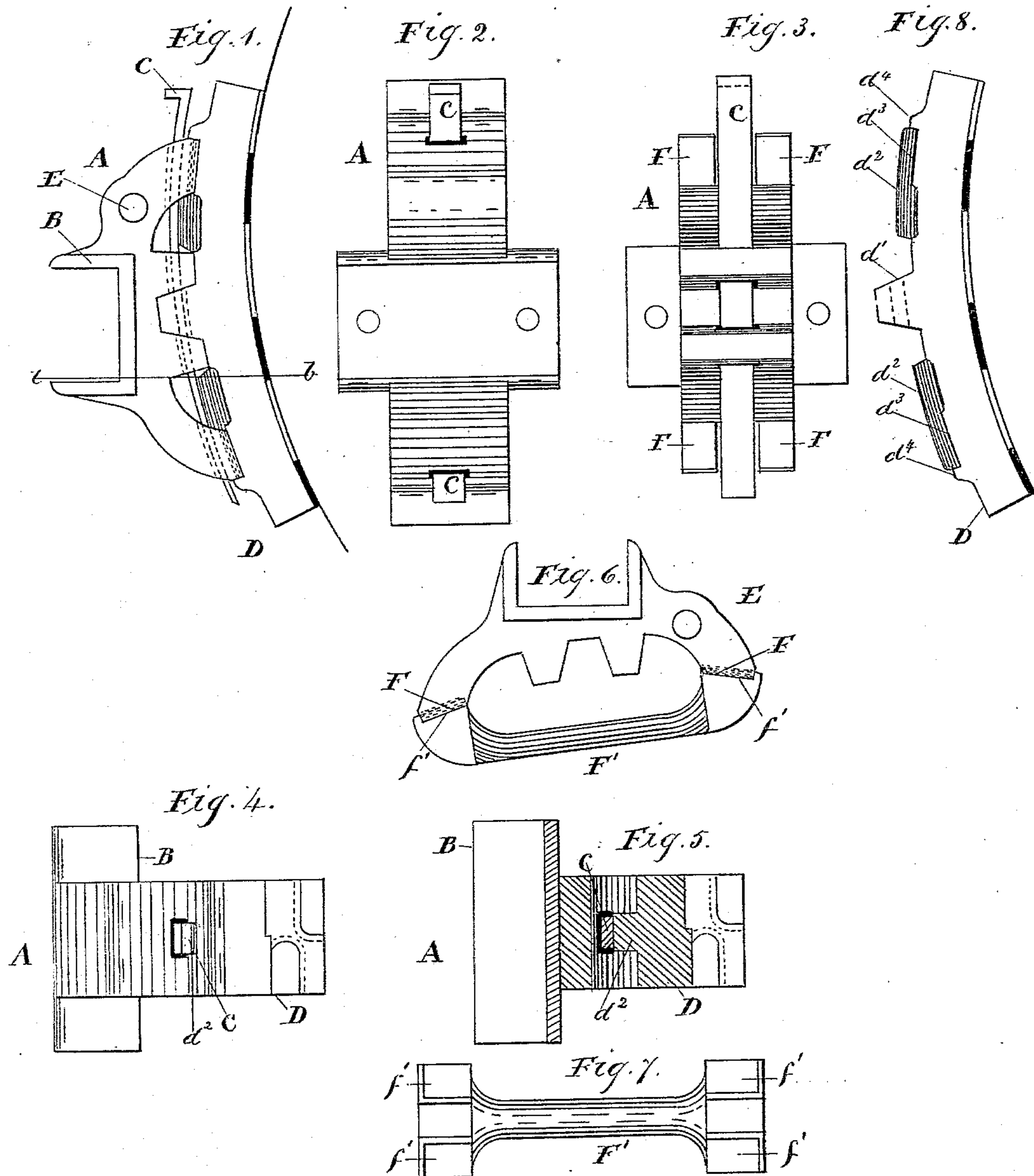


(No Model.)

J. J. LAPPIN.  
BRAKE HEAD AND SHOE.

No. 331,894.

Patented Dec. 8, 1885.



Witnesses

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# UNITED STATES PATENT OFFICE.

JOHN JOSEPH LAPPIN, OF TORONTO, ONTARIO, CANADA.

## BRAKE HEAD AND SHOE.

SPECIFICATION forming part of Letters Patent No. 331,894, dated December 8, 1885.

Application filed September 14, 1885. Serial No. 177,043. (No model.)

