

(No Model.)

T. B. ROGERS.  
RAILWAY CHOCK OR STOP BLOCK.

No. 406,855.

Patented July 9, 1889.

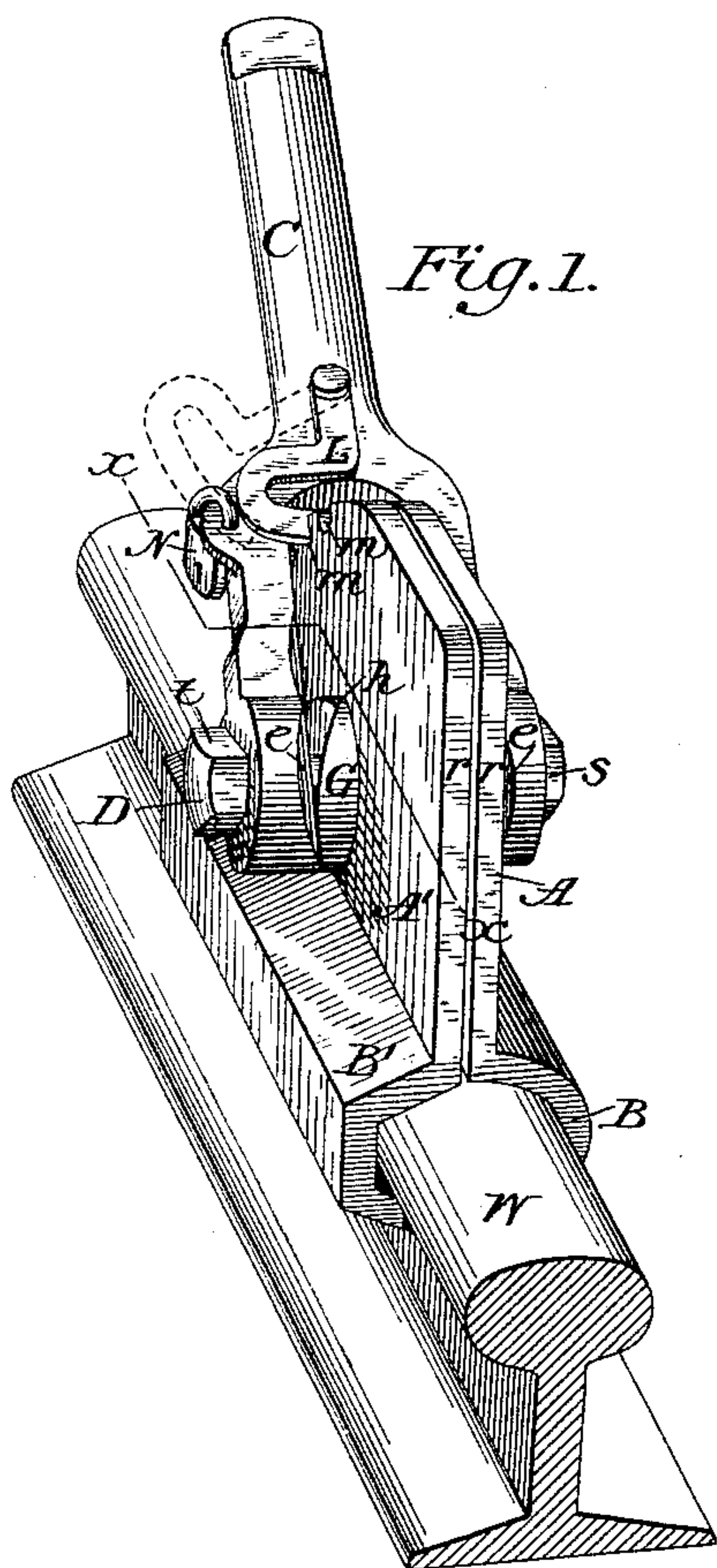


Fig. 1.

