

J. W. CURRAN & A. P. PRENDERGAST.

METAL BRAKE SHELF FOR CARS.

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1,051,696.

Patented Jan. 28, 1912.

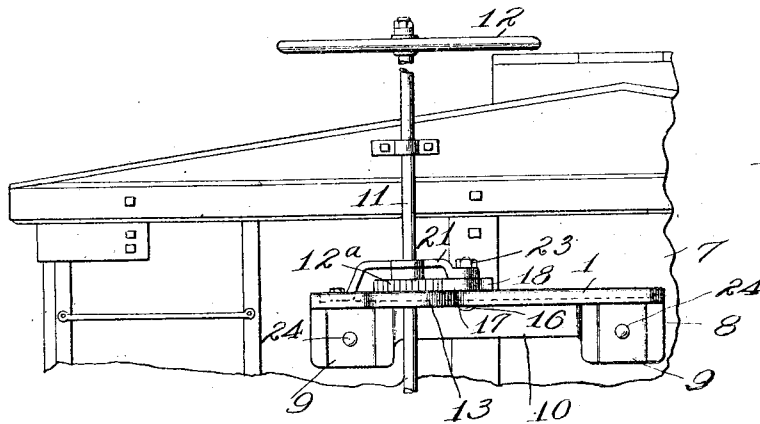


Fig. 1.

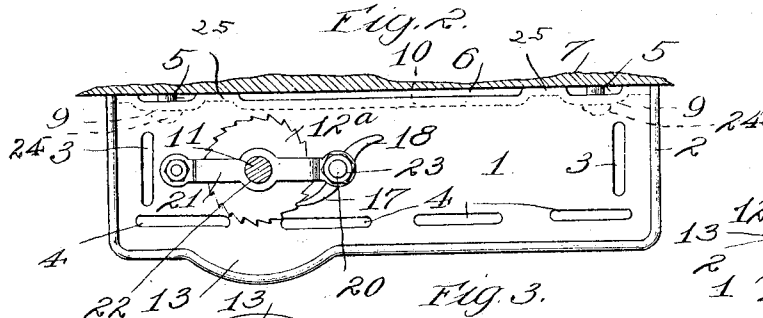


Fig. 2.

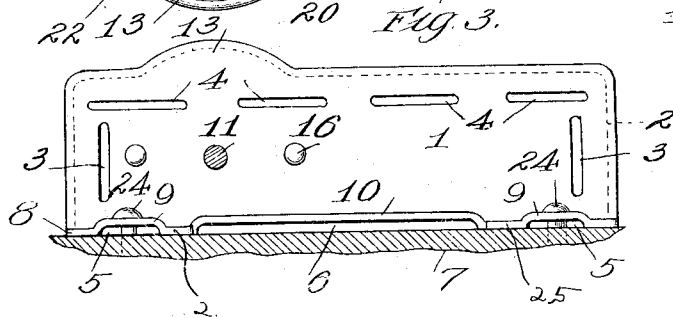


Fig. 3.

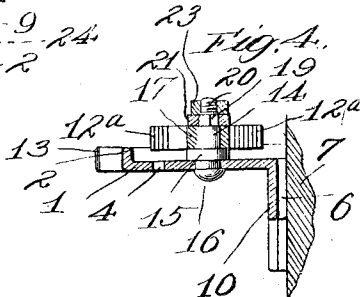


Fig. 4.

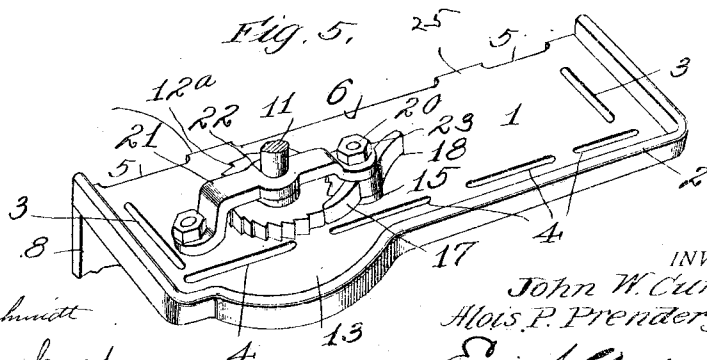


Fig. 5.

