

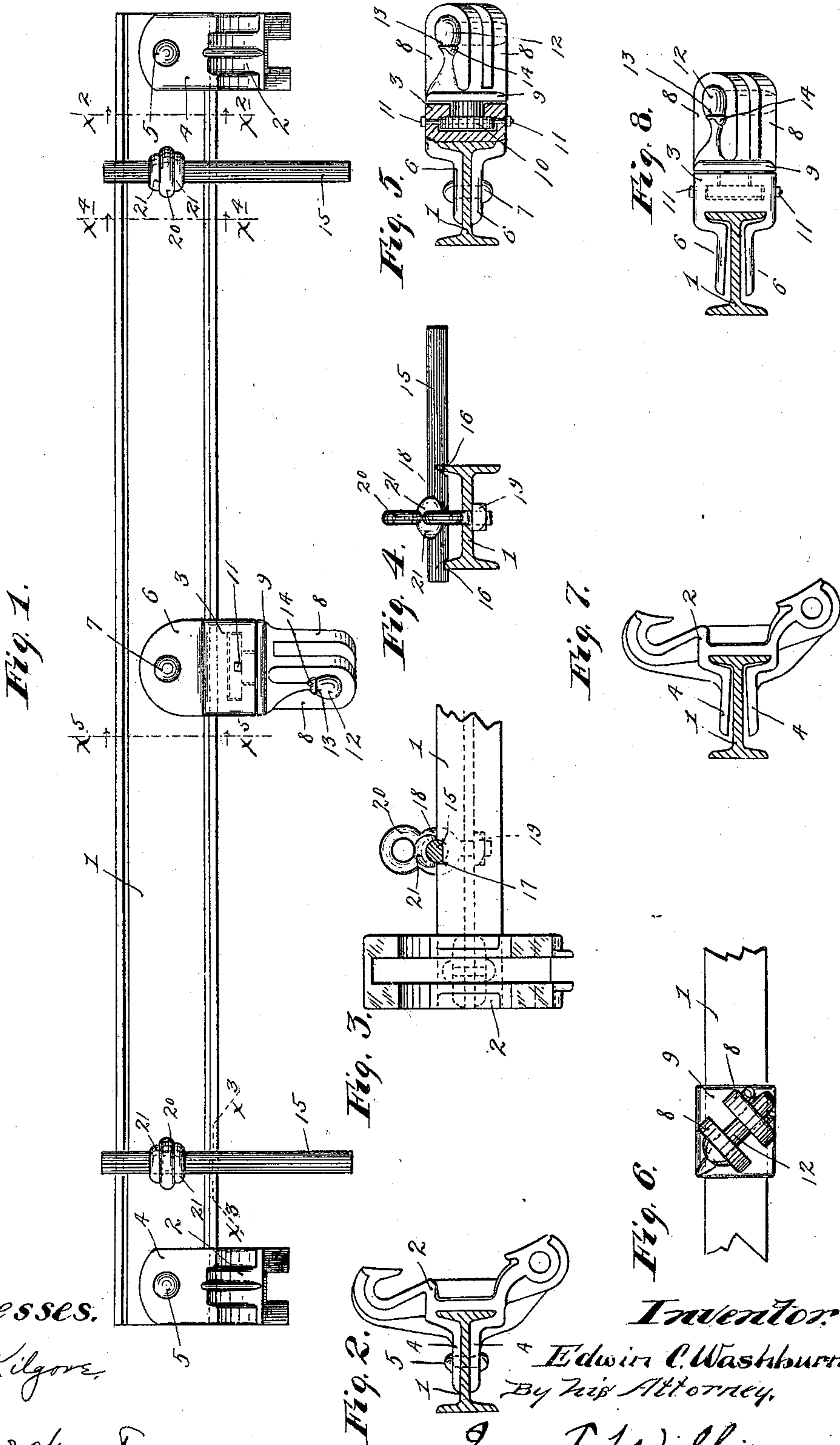
No. 644,383.

Patented Feb. 27, 1900.

E. C. WASHBURN.
BRAKE BEAM.

(Application filed Jan. 16, 1899.)

(No Model.)



Witnesses:

Harry Kilgore,

H. A. Merchant.

Fig. 2.