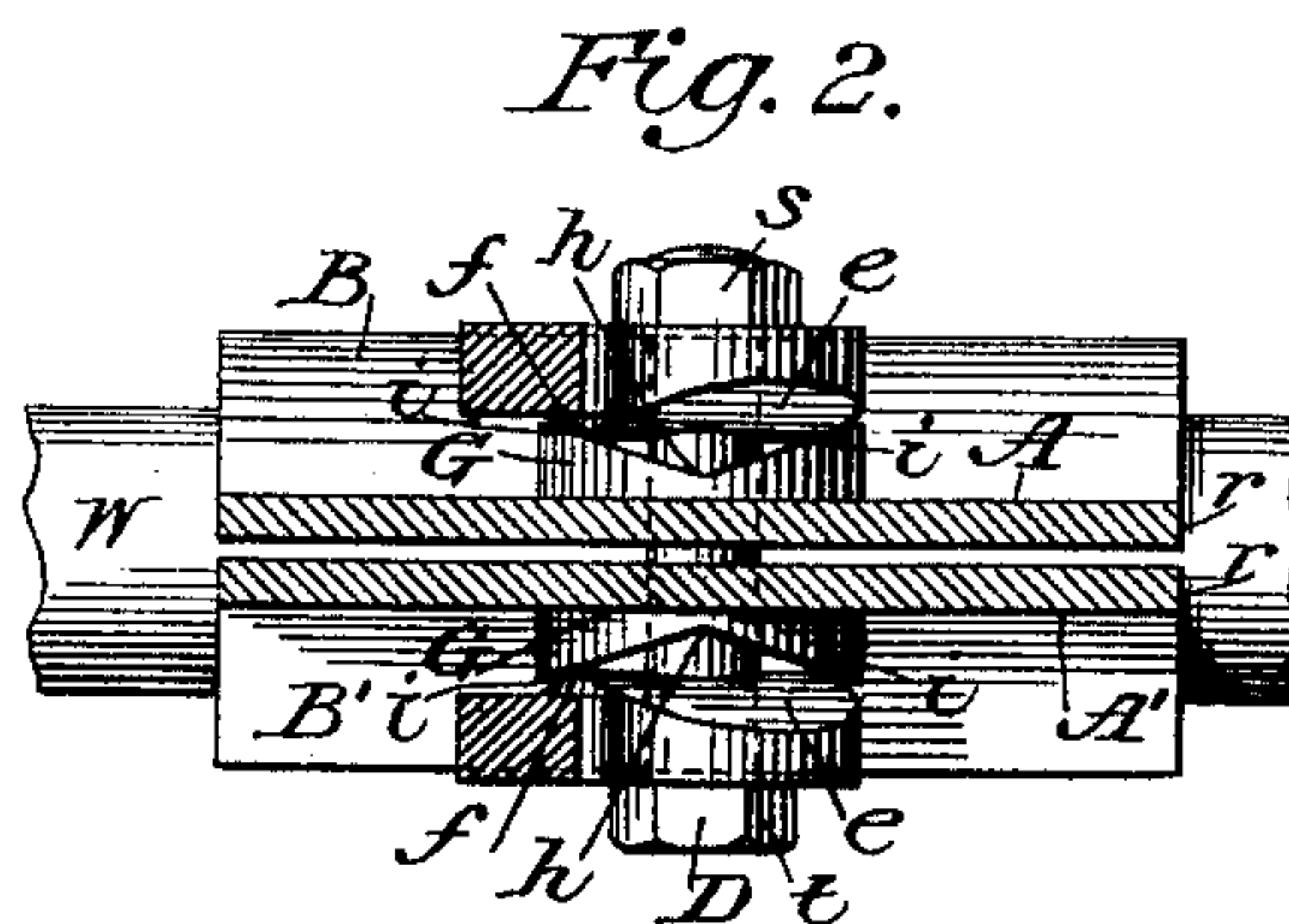


Fig. 2.

