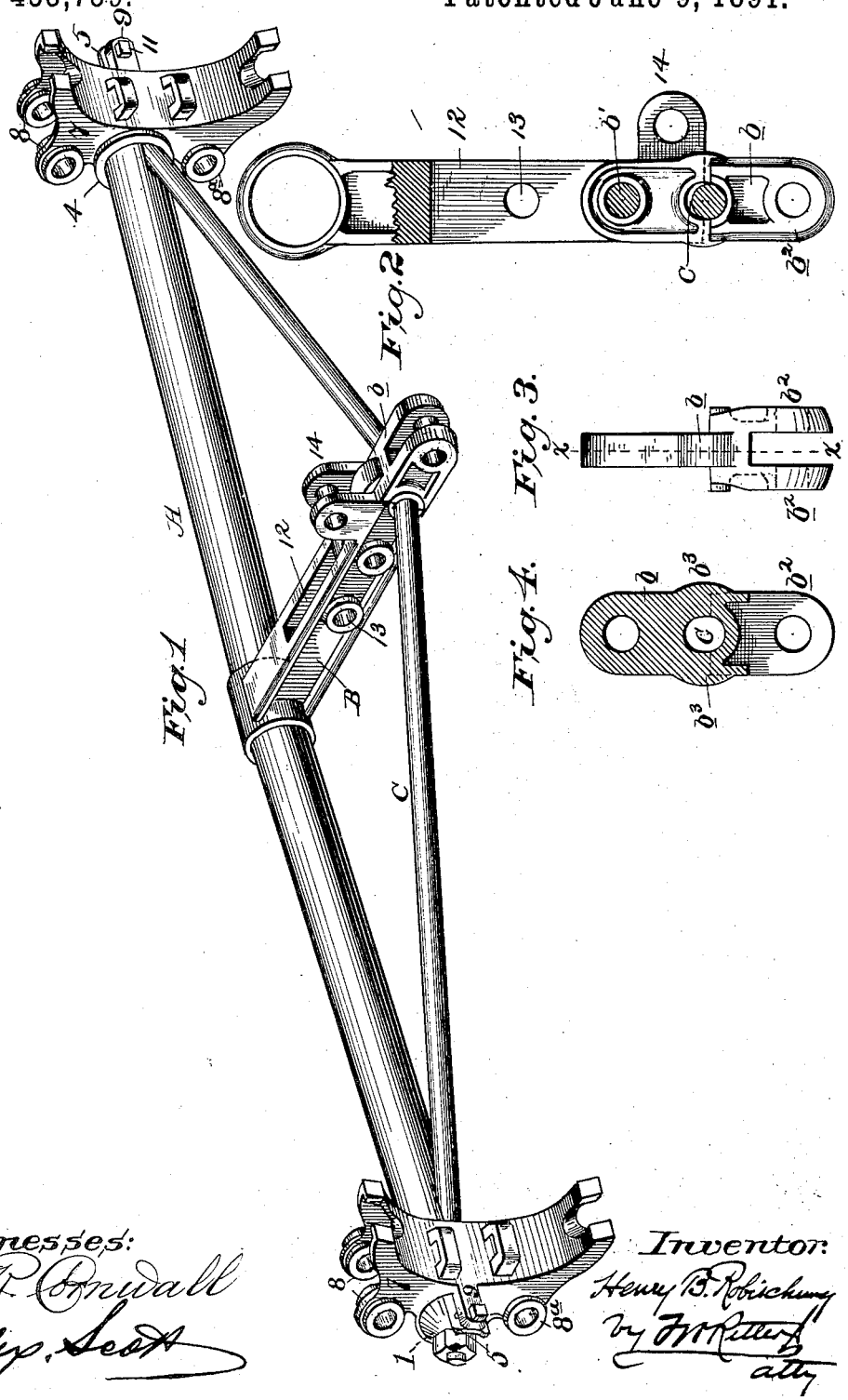
(No Model.) 3 Sheets—Sheet 1.

H. B. ROBISCHUNG.

BRAKE BEAM.

No. 453,739. Patented June 9, 1891.



Witnesses:
F. P. Brindall
Alex. Scott

Inventor:
Henry B. Robischung
by F. M. Rutter
atty

(No Model.) 3 Sheets—Sheet 2.

H. B. ROBISCHUNG.

BRAKE BEAM.

No. 453,739. Patented June 9, 1891.

Fig. 5.