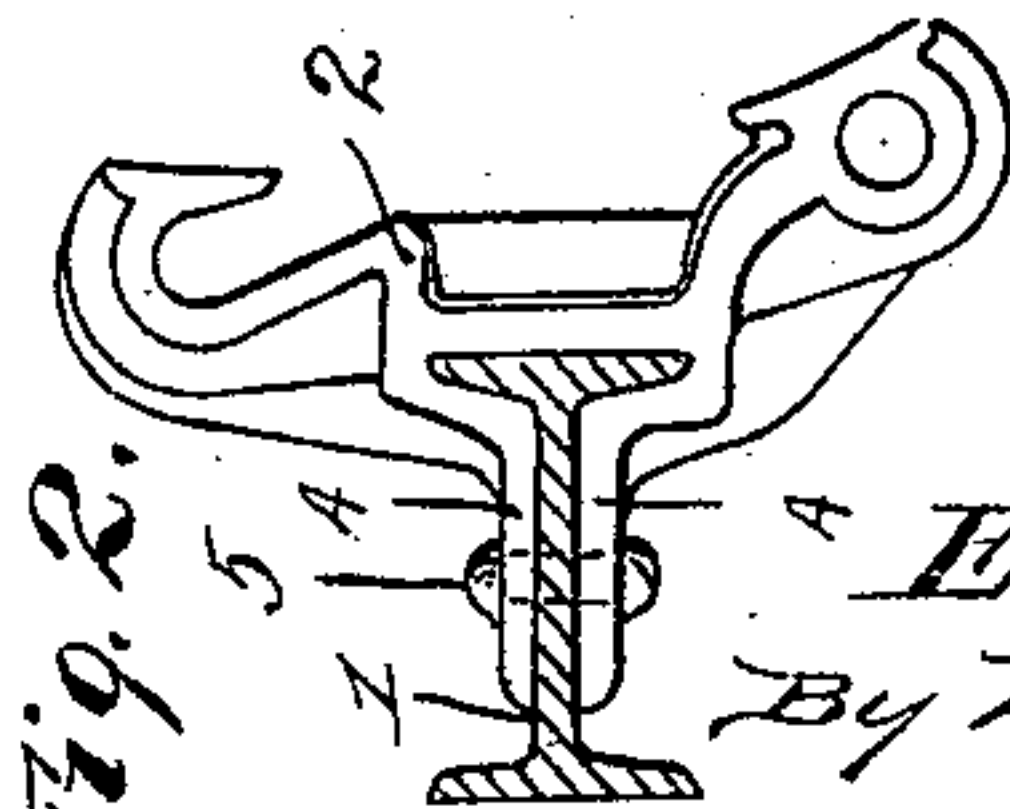


Fig. 3.

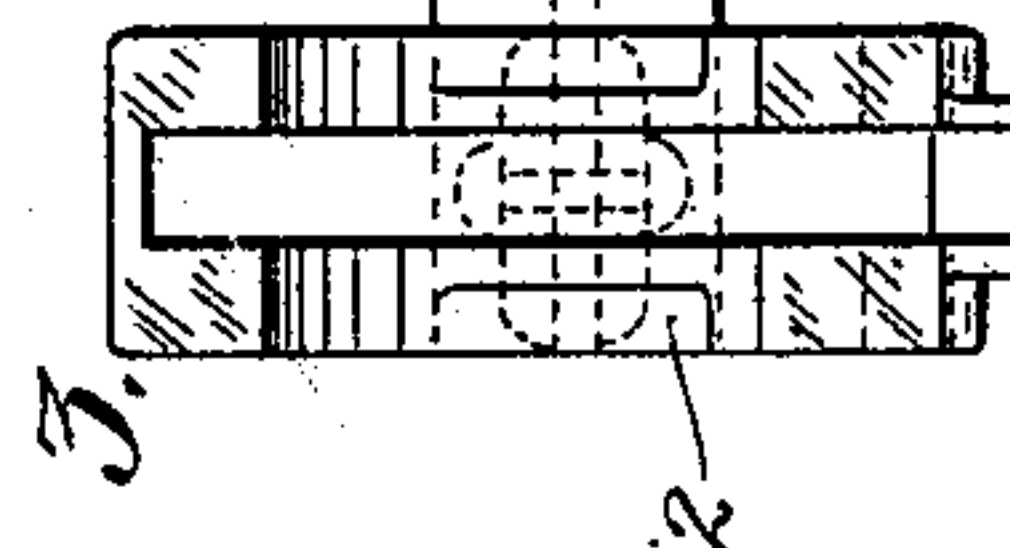


Fig. 4.



Fig. 5.