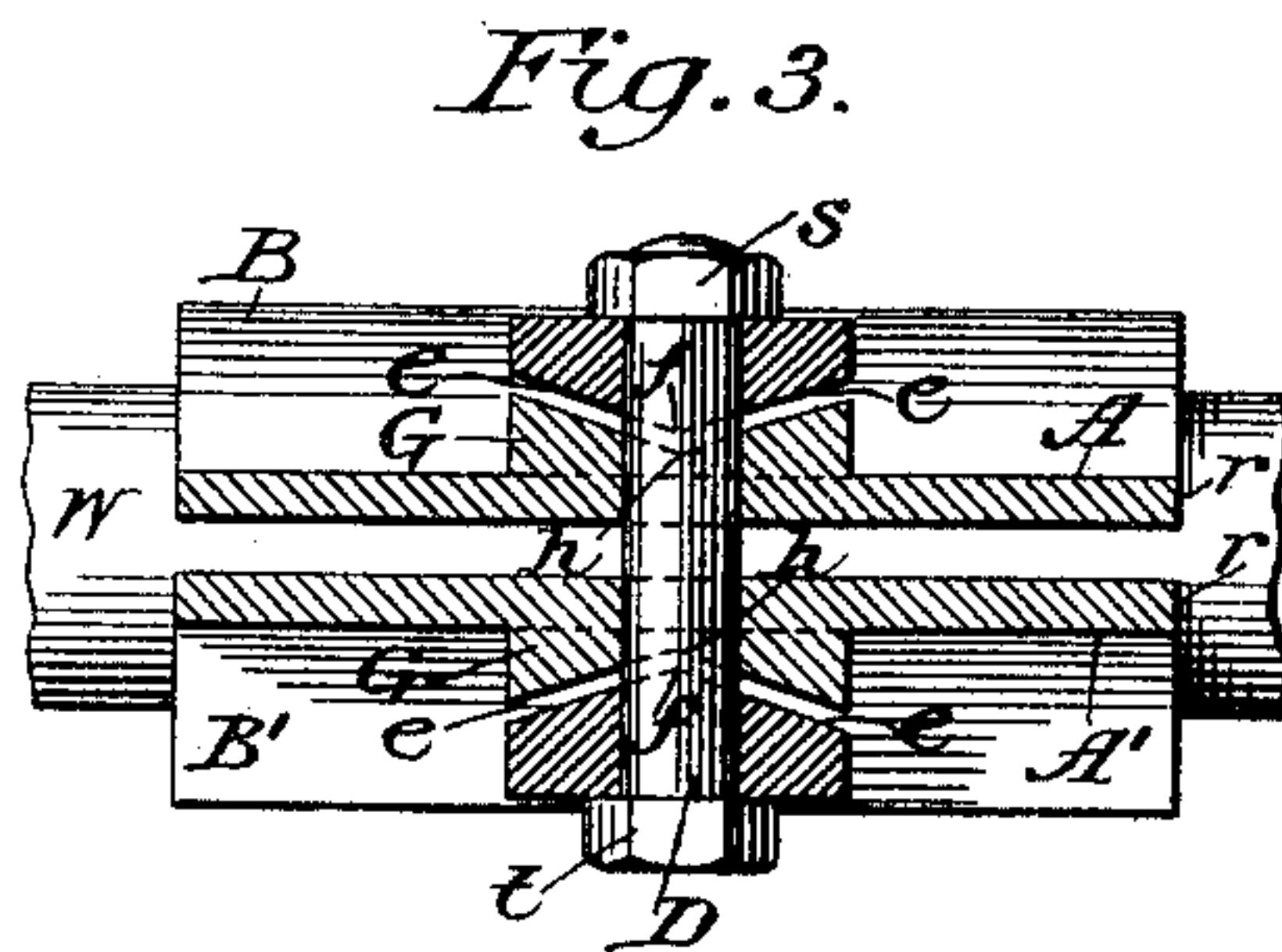


Fig. 3.