WITNESSES

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METAL BRAKE-SHELF FOR CARS.

1,051,696.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, JOHN W. CURRAN, residing at Newport, in the county of Campbell and State of Kentucky, and ALOIS P. PRENDERGAST, residing at Cincinnati, in the county of Hamilton and State of Ohio, both citizens of the United States, have invented certain new and useful Improvements in Metal Brake-Shelves for Cars, of which the following is a specification.

In equipping a freight car with a brake shelf according to the practice before our invention, it was necessary to bolt two brackets to the end wall of the car, the bolts passing from the inside of the car through the end wall, and an oak foot board was bolted to these brackets. A dog pivot casting is bolted to the foot board, on which the dog is pivoted which engages the ratchet wheel secured to the brake staff. Thus a bracket-equipment of the old type calls for two brackets, ten bolts, one dog casting and one oak foot board. Frequently, the brake staff would be lifted either by the fouling of the brake chain, or by the lifting power exerted by the brakeman, which resulted in either raising the ratchet wheel entirely above and from engagement with the dog, or raising it only a slight distance, which resulted in the dog having but partial engagement with the ratchet, thereby producing uneven wear on the dog. The bolts on the brackets frequently become loose and unless immediately tightened, produce by their movement oblong holes in the car end wall and in the oak foot board, thus making it almost impossible to tighten them up securely. It is frequently necessary to replace a bolt or bolts on the brake shelf on a car in transit and when the cars are loaded the contents must be handled before the broken or lost bolts can be replaced, as they extend through the end wall, thus cars and their contents are badly delayed, which results in trouble and damage to the railroad.

The object of our invention is to eliminate the objections above noted and produce a brake shelf which is cheap of manufacture and durable; and with these and minor objects in view our invention consists of the parts and combination of parts as will be fully pointed out.

In the drawings, Figure 1 is an elevation of the end of a car broken away, with our invention applied; Fig. 2 is a top plan

view of our brake shelf attached to the end wall of a car, said wall being in section and broken away; Fig. 3 is a bottom plan view of Fig. 2; Fig. 4 is a vertical section of our shelf, and Fig. 5 is a perspective view of the shelf with the brake staff, ratchet wheel, dog and guard in position.

Our brake shelf comprises one piece of right angle form forming the shelf and the bracket, which can be made of pressed steel or malleable iron, thus the shelf is a self contained one-piece shelf.

The shelf 1 is provided with a bead 2 around its outer edge extending above its top face to prevent the brakeman slipping off. The bead is rounded off at the top, so that there may be no sharp corners or edges to catch the shoe of the brakeman and trip him.

3 and 4 are drift openings extending through the shelf, and 5 and 6 are drift openings formed between the rear face of the shelf and bracket and the end wall 7 of the car. These openings prevent the accumulation of cinders, snow, ice and rain on the shelf, thus reducing to a minimum the liability of a brakeman slipping off the shelf.

The bracket 8 has pressed up portions 9 near each end and an intermediate pressed up portion 10, which constitute, respectively, a continuation of the drift openings 5 and 6. The intermediate pressed up portion also serves as a spacing member between the ends of the bracket. These pressed up portions 9 and 10 also stiffen the bracket and give more or less the effect of a brace under the shelf 1, inasmuch as they are positioned in a vertical plane spaced from the vertical plane of the rear edge of the shelf.

11 is the usual brake staff connected to the brake chains at its lower end and provided with the usual hand wheel 12 at its upper end. This staff passes through an opening in the shelf 1 and is provided with a ratchet wheel 12^a which is keyed thereto. In this connection, it will be noted that the outer edge of the shelf is swelled out as at 13 opposite the ratchet wheel so as to make ample room between the periphery of the wheel and the bead 2 for the foot of the brakeman, the distance being such that there is no liability of the foot being jammed and caught.