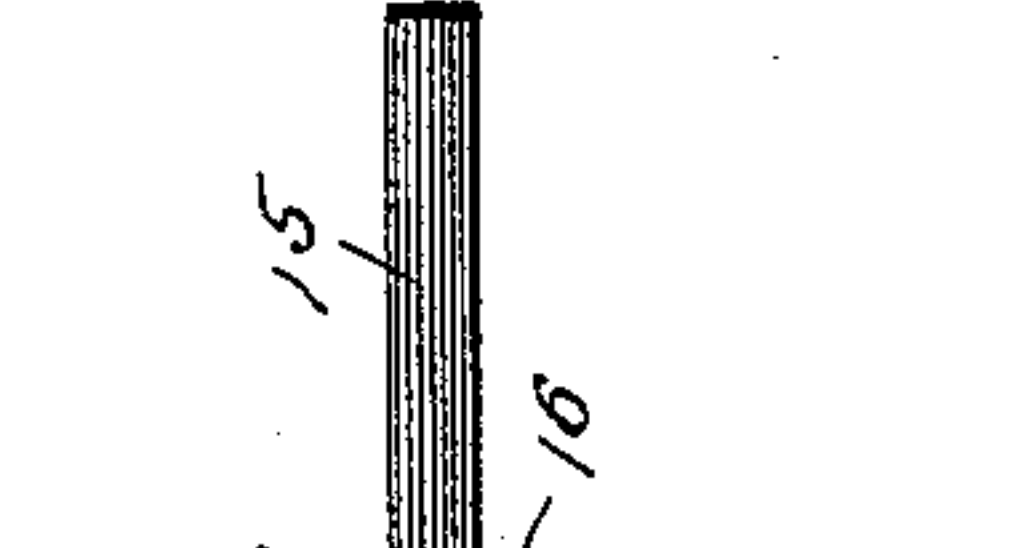


Fig. 6.

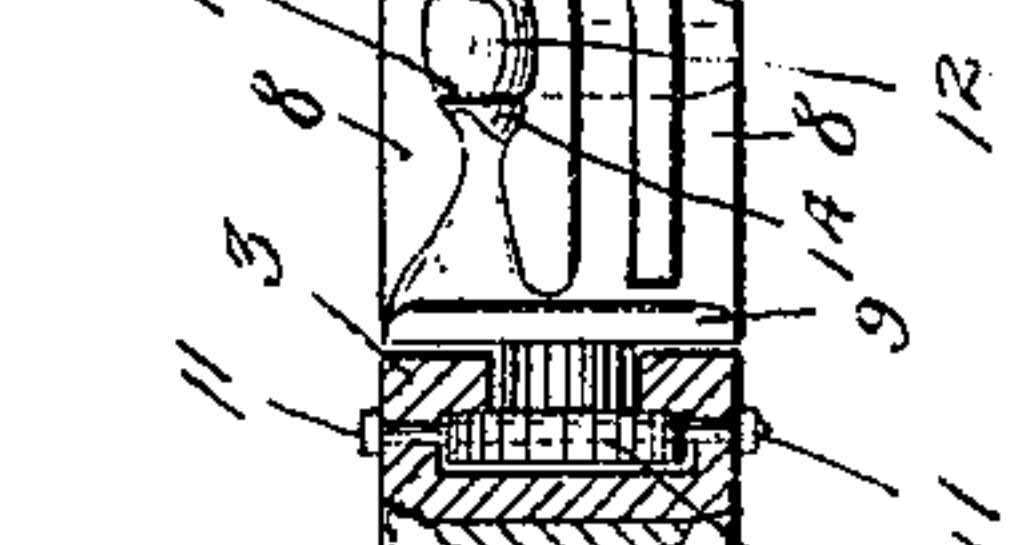


Fig. 7.



Fig. 8.



Inventor:

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UNITED STATES PATENT OFFICE.

EDWIN C. WASHBURN, OF MINNEAPOLIS, MINNESOTA.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 644,383, dated February 27, 1900.

Application filed January 16, 1899. Serial No. 702,232. (No model.)

To all whom it may concern:

Be it known that I, EDWIN C. WASHBURN, a citizen of the United States, residing at Minneapolis, in the county of Hennepin and State of Minnesota, have invented certain new and useful Improvements in Brake-Beams; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My present invention relates to brake-beams for railway-cars, and has for its object to improve the same in point of strength, durability, simplicity of construction, and low cost.

