H. L. PERRINE.
Brake-Shoe.

No. 203,495. Patented May 7, 1878.

Fig. 1.

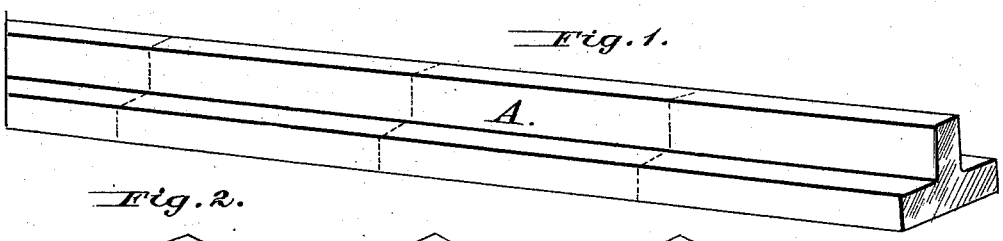


Fig. 2.

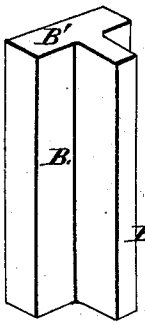


Fig. 3.

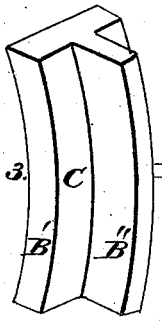


Fig. 4.

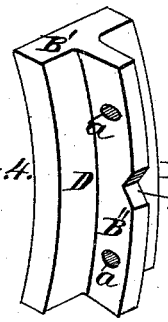


Fig. 5.

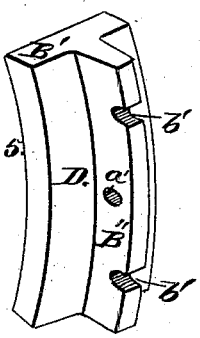


Fig. 6.

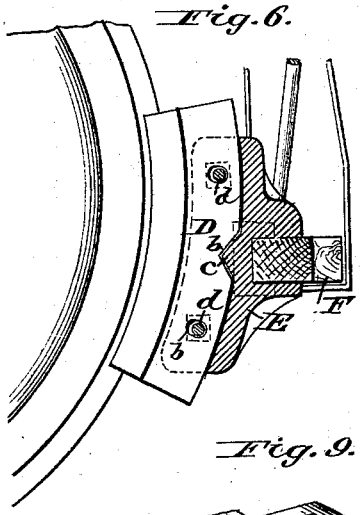


Fig. 7.

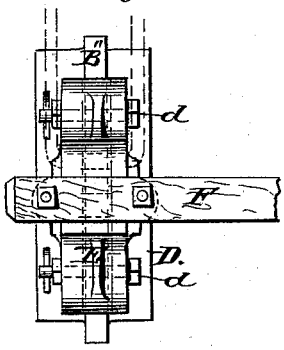


Fig. 8.

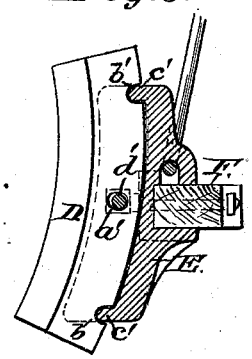


Fig. 9.

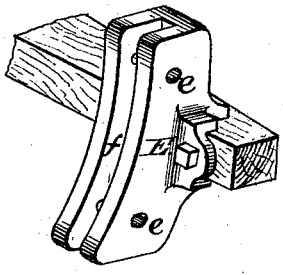
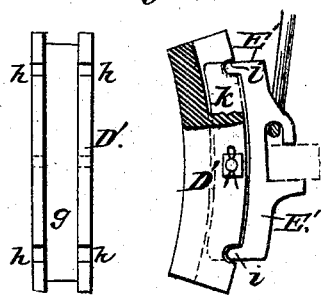


Fig. 10.



Attest:
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UNITED STATES PATENT OFFICE.

H. LANSING PERRINE, OF FREEHOLD, NEW JERSEY.

IMPROVEMENT IN BRAKE-SHOES.