*To all whom it may concern:*

Be it known that I, JOHN JOSEPH LAPPIN, of the city of Toronto, in the county of York, in the Province of Ontario, Canada, have invented certain new and useful Improvements in the Connecting Parts of Brake-Heads and Brake-Shoes; and I do hereby declare that the following is a full, clear, and exact description of the same.

My invention relates to a brake-head and brake-shoe now in use; and it consists in the enlargement of the bearing parts of the brake-head to a quadruple of their present size, and hardening the said parts upon a chill, so that they will remain uniform, and in lengthening and enlarging the ribs on the back of the brake-shoe proportionally to the enlarged bearing and fitting parts of the brake-head, to prevent any lateral motion of the shoe on the brake-head, and in the heightening of the snugs which the ends of the shoe fit up to and are longitudinally locked between, as hereinafter more fully described in the specification, and pointed out in the claim.

In the accompanying drawings, Figure 1 is a side view of a brake-head embodying my improvements, with an improved brake-shoe attached thereto. Fig. 2 is a back view of the brake-head and shoe behind the same. Fig. 3 is a face view of the brake-head. Fig. 4 is a plan view of the brake-head and brake-shoe. Fig. 5 is a transverse section through the line *a b* in Fig. 1. Fig. 6 is a side view of the brake-head and chill. Fig. 7 is a face view of the chill. Fig. 8 is a side view of brake-shoe without the brake-head.

Similar letters of reference indicate the same parts in all the views as in this specification.

A represents the brake-head with groove *a*<sup>2</sup>; B B', the flanged brackets—one on each side—forming parts thereof; C, a key for securing the brake-shoe to the brake-head; D, a brake-shoe; E, a hole in the brake-head for hanging the brake to the truck of the car; F, the bearing parts of the brake-head, which are hardened upon a chill in casting the same; F', the chill; *f*<sup>2</sup>, the seats of the chill, which fit the bearing parts of the brake-head. *a'* *a'* are two cheeks in the face of the brake-head; *d'*, a tongue on the back of the brake-shoe, which fits between the cheeks aforesaid.

Referring to Fig. 1, it will show the brake-head A and brake-shoe D connected and in

the position as when applied on the rim of a car-wheel. It also shows the flanged brackets B, which hold the cross-beam of the brake, and the key C, which connects the brake-shoe to the brake-head.

Referring to Fig. 2, it will be seen that the flanged brackets B are attached to the brake-beam by two bolts, which is an improvement on the common mode of attachment with one bolt only.

Fig. 3 shows the inner face of the brake-head, with the cheeks *a'* *a'*, flanged bracket B, bearing-surfaces F F F F, and key C. The said bearing-surfaces are increased four to one, or four times.

Fig. 4 shows the brake-shoe D in connection with the brake-head, the flanged brackets B, key C, and enlarged rib *d*<sup>2</sup>, projecting above the cross-slug *d*<sup>1</sup>.

Fig. 5 shows key C and rib *d*<sup>2</sup>.

Referring to Fig. 6, the brake-head A is shown lying on the chill F', in their relative positions as when the head is being cast in the foundry. The bearing-surfaces F of the brake-head are also shown, and the bearing-surfaces of chill *f*<sup>2</sup> *f*<sup>2</sup> *f*<sup>2</sup> *f*<sup>2</sup>, which harden the bearing-surfaces of the brake-head.

Fig. 8 shows the shoe A and the parts thereof which form the connections with the brake-head—viz., the tongue *d'*, through which the key C passes and secures the shoe to the brake-head—showing also the enlarged ribs *d*<sup>2</sup>, the seats for brake-head *d*<sup>3</sup>, and the enlarged snugs *d*<sup>1</sup>.

Having thus described my invention, I claim as new, and desire to secure by Letters Patent, as follows:

A brake-head, A, with groove *a*<sup>2</sup> and flanged brackets B B, having its bearing parts F F F F enlarged and hardened upon a chill, as specified and described, and made to fit enlarged seats *d*<sup>3</sup>, with heightened snugs *d*<sup>1</sup> on the back of the shoe D, to provide for the better wear of the parts and their remaining uniform, and the groove *a*<sup>2</sup>, deepened and enlarged to span and fit a lengthened and enlarged rib, *d*<sup>2</sup>, on the back of the shoe D, to prevent lateral motion of the shoe on the brake-head, and to relieve the key C, which keeps the brake head and shoe together, of any more than a nominal strain thereon, the whole constructed and operating substantially as set forth.

Witnesses: JOHN JOSEPH LAPPIN.  
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ALFRED BOYD.