

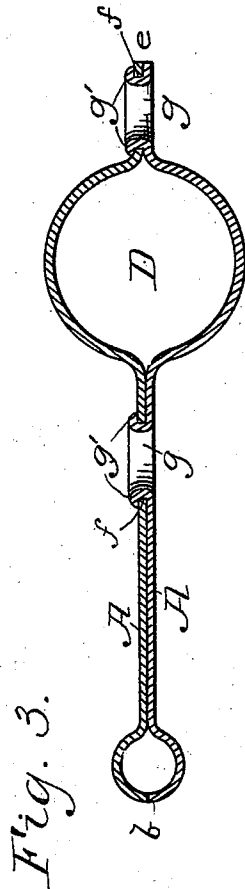
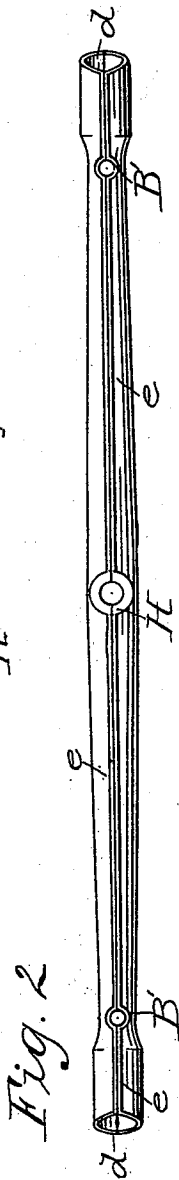
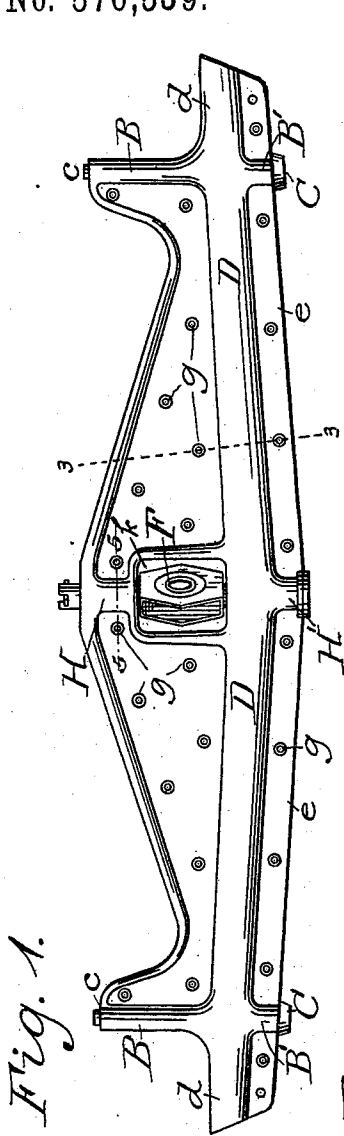
(No Model.)

2 Sheets—Sheet 1.

W. P. BETTENDORF.
BRAKE BEAM FOR CARS.

No. 576,539.

Patented Feb. 9, 1897.



Witnesses:
Rhoda L. Neugath
R. E. Holmes

Inventor:
William P. Bettendorf.
By Frank D. Thomason,
Atty.

(No Model.)

2 Sheets—Sheet 2

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Fig. 4.

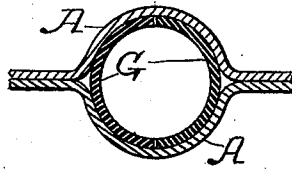


Fig. 5.

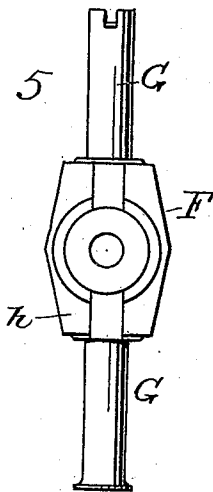
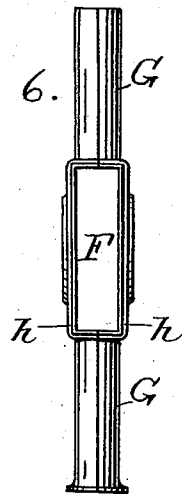


Fig. 6.