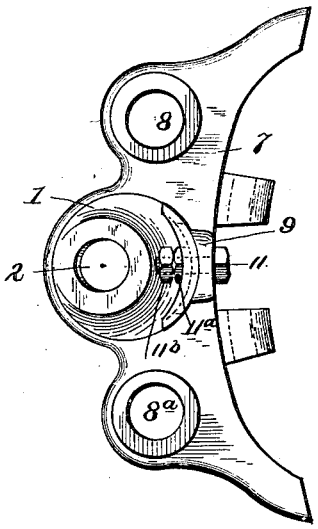


Fig. 6.

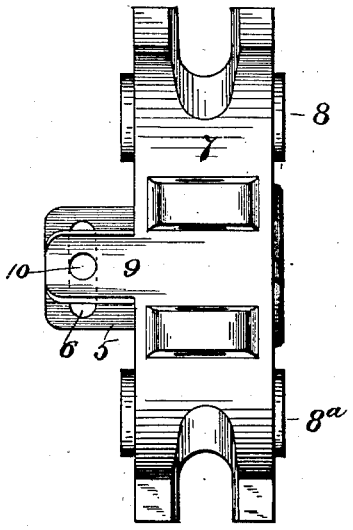


Fig. 8.

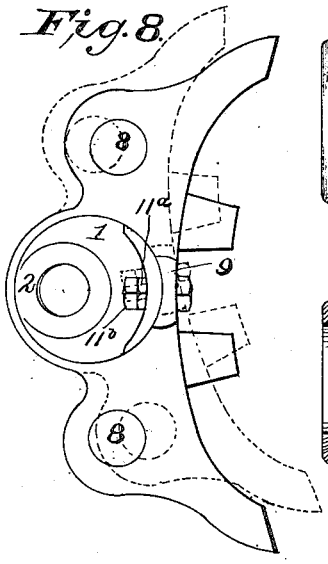


Fig. 9.

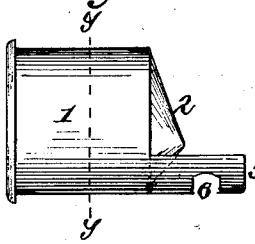


Fig. 10.

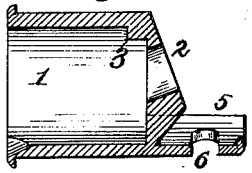


Fig. 11.

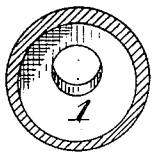
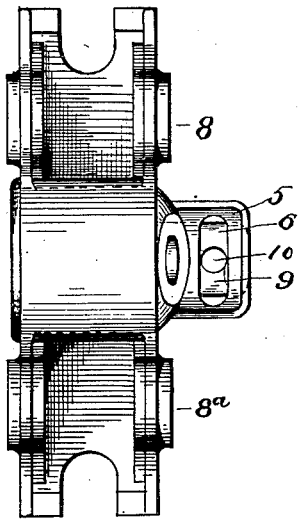


Fig. 7.



Witnesses:
F. P. Cornwall
Alex. Scott

Inventor
Henry B. Robischung
by M. M. Ritter
Atty

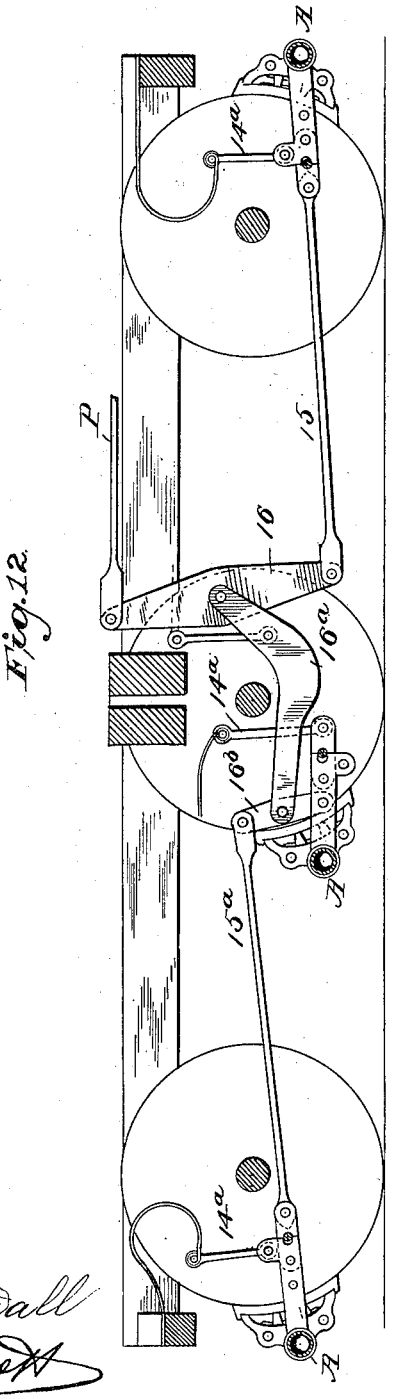
(No Model.) 3 Sheets—Sheet 3.