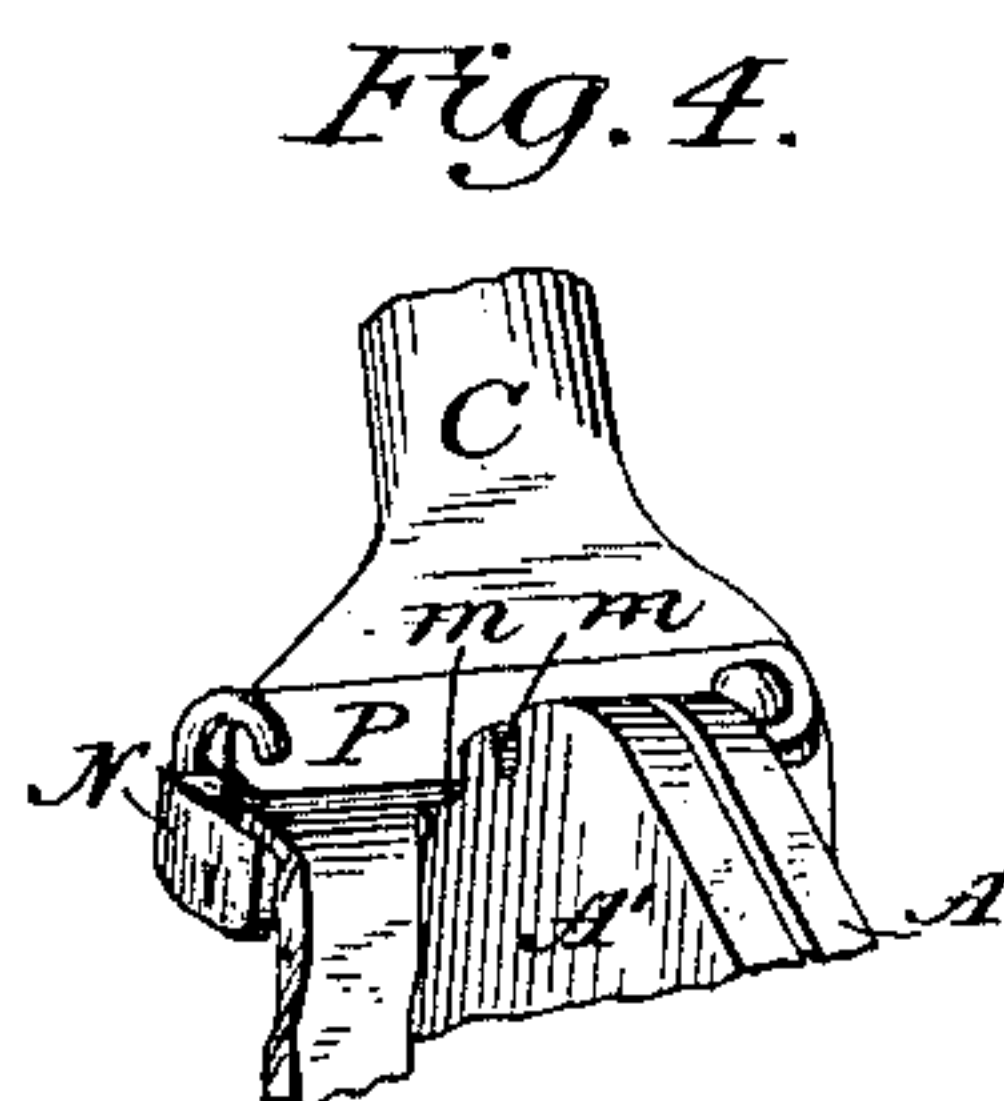


Fig. 4.

Attest:

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# UNITED STATES PATENT OFFICE.

THOMAS B. ROGERS, OF BROOKLYN, ASSIGNOR OF ONE-HALF TO WILLIAM G. ROBINSON, OF NEW YORK, N. Y.

## RAILWAY CHOCK OR STOP-BLOCK.

SPECIFICATION forming part of Letters Patent No. 406,855, dated July 9, 1889.

Application filed March 23, 1889. Serial No. 304,425. (No model.)