Witnesses:

Rhoda L. Neugatter

R. E. Holmes

Inventor:

William P. Bettendorf

By Frank D. Thomas

Atty

UNITED STATES PATENT OFFICE.

WILLIAM P. BETTENDORF, OF DAVENPORT, IOWA.

BRAKE-BEAM FOR CARS.

SPECIFICATION forming part of Letters Patent No. 576,539, dated February 9, 1897.

Application filed June 29, 1896. Serial No. 597,400. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM P. BETTENDORF, a citizen of the United States, and a resident of Davenport, in the county of Scott and State of Iowa, have invented certain new and useful Improvements in Brake-Beams for Cars, of which the following is a full, clear, and exact specification, reference being had to the accompanying drawings, and to the letters and figures of reference marked thereon.

The object of my invention is to construct a brake-beam for cars which, first, possesses the minimum weight and maximum strength; second, is constructed without the use of rivets or bolts; third, is provided with a swivel-fulcrum for the brake-lever, and, fourth, has a removably-secured wheel-guard pin or bolt. This I accomplish by constructing the body of the brake-beam of two sheet-metal plates, which are placed in contact, side by side, and also by means of a swivel-block for the brake-lever, composed of two correspondingly-shaped plates held together by the body-plates of the beam, and by means of a peculiarly-shaped socket, in which the wheel-guard pin is so secured that when cut through by reason of the car-wheel grinding against it during any lateral movements of the brake-beams the damaged pin can be easily replaced.

In the drawings, Figure 1 is a plan view of said improved brake-beam. Fig. 2 is a rear edge view of the same. Fig. 3 is a vertical transverse section therethrough, taken on dotted line 3 3, Fig. 1. Fig. 4 is a vertical longitudinal section through the bearings of the brake-lever fulcrum-block, taken on dotted line 5 5, Fig. 1; and Figs. 5 and 6 are details showing a side and edge view, respectively, of said fulcrum-block.

My improved brake-beam consists of two corresponding plates A A, of suitable metal, preferably wrought-steel, which are so shaped and united as to form a strong, durable, and light beam. These two plates are so shaped that their forward edge portions are each made semicircular, with the convex side outermost, so that when united with their butt edges together a tubular forward edge *b* is given to the beam, which greatly adds to the strength of the beam. This forward tubular edge *b* extends from the finger-guard *c*, pro-

jecting from near one end of the beam to the finger-guard *c* near the other end thereof, and these edges recede at a suitable corresponding angle from the center of length of the beam to near the base of the finger-guard *c*, at which point the diameter of the tube preferably gradually decreases in diameter as it extends to the extremity of said finger-guards. The outer sides of the finger-guards are made parallel to the line of travel of the car to which the beam is to be applied, and while said outer sides could be made by bringing the edges of the metal A flat against each other I prefer to provide said edge portions with semicircular beads, and by bringing the edges of the plate together to form a butt-joint make a tubular socket B B, in which to seat a guard bolt or pin C, as will hereinafter be more fully described.

The base of the finger-guards *c* spreads and merges into a longitudinal tube D, the extensions *d* of which extend beyond the base of said finger-guards *c* and constitute the support for the brake-heads to which the brake-shoes are secured. This tube, which is preferably much greater in diameter than the tubular formation of the forward edges of the beam, is made by providing the plates A, sufficiently near their rear edges as to leave a flange *e* their entire length, with corresponding semicircular grooves, which, when said plates A are united, complete said tube D.

The flanges *e* are at a point in alinement with the finger-guard sockets B provided with a continuation B' of said sockets, which is made by corresponding transverse semicircular beads in the plates, which extend from the rear edges of the plates to said tube D, into which latter they merge.

When uniting plates A A, I prefer to bring them together in proper relationship and then clench them by rivets or otherwise.