H. B. ROBISCHUNG.

BRAKE BEAM.

No. 453,739. Patented June 9, 1891.

Fig. 12.



Witnesses:
F. P. Cornyall
Alex. Scott

Inventor.
Henry B. Robischung
by F. W. Ritter
atty

UNITED STATES PATENT OFFICE.

HENRY B. ROBISCHUNG, OF KALAMAZOO, MICHIGAN, ASSIGNOR TO THE NATIONAL HOLLOW BRAKE BEAM COMPANY, OF CHICAGO, ILLINOIS.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 453,739, dated June 9, 1891.

Application filed January 31, 1891. Serial No. 379,792. (No model.)

To all whom it may concern:

Be it known that I, HENRY B. ROBISCHUNG, a citizen of the United States, residing at Kalamazoo, in the county of Kalamazoo and State of Michigan, have invented certain new and useful Improvements in Brake-Beams; and I hereby declare the following to be a full, clear, and exact description of the same, reference being had to the accompanying drawings, in which—

Figure 1 is a perspective view of a trussed brake-beam embodying my invention. Fig. 2 is a detached side view of the strut partly broken away to show the manner of obtaining the pull on the strut. Fig. 3 is a detached view of the extension or nose piece of the strut. Fig. 4 is a sectional view of the nose-piece on the line x x, Fig. 3. Figs. 5, 6, and 7 are detail views of the brake-head and the end cap or sleeve. Fig. 8 is a diagram corresponding to Fig. 5, and showing in dotted lines the manner of adjusting the brake-head. Fig. 9 is an elevation of the end cap or sleeve. Fig. 10 is a longitudinal section of the sleeve or end cap through the center of the truss-rod opening. Fig. 11 is a transverse section of the end cap or sleeve, taken on the line y y, Fig. 9; and Fig. 12 is a longitudinal sectional view of a six-wheel truck and its brake-beams, illustrating the application of beams embodying my invention to each of three sets of wheels, the line of draft being different in each beam.

Like symbols refer to like parts wherever they occur.

My invention relates to the construction of brake-beams in general, but is more especially adapted to beams for use on trucks having three or more sets of wheels, where each set of wheels is to be provided with a brake-beam, as in the case of Pullman sleepers and like heavy cars or coaches, and where, in consequence of the character of the connection between the beams, the angle of draft varies in each beam, and that it may be readily applicable to the last-named class it has for its object the production of a reversible or universal beam.

To this end the invention, broadly stated, consists in the combination, with a brake-beam, of an adjustable brake-head and means for locking or securing the brake-head in position on the beam after it has been adjusted to any desired angle relative to the strut or relative to the line of draft. There are other minor features of invention, all as will hereinafter more fully appear.

I will now proceed to describe my invention more fully, so that others skilled in the art to which it appertains may apply the same.

In the drawings, A indicates the beam, B its strut, and C the truss-rod, the whole forming a now well-known form of trussed brake-beam, the elements of which may, for the purposes of the present invention, be any of several well-known forms, though I prefer that the beam A should be of tubular form longitudinally slotted near its ends for the passage of the truss-rod C and notched at its ends to prevent the rotation of the brake-head, and that the strut or post should be provided with an extension or nose piece b with an elongated opening c for the passage of the truss-rod and to relieve the truss-rod of the draft, substantially as described in Patent No. 440,438, dated November 11, 1890, though I do not herein limit the invention thereto.

I provide the beam hereinbefore specified or its equivalent with end caps or sleeves 1, adapted to fit over the ends of said beams, each of said end caps or sleeves having an inclined surface or nut-seat 2, the plane of which is at a right angle to and intersecting the line of truss-rod C, and preferably having its bore a trifle eccentric to the outer surface of the sleeve, (see Fig. 10,) in order to economize space and locate the clamping-nut C′ within the periphery of the sleeve, so that it shall not interfere with the application of the brake-head to the beam.

Within and at the bottom of the bore of end cap or sleeve 1 is a projection 3, (see Fig. 10,) adapted to engage a notch in the end of the beam A and prevent the rotation of the end cap or sleeve on the beam. The sleeve or end cap has a small exterior flange 4 on its inner end, which forms a seat or abutment for the head, and a longitudinal extension or projection 5 at its outer end, which is slotted, as at 6, (see Figs. 9 and 10,) for the passage of a clamping-bolt, which secures the brake-head

to the end cap or sleeve 1. This end cap or sleeve forms a journal on which the brake-head may be rotated for purposes of adjustment.