*To all whom it may concern:*

Be it known that I, THOMAS B. ROGERS, of Brooklyn, in the county of Kings and State of New York, have invented a new and useful Improvement in Chocks or Stop-Blocks for Railways; and I do hereby declare that the following is a full, and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference marked thereon, making a part of this specification.

My invention relates to that form of chocks to be placed upon the rails of a railway for the purpose of blocking the car-wheels and preventing thereby an accidental movement of the car when left standing upon the track, in which two plates or jaws fitted to embrace the rail between them are firmly clamped thereto by the action of a lever operating to draw the plates together.

The object of my invention is to obtain a more effective leverage upon these clamping-plates and a stronger and more secure railway-chock than has heretofore been known; and it consists in the novel construction and combination of the clamping-plates, cams, lever, and locking parts constituting the complete device, as hereinafter described and claimed.

In the accompanying drawings, Figure 1 is a view in perspective of a railway-rail having my improved chock secured thereto and locked thereon. Fig. 2 is a horizontal transverse section in line  $x x$  of Fig. 1, above the pivotal axis of the lever, the lever being in locking position. Fig. 3 is a similar section in line of said pivotal axis with the lever in a vertical position, showing the clamping-plates separated; Fig. 4, a detached detail, illustrating a modification in the locking device for the lever.

Similar letters indicate like parts in all of the figures.

A A' represent the clamping-plates having one edge thereof bent longitudinally, either in a curved form, as at B, or an angular form, as at B', Fig. 1, to embrace laterally the head of the rail W and obtain a firm hold thereon, while the body of each plate A and A' shall extend up vertically above the top of the rail parallel with the body of the corresponding

plate on the opposite side of the rail, as shown in Fig. 1. The two clamping-plates when thus applied to a rail are firmly bound thereto and clamped immovably thereon by means of a lever C, forked at its lower end to embrace the two plates, and which is pivoted thereto by means of a stout transverse bolt D passing loosely through apertures in the arms of the fork and corresponding apertures in the two plates A and A'.

The inner face of each arm of the fork encircling the pivot hole therein is enlarged and fashioned to present two inclined faces  $e e$ , forming an outwardly-projecting angle  $f$ , more or less obtuse, whose apex is coincident with a line drawn parallel with the length of the lever and passing through the axis of its pivotal bolt, as shown in Fig. 3. A boss or projection G, preferably circular in form, is also formed upon the outer face of each plate to encircle the bolt-hole therein, and the outer face of each boss is fashioned to form an angular recess  $h$ , the counterpart of the opposite angular projection  $f$  on the lever, its re-entrant angle being made to intersect vertically the axis of the bolt-hole, as shown in Fig. 3. Hence when the lever C is in a vertical position and the two plates A A' are moved apart or separated sufficiently to permit them to pass over the head of the rail W, said opposed inclined faces will be parallel with each other and will contact throughout their whole extent, as shown in Fig. 3. If, however, the lever be swung over upon its pivot so as to change the relation of said inclined faces, the faces will act as cams or wedges operating to force the plates together, as shown in Figs. 1 and 2, the outward thrust of the cams being resisted by the head  $s$  and nut  $t$  on the ends of the bolt D.

It will be observed that by means of the double inclines two diametrically-opposite points of contact  $i i$ , Fig. 2—one on each side of the central pivot—will be constantly maintained, whereby all lateral pressure or strain, and consequent binding upon the pivotal bolt D, is avoided, and a direct transverse pressure is produced by the lever upon the two plates in lines parallel with said pivotal bolt, while the bolt itself affords effective support to the two arms of the lever, tying them to-



gether and protecting them from the separating strain which would otherwise operate to force them apart and break them.

The front ends *r r* of the two clamping-plates *A A'* are preferably made straight, (see Fig. 1,) to project up vertically from the rail *W*, upon which they are secured, and thereby offer an effective block to a car-wheel rolling against them. The opposite rear ends of the plates are preferably rounded off upon an arc having the bolt as a center, so that the inner end of the fork of the lever may sweep readily over the same as the lever is swung upon its pivot.