14 is a post having an enlarged base 15 affording an increased bearing surface,

from which depends a rivet member 16 which passes through the shelf 1, whereby the post is securely riveted to the shelf. The dog 17 is pivotally mounted on the post 14 and engages the ratchet wheel 12^a, said dog having the usual toe extension 18. 19 is a rectangular portion integral with post 14 terminating in a screw-threaded portion 20.

21 is a strap having a central opening 22, through which the brake staff passes, one end of the strap having a rectangular opening constructed to receive the rectangular portion 19 of the post 14 and secured thereon by the nut 23. The other end of the strap 21 is deflected downwardly and secured to the shelf. The body of the strap 21 is positioned above the ratchet wheel 12^a, thus preventing the brake staff from being raised either by the brakeman or by the fouling of the brake chains, thus preventing the ratchet wheel from being elevated and wholly or partially becoming disengaged from the dog, thus reducing to a minimum the wear on both the dog and ratchet wheel. The dog is formed with an enlarged central portion which has a bearing between the annular flange 15 and the end of the strap 21, whereby it is held in a horizontal position at all times, thus preventing its teeth from becoming canted with respect to the teeth of the ratchet wheel, whereby wear between the parts is reduced. The annular flange 15 also serves as a spacing member to space the dog from the shelf, thus reducing friction besides preventing the dog from freezing to the shelf.

The shelf is secured to the end wall of the car by two rivets 24.

As stated above, many cars, both loaded and empty, are "shopped" for the following defects, viz., split, worn and broken brake shelves, broken shelf brackets, missing and broken bolts, and when the cars are loaded the contents must be handled to make the repairs, all of which results frequently in disastrous delays. All of these defects and objections are eliminated by the use of our one-piece metal shelf. Of course, our shelf might become damaged in a collision or by "cornering", but aside from these, our one-piece metal shelf will last as long as the car to which it is attached.

From the drawing, it will be seen that the contact between the end wall of the car and the shelf is limited to the comparatively small area presented by the surfaces marked 25, thus deterioration by reason of

contact between the metal of the shelf and the end wall of the car will be reduced to a minimum.

The guard strap 21 eliminates the use of the cotter pin usually employed to keep the brake staff from rising and is far more reliable, as the cotter pin is seldom in its place.

What we claim and desire to secure by Letters Patent is:—

1. A one-piece metal brake shelf comprising a shelf and a bracket, the shelf having drift openings formed on its rear edge, and the bracket having drift openings formed therein registering with the drift openings of the shelf.

2. A one-piece metal brake shelf comprising a shelf and a bracket, drift openings and a brake staff opening through the shelf, an upstanding rib on the front and end edges of the shelf, said shelf having a swell on its front edge opposite the brake staff opening, and a post riveted on top of the shelf.

3. The combination with a car, of a one-piece metal brake shelf secured to a wall of the car and comprising a shelf and a bracket, said shelf having drift openings and a brake staff opening formed there-through, and drift openings between the rear edge of the shelf and car wall, an upstanding rib on the front and end edges of the shelf, the front edge of the shelf being swelled opposite the brake staff opening, a brake staff passing through said staff opening in the shelf and provided with a ratchet wheel on top of the shelf, a post on the shelf, a dog pivotally mounted on said post, a strap secured at one end on said post and at its other end to the shelf and provided with an opening through which the said staff passes, said bracket being provided with drift openings which register with the drift openings on the rear edge of the shelf.

4. A one-piece metal brake shelf comprising a shelf and a bracket, said shelf having drift openings and a brake staff opening, a post on said shelf, and a strap secured at one end to said post and at its other end to said shelf, said strap having a brake staff opening registering with the brake staff opening in the shelf.

In testimony whereof we affix our signatures in presence of two witnesses.

JOHN W. CURRAN.

ALOIS P. PRENDERGAST.

Witnesses:

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B. H. GROWER.