7 indicates a brake-head, preferably provided with upper and lower pivot-holes 8 and 8^a for the rear suspension-rods of the beam, which enables the brake-head to be used at either end of the beam, or inverted, if desired. Said head is provided with a suitable opening for the reception of the end cap or sleeve 1, and with a concave projection 9, adapted to fit over the slotted extension 5 of the end cap, and a bolt-hole 10, through which and the slot 6 of extension 5 a clamping-bolt 11 may be passed to adjustably secure the brake-head to the end cap or sleeve 1.

11 indicates the clamp-bolt, which secures the head to the end cap-sleeve; 11^a, its nut, and 11^b a jam-nut, used for greater security.

B indicates the strut or post of the trussed beam, which may have a vertical slot 12 and the usual lever-pin openings 13, if desired. It is provided with perforated lugs or ears 14 for the forward suspension-rod, and has at its outer end the concave seat 15 for the truss-rod C. In the open-ended slot 12 of the strut is inserted an extension piece or nose *b*, secured by a pin *b'*, which passes through the truss, and the opening *c* of said nose-piece, through which the truss-rod C passes, is elongated (see Figs. 2 and 4) to allow a clearance between the truss-rod and the rear edge of the opening *c*, to prevent the pull coming on the truss-rod C. The outer end of said nose-piece *b* is provided with two ears b^2 b^2, between which the draft or connecting rod is pivoted, and, if desired, the nose-piece may be swelled out or re-enforced opposite the pin-opening *b*, as indicated at b^3, Figs. 2 and 4.

In Fig. 12 of the drawings are shown three beams with adjustable brake-heads and having the characteristics hereinbefore specified, said beams applied to a truck having three sets of wheels. Each beam A has its usual suspension-rods or rear suspension-rods, (not shown in the drawings,) its forward suspension-rods 14^a, and the several beams are connected with each other and to the main pull-rod P by a series of intermediate pull-rods 15 15^a and levers 16 16^a 16^b, and it will be noticed that the draft on each beam is at a different angle relative to the head, and that the middle beam is in an inverted position.

The particular arrangement or system of pull-rods and levers for operating the levers is not material, and the system chosen for purposes of illustration is not intended to be a matter of limitation, as any other system may be used, and whatever system is used in case of a six-wheel truck the draft will be at a different angle on the several beams.

I wish it distinctly understood that there is no intention on my part to limit the invention herein contained to triple gear or those having three sets of wheels, as the features of invention are equally applicable to all beams. To apply my universal beam under such conditions, all that is necessary is to loosen the clamp-bolt 11, rotate the head (see dotted lines, Fig. 8) until it has assumed a proper angle to the strut C and to the line of draft, which is permitted by slot 6 in extension 5 of sleeve 1, and then tighten up the clamp-bolt 11 to retain the head in the desired position.

I am aware that a beam having journal ends and loosely-mounted self-adjusting heads has heretofore been devised, and do not herein claim such a construction or combination; but, having herein described my invention and the best means known to me of carrying out the same,

I claim—

1. The combination, with a brake-beam, of an adjustable brake-head and means for securely locking the head to the beam after adjustment thereof, substantially as and for the purposes specified.

2. The combination, with a trussed brake-beam, of an adjustable brake-head and means for securely locking the brake-head to the beam, substantially as and for the purposes specified.

3. The combination, with a trussed brake-beam, of an end cap or sleeve having on its exterior an inclined surface for the clamp-nut of the truss-rod and having its bore eccentric to its outer surface, and a detachable brake-head, substantially as and for the purposes specified.

4. The combination, with a brake-beam, of an end cap or sleeve having a slotted extension on its outer end, a brake-head having a corresponding projection provided with a bolt-hole, and a clamping-bolt, substantially as and for the purposes specified.

5. In a brake-beam, the combination, with an end sleeve having a segmental convex projection, of a brake-head adapted to be rotated on the sleeve and having a segmental concave projection, and means for firmly securing the head to the sleeve, substantially as and for the purposes specified.

6. In a brake-beam, the combination, with an end sleeve having a segmental convex projection, of a brake-head adapted to be rotated on the sleeve and provided with a segmental concave projection, one of said projections provided with a slot which permits the adjustment of the head on the sleeve, substantially as and for the purposes specified.

In testimony whereof I affix my signature, in presence of two witnesses, this 28th day of January, 1891.

HENRY B. ROBISCHUNG.

Witnesses:
E. B. LEIGH,
E. T. WALKER.