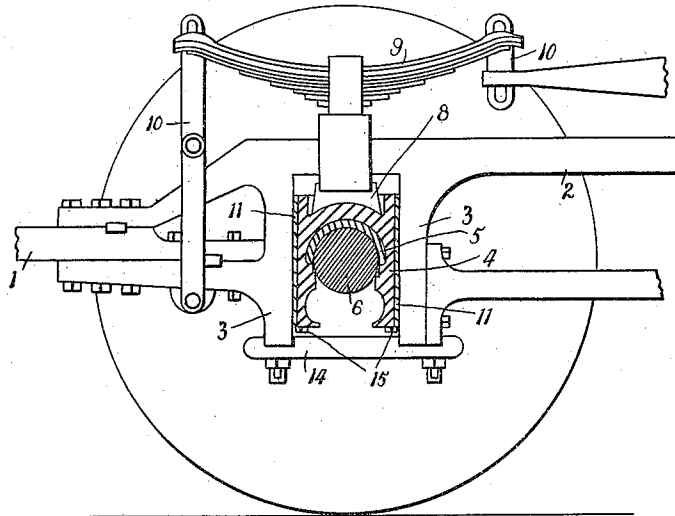


Fig. 1.

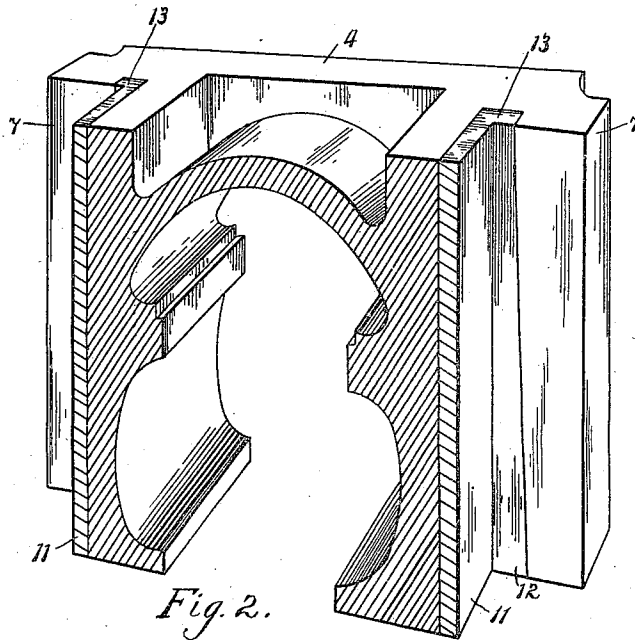


Fig. 2.

Witnesses.
C. J. Cote
C. H. Gervan.

Inventor.
Grant Hall
By Lloyd Blackmore
Atty.

G. HALL.
 LINER FOR LOCOMOTIVE DRIVING BOXES AND THE LIKE.
 APPLICATION FILED SEPT. 3, 1909.

946,035.

Patented Jan. 11, 1910.

2 SHEETS—SHEET 2.

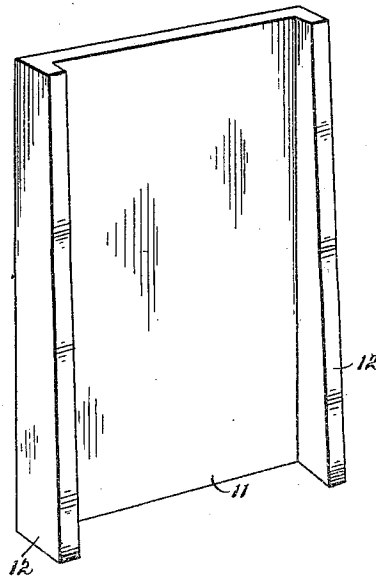


Fig. 3.

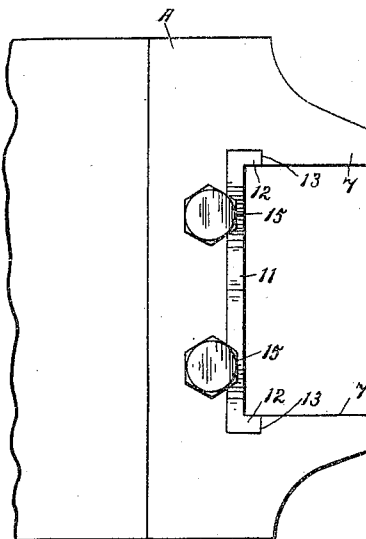


Fig. 4.

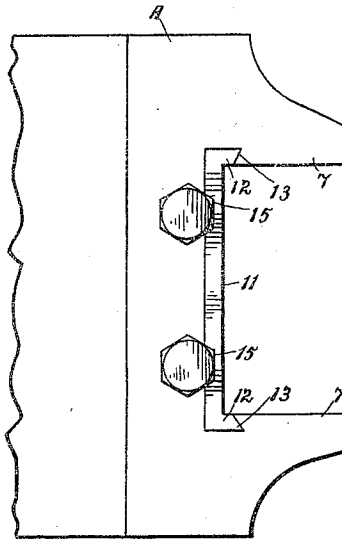


Fig. 5.

