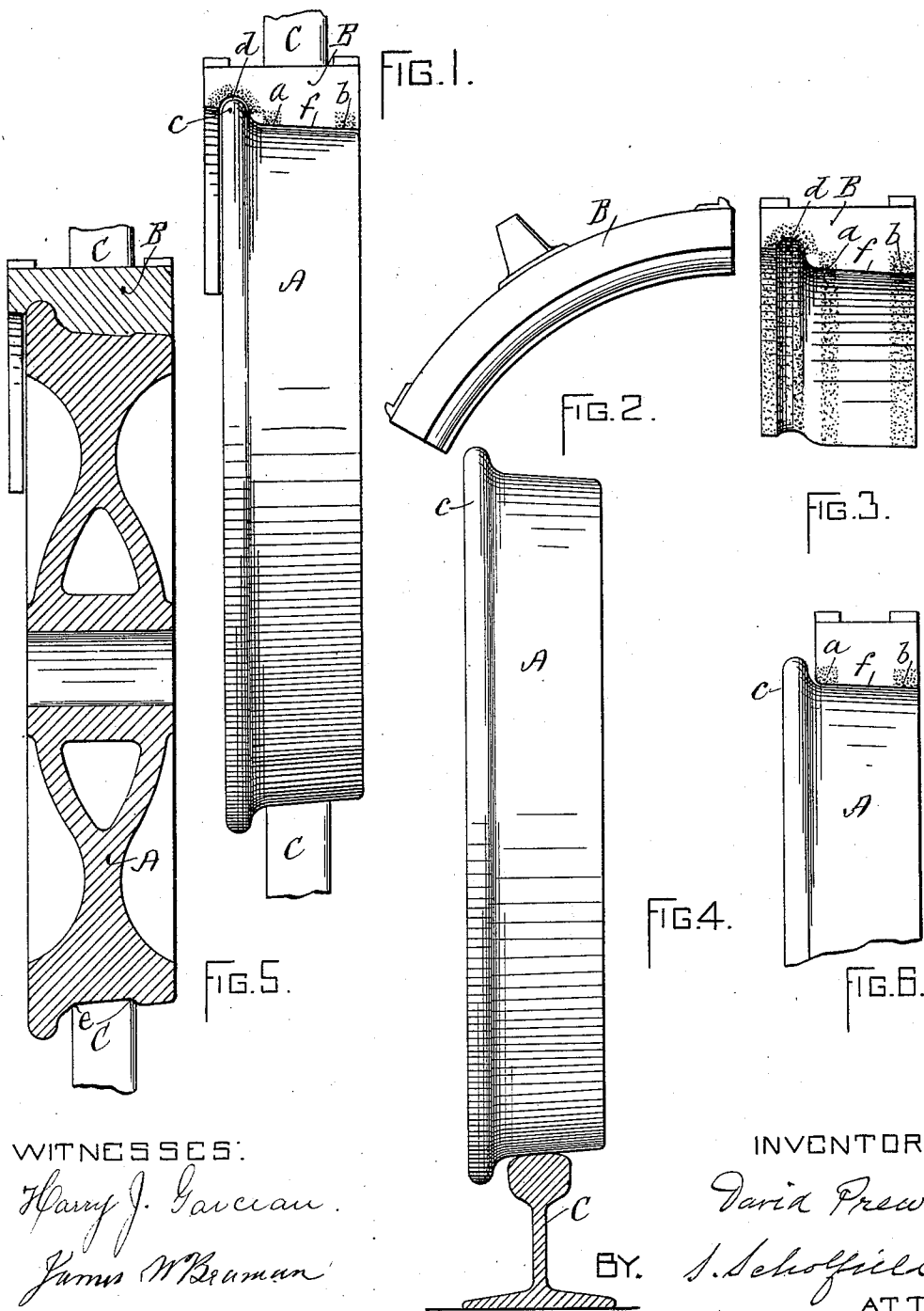


(No Model.)

D. PREW.
BRAKE SHOE.

No. 569,978.

Patented Oct. 20, 1896.



WITNESSES:

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DAVID PREW, OF PROVIDENCE, RHODE ISLAND.

BRAKE-SHOE.

SPECIFICATION forming part of Letters Patent No. 569,978, dated October 20, 1896.