Specification forming part of Letters Patent No. **203,495**, dated May 7, 1878; application filed March 19, 1878.

To all whom it may concern:

Be it known that I, H. LANSING PERRINE, of Freehold, in the county of Monmouth, in the State of New Jersey, have invented certain new and useful Improvements in Metal Brake-Shoes, of which the following is a full, clear, and exact description.

The object of my invention is to produce simply and cheaply metal brake-shoes.

The invention consists in a brake-shoe formed from rolled bars of steel or iron, and having a tread or face and a web or webs, in which latter one or more notches and bolt-holes are made, in combination with a cast-metal bed-block or socket having one or more steps registering with the notch or notches in the web of the shoe, and one or more bolt-holes, substantially as hereinafter described.

In the drawings hereunto annexed, Figures 1, 2, 3, and 4 illustrate the various steps in forming brake-shoes from a bar of rolled T metal. Fig. 5 is a perspective view of the preferred form of shoe. Fig. 6 shows the shoe in position upon the wheel, the bed-block being in section to illustrate the notch and lug or step; Fig. 7, a rear view of the shoe and its bed-block and brake-beam; Fig. 8, a sectional side elevation of a bed-block for and with such a shoe as is shown in Fig. 5; Fig. 9, a perspective view of the bed-block; Fig. 10, a rear and partly sectional side elevation of a channel metal shoe with its bed-block or socket.

In carrying out my invention, I roll from the ingot a bar, A, of T shape. The ingot may be of Bessemer steel or other suitable metal. This bar is, while hot, cut up into lengths suitable for brake-shoes, as indicated by dotted lines, Fig. 1. B, Fig. 2, shows such a shoe-length, consisting of a tread or face, B′, and web B″. These lengths are next subjected to a bending mechanism, as dies in a drop-press or rolls, and thereby given the finished shoe shape, as in C, Fig. 3. They are next subjected to the action of a punch, which forms the holes *a* in the web B″, for the passage of the bolts, to secure them to their bed-blocks or sockets. A notch, *b*, Fig. 4, may be formed by this punch, and at the same operation, or otherwise. The holes may be drilled or cut by other mechanism than a punch.

The bed-block or socket best adapted for my brake-shoes consists of a casting, E, Fig. 9, having a socket, *f*, to receive the web B″ of the shoes, and made with a lug or step, *c*, coinciding with the notch *b* in the shoe shank or web, and bolt-holes *e* registering with the bolt-holes *a* in the shoe. These sockets or bed-blocks are bolted to the brake-beam F, and the shoes are secured in said sockets by bolts *d d*, passed through the holes in the two. (See Figs. 6 and 7.)

By making the notch *b* centrally of the web, and the lug or step *c* in like position in the casting E, with the fastening-bolts on either side, as in Figs. 6, 7, and 9, or by using a single central bolt, *d′*, and notches *b′*, and lugs or steps *c′*, on either side of it, as in Figs. 8 and 10, I obtain a brake-block in which the thrust or strain in breaking is taken off the bolt or bolts and put upon the bed-block, thus rendering the shoe firmer and more durable.

In Fig. 10 I have shown my invention applied in channel metal. D′ is the shoe, (in rear view, left-hand figure,) having the groove or channel *g* and notches *h h* on its sides or flanges. E′ is the bed-block, having a tongue, *k*, to enter the groove *g*, and lugs or steps *i*, to enter the notches *h*.

What I claim is—

1. The brake-shoe described, formed with a tread, B′, and a web, B″, from a bar of rolled steel or iron, and having a notch or notches, and a bolt-hole or bolt-holes made in the web, in combination with a cast-iron socket or bed-block formed with a step or steps and a bolt hole or bolt-holes, substantially as shown and specified.

2. A rolled steel or iron brake-shoe, having the notches *b′ b′* and bolt-hole *a′*, in combination with a cast-metal socket having steps *c′* and bolt-holes, and the bolt *d′*, substantially as described.

To the above specification of my invention I have signed my name this 14th day of March, 1878.

H. LANSING PERRINE.

Witnesses:
J. A. RUTHERFORD,
FLOYD NORRIS.