The lever is locked, when adjusted, by means of a latch or hook *L*, pivoted at one end upon the lever *C*, to swing laterally into engagement with a series of notches *m m* in the edges of the plates, and the latch may be secured to prevent its withdrawal when thus in engagement with either notch by means of a padlock *N*, secured in a hole in the edge of the lever, so as to be in contact with the rear edge of the latch *L* and thereby prevent its backward movement, as shown in Fig. 1.

As a modification in this locking device a straight latch *P* may be pivoted to swing transversely into the marginal notches *m m* of the clamping-plates *A A'*, (see Fig. 4,) and to be locked by means of a padlock *N*, whose bow is passed through a hole in the end of the latch, and a corresponding hole in the lever brought into register therewith when the latch is dropped, as shown in Fig. 4.

It is evident that instead of forming corresponding inclined or cam surfaces upon both clamping-plates and both arms of the fork of the lever, the cams need only be formed on one side of the device—that is, upon the boss on only one of the plates and on the arm of the lever opposite thereto, leaving the face of the boss on the other plate plain and parallel with the plain face of its opposite lever-arm.

In the operation of the device the clamping-plates *A A'* are left free to be opened or spread apart for removal or replacement upon a rail *W* by turning the lever *C* into a vertical position. By this means the opposed cams or inclined surfaces on the plates and lever-arms are brought into parallelism, as shown in Fig. 3, permitting a wide movement of the plates from each other upon the transverse bolt *D*. After the plates have been adjusted upon the rail of a switch, side-track, or other portion of a railway at which it is desired to hold a car or train of cars, the lever *C* is swung back and the opposed faces of the cams are by this movement brought into forcible contact at diametrically-opposite points *i i* on each side of the bolt *D* and at one or both ends thereof, and by the leverage obtained by means of the opposite inclined surfaces in their movement one over the other,

with the head *s* and nut *t* at the ends of the bolt at fulcra, the plates are drawn powerfully together upon the rail until a grip is obtained which will firmly hold and secure them thereon. When this end is reached the lever is made fast by dropping its latch into the appropriate notch in the margin of the two plates, as shown in Figs. 1 and 4, and may then be locked with a padlock *N* to prevent an unauthorized or malicious removal of the device.

I claim as my invention—

1. The combination, in a chock or stop-block for railways with the clamping-plates to embrace the rail, of a forked lever, whose arms embrace the plates, a pivotal bolt passing transversely through the arms and plates, and whose head and nut afford bearings for the outer faces of said arms, an angular projection upon the inner face of one of said arms having its apex bisected by the bolt, and a counterpart angular recess in the outer face of a projection upon the proximate plate having its re-entrant angle in like manner bisected by the bolt, whereby the arms of the lever are in constant contact with the plates each at two diametrically-opposite points, one on each side of the transverse pivotal bolt, substantially in the manner and for the purpose herein set forth.

2. The combination, substantially as set forth, with the forked lever, the clamping-plates embraced by the lever and adapted to embrace a railway-rail, the transverse loose bolt upon which the lever is pivoted, the opposed cams formed upon the opposite faces of either lever-arm and the proximate plate, of a swinging latch pivoted to the lever to drop transversely upon the outer edges of the plates in engagement with notches therein, substantially in the manner and for the purpose herein set forth.

3. The combination, substantially as set forth, of the forked lever, the clamping-plates embraced by the lever and adapted to embrace a railway-rail, the transverse loose bolt upon which the lever is pivoted, the opposed cams formed upon the opposite faces of either lever-arm and the proximate plate, a swinging latch pivoted to the lever to drop transversely upon the outer edges of the plates in engagement with notches therein, and a padlock fitted to an aperture in the lever in position to prevent a movement of the latch out of the notch, substantially in the manner and for the purpose herein set forth.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

THOMAS B. ROGERS.

Witnesses:

A. N. JESBERA,  
E. M. WATSON.