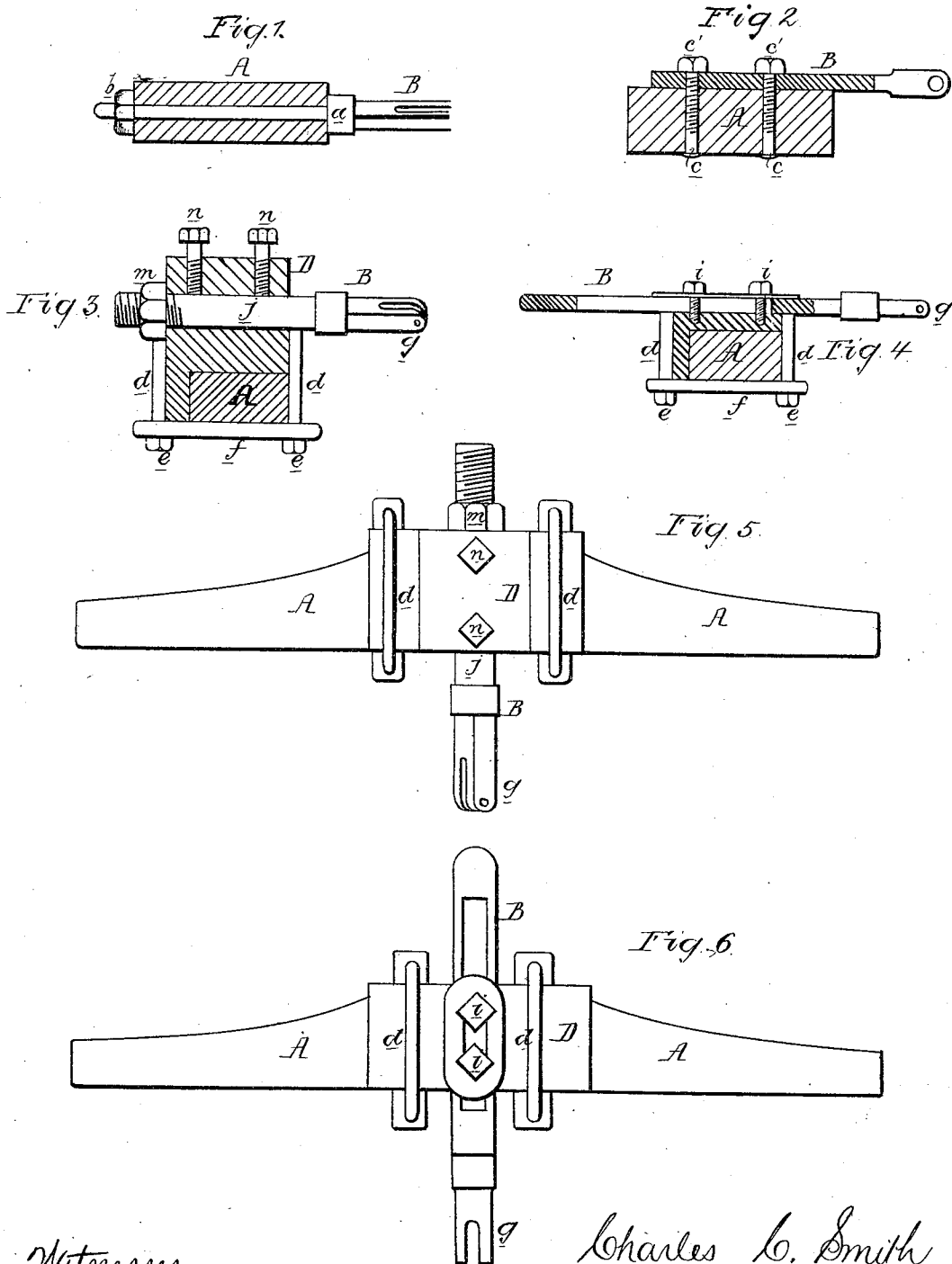


C. C. SMITH.
CAR-BRAKES.

No. 178,474.