Application filed July 28, 1896. Serial No. 600,847. (No model.)

To all whom it may concern:

Be it known that I, DAVID PREW, a citizen of the United States, residing at Providence, in the State of Rhode Island, have invented a new and useful Improvement in Brake-Shoes, of which the following is a specification.

The slipping of car-wheels when the brakes are applied causes the middle portion of the face of the wheel to be worn rapidly, so as to form a groove therein, thus rendering it necessary to have the periphery of the wheel trued up in a lathe; otherwise there would be danger of the wheel leaving the track on account of the inequalities of its bearing-surface; and the object of my invention is to provide a brake-shoe which will compensate for the unequal wearing of the periphery of the wheel by the action of the rail thereon; and my invention consists in the employment of a brake-shoe chilled longitudinally at the opposite edge portions of its bearing-face with an intermediate soft unchilled portion, whereby the hardened edge portions of the brake-shoe will cause the edge portions of the surface of the wheel to be maintained in a true condition with the rail-worn middle portion; and my invention also consists in providing a brake-shoe with a chilled groove adapted to preserve the uniform height of the flange while the wheel is being worn down in use.

In the accompanying drawings, Figure 1 represents a top view of the wheel, showing the upper end of the chill-hardened brake-shoe embodying my improvement. Fig. 2 represents an edge view, and Fig. 3 an end view, of the chilled brake-shoe. Fig. 4 represents an edge elevation of the wheel and a section of the rail. Fig. 5 represents an axial section of the wheel, showing the groove ordinarily worn therein by the action of the brake-shoe and the rail. Fig. 6 represents the brake-shoe without the groove for the flange.

In the drawings, A represents the car-wheel, and B the brake-shoe, the said brake-shoe being provided with a groove *d* to embrace the flange *c* of the wheel. The brake-shoe B is made of cast-iron chilled longitudinally in the mold at the portions *a* and *b* of its face *c* and at the bottom of the groove *d*, as shown by the stippling in Figs. 1 and 3; the said chilled portions *a* and *b* being separated from

each other by the soft unchilled middle portion *f*, which embraces the rim of the wheel in range with the track-rail C, so that while the brake-shoe operates upon the whole periphery of the wheel to keep it true the central portion of the wheel will be worn by the shoe to a less degree than the edge portions, which are not worn by the action of the rail, thus tending to keep the surface of the wheel in a true condition and avoiding the trouble and expense of removing the wheels from the car and truing the same in a lathe.

In order to keep the bearing-face of a car-wheel true, it is necessary for the brake-shoe to have a bearing across the whole face of the wheel, and, as shown in Fig. 5, with a soft shoe the shoe wears down so as to fit the groove *e*, formed in the periphery of the wheel by the action of the rail thereon, so that both the rail and the shoe act together to increase the depth of the groove, whereas in my improvement the longitudinally-chilled edge portions of the face of the shoe serve to prevent the middle portion from entering the groove to increase the wear therein, the inward movement of the face of the shoe being regulated by the slow wear of the longitudinally-chilled portions. When a soft brake-shoe embracing the flange of the wheel is employed, the flange, owing to its greater diameter, has a surface speed greater than that of the face of the wheel, and is therefore enabled to wear the shoe with greater rapidity, so that the flange will not be worn down with the said face, but will become of abnormal height, thus incurring liability of derailment in passing around a curve, and many accidents may be attributed to this cause. The chilling of the brake-shoe at the bottom of the groove which receives the flange therefore constitutes a valuable improvement.

In applying my improvement to brake-shoes in which the groove is dispensed with, as shown in Fig. 6, the longitudinal chills *a* and *b* will be made at the opposite edge portions of the face of the shoe.

I claim as my invention--

1. A brake-shoe, chilled longitudinally upon the edge portions of its bearing-face, and having a soft unchilled middle portion, substantially as described.

2. A brake-shoe provided with a longitudi-

nally-chilled groove adapted to bear upon the top of the flange of the wheel, and having a longitudinally-chilled portion at the opposite edge of the shoe, with an intermediate un-

5 chilled portion, substantially as described.

3. A brake-shoe having its bearing-face provided with the longitudinal chilled portions

a and *b*, with the intervening unchilled portion *f*, substantially as described.

DAVID PREW.

Witnesses:

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