





# UNITED STATES PATENT OFFICE.

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## BRAKE-SHOE MECHANISM.

SPECIFICATION forming part of Letters Patent No. 698,421, dated April 22, 1902.

Application filed January 27, 1902. Serial No. 91,371. (No model.)

*To all whom it may concern:*

Be it known that I, HENRY TESSEYMAN, a citizen of the United States, and a resident of the city of Dayton, in the county of Montgomery and State of Ohio, have invented a new and useful Improvement in Brake-Shoe Mechanism; and I do hereby declare that the following is a full, clear, and exact description of the same, reference being had to the accompanying drawings, and to the letters of reference marked thereon, which form a part of this specification.

This invention relates to improvements in the construction of the brake-shoes and to the manner of supporting the same on the truck of railway-cars or other vehicles. Heretofore it has been customary to mount the brake-head to the brake-hanger at or near the center of the former by means of a pivotal connection between the two, the shoe being attached to the brake-head and oscillating therewith independent of the brake-hanger, the result of such arrangement being greater wear of the shoe at one end than at the other—as, for example, in Figure 2 the arrow indicates the travel of the wheel as being from left to right, while in Fig. 3 the arrow indicates the travel of the wheel to be in the opposite direction, and in both cases where the brake-head is pivotally connected to the brake-hanger the lower end of the shoe will wear faster than the upper end, while when the wheels travel in opposite directions from those indicated in the drawings the upper end of the shoe will wear faster than the lower end, the reason for which is the tendency of the wheel to draw one end of the shoe closer and harder against the wheel, according to the direction in which the wheel is revolving, and to obviate this objection various devices have been employed, none of which have successfully or satisfactorily accomplished their purpose.

This invention contemplates a simple and efficient manner of hanging the brake-shoe, together with the peculiar construction of the shoe, whereby the objection above mentioned is overcome and whereby when the

shoe is worn out the remnant will be substantially uniform in thickness and the waste thereby reduced to a minimum.

It consists, first, in rigidly attaching the brake-head, which carries the brake-shoe, to the brake-hanger, and, second, in forming the said shoe of differential thickness throughout its length to compensate for the difference between the arcs in which its opposite ends travel in its movement toward the center of the wheel.

In the drawings, Fig. 1 represents a perspective view of a portion of a brake-hanger support with my improvement suspended therefrom; Fig. 2, a vertical section through the center of Fig. 1, and in which is also shown a portion of a car-wheel, the brake-shoe being hung on the inside of and applied to the wheel, its normal position when out of service being shown by dotted lines, the arrow indicating the direction of the travel of the wheel; Fig. 3, a side elevation showing the brake-shoe hung on the outside of and applied to the wheel, the dotted line X representing the brake-shoe as about worn out and the arrow indicating the direction of the travel of the wheel; and Figs. 4 and 5 represent perspective detached views of the brake-head and brake-shoe, respectively.

Similar letters of reference indicate corresponding parts in the several figures of the drawings.

A represents a support, which may form a part of the truck, or it may be a separate support attached thereto, and to this support is suspended a brake-hanger B, preferably in the form of a yoke, journaled in a box C, secured to the said support by any suitable means—such, for instance, as a U-bolt D and nuts E. The free ends of the hanger B are by preference flattened, as shown, and perforated at *a*, and between the said flattened portions of the said hanger is located a brake-head F, having bolt-holes *b*, which register with the perforations *a*, the brake-head being rigidly secured to the hanger B by means of bolts *c*, which pass through the perforations *a* and holes *b* and are secured therein



by nuts *d*. Thus the brake-hanger and the brake-head are made to swing in the box C as a single structure.

The brake-head is provided with projecting ears *e*, perforated at *f* to receive a brake-lever G in the usual manner and with which all persons skilled in the art to which my invention relates are familiar.

H represents the brake-shoe, the same being provided with a lug *g*, having a key passage-way *h* therethrough and being adapted to enter a recess *i*, formed in the brake-head, and by which the brake-shoe is secured to the brake-head by means of a key I, which is driven through the passage-ways *j* of the brake-head and *h* of the brake-shoe in the customary manner and as clearly illustrated in the drawings.

The face of the brake-shoe is curved to conform to the periphery of the wheel J, the shoe being formed thicker at one end than at the other for the purpose and in the manner already described and as clearly shown in the drawings.

It will be observed that when the brake-shoe is out of service it hangs clear of the wheel, that it can be operated to engage the same by any of the ordinary brake-lever mechanisms, that its movement is in the direction of an arc of a circle, and that its upper and lower ends travel in different arcs, according to the length of the shoe and its relative distance from the pivotal line of the hanger-journal, and it is to be understood that the

difference of travel of the two ends of the shoe is compensated for by the differential thickness of the same relative to the wearing distance in which it moves.

Having thus fully described my invention, I claim—

1. The combination with a wheel, of a brake-shoe adapted to engage the periphery thereof and being of differential thickness throughout its length to compensate for the difference between the arcs in which its opposite ends travel, a brake-head carrying the brake-shoe, an oscillating brake-hanger to which the brake-head is rigidly secured and a support for the brake-hanger.

2. The combination with a wheel, of a brake-hanger, a brake-head rigidly secured thereto, a bearing for the brake-hanger and in which the same is rotatably mounted, a suitable support for said bearing, a brake-shoe carried by the brake-head and being of differential thickness throughout its length to compensate for the difference between the arcs in which its opposite ends travel in its movement toward the center of the wheel, and means for applying the brake-shoe to the wheel.

In testimony whereof I hereunto subscribe my name this 25th day of January, 1902.

HENRY TESSEYMAN.

Witnesses:

C. C. ROGERS,

H. R. ROCHESTER.