Patented June 6, 1876.



Witnesses
Harry Howson
Harry Smith

Charles C. Smith
by his Attorneys
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UNITED STATES PATENT OFFICE.

CHARLES C. SMITH, OF READING, PENNSYLVANIA.

IMPROVEMENT IN CAR-BRAKES.

Specification forming part of Letters Patent No. **178,474**, dated June 6, 1876; application filed November 24, 1875.

To all whom it may concern:

Be it known that I, CHARLES C. SMITH, of Reading, Pennsylvania, have invented an Improvement in Car-Brakes, of which the following is a specification:

My invention relates to certain improvements in connecting the brake-rods to the beams of a railroad-car brake, the objects of my invention being to avoid the necessity of forming openings in the brake-beam, and to provide means for taking up the slack as the brake-shoe becomes worn. These objects I attain in the manner which I will now proceed to describe, reference being had to the accompanying drawing, in which—

Figures 1 and 2 are vertical sectional views, showing the usual methods of connecting the brake rod and beam of a car-brake; Figs. 3 and 4, sectional views, showing my improved mode of connection; Fig. 5, a plan view of Fig. 3, and Fig. 6 a plan view of Fig. 4.

The usual methods of attaching the brake rods and beams of car-brakes are shown in Figs. 1 and 2. In Fig. 1 the brake-beam A has a transverse opening formed in it, through which passes the inner end of the brake-rod B, the beam being clamped between a shoulder, *a*, on the rod and a nut, *b*, adapted to the threaded end of the same. In Fig. 2 the rod is secured to the beam by two vertical bolts, *c*, which pass through both rod and beam, and have nuts *c'* at the top. It will be seen that in both of these methods the beam B is weakened, owing to the openings for the bolts, and this weakening frequently results in the fracture of the beam in the center.

To prevent the weakening of the beam, I, instead of attaching the brake-rod directly to the same, attach it to the block D, secured to the beam by a band, *d*, which passes over each end of the block, embraces the beam A, and is threaded at its lower ends and provided with nuts *e*, which bear against a plate, *f*, and serve to secure the block D firmly to the beam.

The rods B, which are attached to the brake-

beams, have jaws *g*, by which they are connected to the rest of the brake-operating mechanism.

It is necessary for the proper working of the brake that the rod attached to one beam shall have jaws arranged vertically, while the rod attached to the opposite beam shall have jaws set at an angle; consequently I prefer to attach the rods to the beams as shown in Figs. 3 and 4. The rod having vertical jaws is flat, and is slotted throughout the greater portion of its length, and through this slot extend the shanks of set-screws *i i*, by which it is secured to the block D, as shown in Fig. 4. The rod attached to the opposite beam has a round stem, *j*, passing through an opening of similar shape in the block D, and threaded at its outer end, where it is provided with a nut, *m*. Vertical set-screws *n n*, passing through the top of the block D and bearing on the stem *j*, serve to secure the same, so that its jaws present the proper angle, as shown in Fig. 3.

It will be noticed that with both these modes of fastening the rods B are adjustable longitudinally, so that any slack caused by the wearing of the brake-shoes may be taken up by first loosening the set-screws *i i* or *n n*, then drawing in the rods B to any desired extent, and finally tightening the set-screws. I thus overcome the necessity of lengthening the brake-rods, or removing the shoe when the latter becomes worn, which is another serious objection to the modes of fastening the brake rod and beam shown in Figs. 1 and 2.

I claim as my invention—

1. The combination of the beam A and rod B of a car-brake with the block D, connected to the rod, and secured to the beam by bands *d*, which embrace the latter, all substantially as set forth.

2. The combination of the rod B and its stem *j* with the nut *m* and set-screws *n n*.

CHAS. C. SMITH.

Witnesses:

S. E. ANCONA,
JOHN CRONAN.