Witnesses.
 C. J. Cote
 C. F. Loran.

Inventor.
 Grant Hall
 By Lloyd Blackmore
 Atty

UNITED STATES PATENT OFFICE.

GRANT HALL, OF WINNIPEG, MANITOBA, CANADA.

LINER FOR LOCOMOTIVE DRIVING-BOXES AND THE LIKE.

946,035.

Specification of Letters Patent.

Patented Jan. 11, 1910.

Application filed September 3, 1909. Serial No. 516,035.

To all whom it may concern:

Be it known that I, GRANT HALL, a subject of the King of Great Britain, residing at the city of Winnipeg, in the Province of Manitoba, in the Dominion of Canada, have invented certain new and useful Improvements in Liners for Locomotive Driving-Boxes or the Like, of which the following is a specification.

The invention relates to improvements in liners for locomotive driving-boxes or the like, as described in the present specification and illustrated in the accompanying drawings that form part of the same.

The invention consists essentially of the novel arrangements and construction of parts, whereby the liner is provided with tapered side flanges fitting correspondingly-shaped grooves in the box.

The objects of the invention are to devise a liner for locomotive driving-boxes or the like, which will be of simple and cheap construction and readily set in position without the necessity of screw or other bolt fastenings, and at the same time be readily replaced or renewed as required.

In the drawings, Figure 1 is a side elevation of one end of a side frame of a locomotive, showing the driving-box and liner thereof in section. Fig. 2 is a sectional perspective view of the driving-box and liner. Fig. 3 is a perspective detail view of the liner. Fig. 4 is a plan view from the under side of the driving-box, showing the liners fitted thereto, and having squared side flanges. Fig. 5 is a plan view from the under side of the driving-box, showing the liners fitted thereto, and having dove-tailed side flanges.

Like numerals of reference indicate corresponding parts in each figure.

Referring to the drawings, 1 is one end of the side frame of a locomotive or the like, comprising the top bar 2, and the frame legs 3 between which the driving-box is situated.

4 is the driving-box, which may be of any standard type, and here shown as customarily formed with the body portion in inverted U-shape for the reception of the journal brasses 5, in which the axle 6 of the driving-wheels runs.

7 are the side flanges of the driving-box fitting on either side of the frame legs 3, whereby the driving-box has a vertical movement between said frame legs governed in

the customary manner by the saddle 8 surmounted by the spring 9, said spring being connected to the side frames by the suspension bars 10.

The arrangement of the saddle springs and suspension bars may be altered to suit any desired conditions, and do not form any part of my invention, said parts being referred to in order to make the present specification comprehensive in describing the movement of the driving-boxes between the frame legs.

11 are the driving-box liners extending across each side of the driving-box between the side flanges 7 thereof. The liners 11 have the side flanges 12 tapered from the lower end thereof toward the top and fitting into correspondingly-tapered grooves 13 made in the side flanges 7, whereby the liners 11 may be wedged between the side flanges 7, and the side flanges 12 thereof fit snugly into the correspondingly-shaped grooves in the side flanges 7 of the box, and firmly secure the liners in place having a similar effect as the driving of a tapered key. After the liners have been placed in position in the boxes, the metal at the lower end of the box may be peened over the lower edge of the liner and firmly hold the same in position, so that no bolt or screw fastening is necessary. After extensive wear if the liner should tend to drop, it cannot be lost from the driving-box, as it will contact with the cross-bar 14 suitably bolted between the legs 3 at the lower end thereof, as customary in the construction of driving-box frames. If desired, however, small stud holes 15 may be used to retain the liner in position, said bolts being inserted in correspondingly-threaded orifices in the lower end of the sides of the box, so that the head of the screw partly covers the lower end of the liner, as illustrated in Figs. 4 and 5. It may also be mentioned that if desired the side flanges of the liner may be dove-tailed, as shown in Fig. 5, and the grooves in the box correspondingly cut, whereby the liner will be more securely held in position and be less liable to work loose.

What I claim as my invention is:

1. In a device of the class described, the combination with a driving-box for locomotives or the like having side flanges and grooves on the inner face of said side flanges at the base thereof and tapered from the lower end of said driving-box and a threaded

orifice at the lower end of the side of said driving-box, of a liner extending between said side flanges and having side flanges fitting said grooves and correspondingly-
5 tapered and a cap-screw inserted in said threaded orifice and having the head thereof extending over the lower end of said liner.

2. In a device of the class described, the combination with a driving-box for locomotives or the like having side flanges and
10 dove-tailed grooves on the inner face of said side flanges at the base thereof and tapered from the lower end of said driving-box and a threaded orifice at the lower end of the

side of said driving-box, of a liner extend- 15
ing between said side flanges and having dove-tailed side flanges fitting said dove-tailed grooves and correspondingly-tapered and a cap-screw inserted in said threaded
orifice and having the head thereof extend- 20
ing over the lower end of said liner.

Signed at the city of Winnipeg, in the Province of Manitoba in the Dominion of Canada, this 14th day of August 1909.

GRANT HALL.

In the presence of—

W. MADELEY CRICHTON,
J. ROBERTS.