I greatly prefer the shape of the brake-beam as shown and described, because it is thereby better enabled to resist the lines of force to which, when in use, it is subjected and because it is built on the lines of a truss that insure great strength, but I do not wish, so far as the important principle of making said beam of two thicknesses of sheet metal is concerned, to be confined to the design

shown, as other designs especially adapted to other constructions could be adopted with just as good results.

In the web of the beam between the tube D and the forward edges thereof and at the center of length of said beam I have provided a suitable opening *k*, which is preferably oblong and has its edges given a tubular form in the same manner as are the forward edges of the beam. In this opening the fulcrumal block F of the brake-lever is placed, and its journals G are journaled in the bearings II' II', which are made in the center of length of the beam, the former between the said opening *k* and the forward edge of the beam and the latter in the flanges *e*, by shaping the plates properly before uniting them together.

The fulcrumal block consists of the corresponding side plates *h h*, which are only connected at their ends to their journals, so that the brake-lever can be passed between them and fulcrumed by a fulcrumal pin passed laterally through the central openings *m* in the said side plates. This fulcrumal block may be cast in one piece of metal. I prefer, however, for economy sake, to make said block and its journals of two corresponding sections 2 and 3, made out of sheet metal and conforming to a half of said block and journal made by dividing the same longitudinally on a central plane, striking midway between the side plates of the block. The merits of a fulcrumal block thus made consist in the fact that each half-section thereof can be stamped out of sheet metal and the two parts brought together in proper relative position and placed between plates A before they are united and held together by said plates A when the latter are connected by clenching or otherwise.

What I claim as new is—

1. A brake-beam consisting of two corresponding sheet-metal plates secured flatwise together, substantially its entire length.

2. A brake-beam consisting of two corresponding plates so shaped as to provide finger-guards made a homogeneous part thereof and with extended ends for supporting brake-shoe heads.

3. A brake-beam consisting of two corresponding plates so constructed as to provide finger-guards with tubular sockets there-through, and having extended ends for supporting brake-shoe heads, in combination with guard bolts or pins; said plates being secured together with their broad sides in contact.

4. A brake-beam consisting of two corresponding plates so shaped as to provide finger-guards having tubular sockets, in combination with guard bolts or pins.

5. A brake-beam consisting of two corresponding plates, having their forward edge portions provided with longitudinal beads which when said plates are united flatwise together, form a tubular edge therefor as set forth.

6. A brake-beam consisting of two corresponding plates so shaped that when united flatwise together a longitudinal tube is formed near their rear edge, the ends of which extend beyond the finger-guards thereof to form supports for brake-shoe heads.

7. A brake-beam consisting of two corresponding plates secured flatwise together, having their forward edge portions provided with longitudinal beads and forming a tubular forward edge for said beam; said plates being so formed near their rear edges as to form a longitudinal tube, the ends of which extend beyond the finger-guards thereof, as set forth.

8. A brake-beam consisting of two corresponding plates, having their forward edge portions so formed as to provide a tubular edge for said beam and finger-guards provided with sockets near the ends of the beam and so formed near their rear edges as to provide a longitudinal tube, the ends of which extend beyond said finger-guards, in combination with guard bolts or pins inserted in the sockets of said finger-guards, as set forth.

9. A brake-beam consisting of two corresponding plates having an opening in the center of length thereof, in combination with a fulcrumal block for brake-lever placed within said opening and journaled in suitable bearings in said brake-beam.

10. A brake-beam consisting of two corresponding plates, having an opening in the center of length thereof, in combination with a fulcrumal block for brake-lever placed within said opening and consisting of two corresponding sheet-metal half-sections, the journal portions of which enter bearings between said plates and thereby hold said sections together.

11. A brake-beam consisting of two corresponding plates secured flatwise together and so formed as to provide a tubular forward edge for said beam, finger-guards therefor, and a longitudinal tube near the rear edge thereof, the ends of which extend beyond said finger-guards, and so as to form a suitable opening between said tube and the forward edge of the beam, in combination with a fulcrumal block for the brake-lever placed within said opening and adjustable on its axis, as set forth.

WILLIAM P. BETTENDORF.

Witnesses:

G. N. MEVES,
A. WAHLE.