To the ends above indicated my invention consists of the novel devices and combinations of devices hereinafter described, and defined by the claims.

My invention in its preferred form is illustrated in the accompanying drawings, wherein like characters indicate like parts throughout the several views.

Figure 1 is a plan view of my improved brake-beam. Fig. 2 is a transverse vertical section taken on the line $x^2 x^2$ of Fig. 1. Fig. 3 is a view, partly in front elevation and partly in vertical section, on the line $x^3 x^3$ of Fig. 1, showing one end of the brake-beam. Fig. 4 is a transverse vertical section taken on the line $x^4 x^4$ of Fig. 1. Fig. 5 is a transverse vertical section taken on the line $x^5 x^5$ of Fig. 1. Fig. 6 is a front elevation showing the central portion of the brake-beam; and Figs. 7 and 8 are views corresponding, respectively, to Figs. 2 and 5, but illustrating the relations of the parts before they are drawn and secured together.

1 indicates the body of the brake-beam, which, as shown and preferred, is in the form of an I-bar—that is, a bar having oppositely-projected flanges at both edges.

The brake-shoe heads 2 are secured one to each end of the beam or bar 1, and the lever bracket or head 3 is secured to the central portion of the same. The brake-shoe heads 2 are provided with clamping-jaws 4, the opposing surfaces of which are adapted to embrace the flanges of one edge of the brake-

beam 1 and a portion of the brake-beam itself. Attention is here called to Fig. 7, which shows the normal relation of the said clamping-jaws to the parts of the brake-beam which they embrace, and by reference to which view it will be noted that the said clamping-jaws gradually flare or diverge from the adjacent surfaces of the said beam. After the parts are thus positioned a rivet or bolt, as shown, a rivet, (indicated at 5,) is passed through perforations in the cooperating jaws 4 and the beam 1, and by means of this rivet or bolt the said jaws 4 are drawn toward each other and tightly forced against the embraced surfaces of the said beam 1. It is very important to here note that the elbow or angular portion of the clamping-jaws 4, when said jaws are pressed, as shown in Fig. 2, tightly engage the angles or corners formed between the body of the beam 1 and the embraced flanges thereof. This construction is very important, for in this manner the clamping-jaws are caused to engage with great friction the entire embraced surface of the brake-beam, and are thus so tightly clamped thereto that they cannot possibly work loose or slip thereon. The rivet or bolt in this case does not receive the shearing strains, but is simply called upon to hold the clamping-jaws tightly drawn and clamped onto the brake-beam. If the jaws of the brake-shoe head or similar part were made to loosely fit onto the brake-beam and not given a spring action in securing them thereto, the parts would inevitably fit loosely at some points and would soon work looser and rattle, and this, as is obvious, would throw a shearing action onto the rivet or bolt used to secure them.

The brake-shoes are not shown; but they may be of the ordinary or any suitable construction, secured in the ordinary or any suitable manner to the brake-shoe heads 2.

The lever bracket or head 3 is provided with clamping-jaws 6, that embrace the flanges of one edge and a portion of the body of the brake-beam 1 and are clamped thereon and secured thereto, as shown by a rivet 7. It will be noted by reference to Fig. 8, which shows the normal relation of the parts, that

the clamping-jaws 6 flare or gradually diverge from the embraced surfaces of the brake-beam in the same manner as described in connection with the jaws of the brake-shoe heads 2. The same remarks as to the action and advantages of the clamping-jaws 4 above described apply to the clamping-jaws 6 of this lever bracket or head 3.

The laterally-spaced ears 8, between which the brake-lever (not shown) is pivoted, are formed integral with a base portion 9, and this base portion 9 has a very strong and integrally-formed headed stub or projection 10. The body of the lever-bracket 3 is cast around the head of the stub 10 in the process of manufacture, the joint between the parts being formed sufficiently loose to permit the swiveled head 8 9 a free swivel movement. This reversible feature, as is well understood, adapts the brake-lever and the lever casting or head for application to the wheels at either end of the car.

To rigidly secure the swiveled head 8 9 at the proper set angle or angles, a small bolt or pin 11 is shown as passed through the lever-bracket 3 and the head of the swivel-stub 10. A pivot-pin 12 is passed through the ears 8 and through the brake-lever (not shown) to pivotally connect these parts. To prevent this pin 12 from turning and thus wearing out or enlarging its seats in the ears 8, one side of its head is flattened, as shown at 13, and the upper ear is provided with a lug or lip 14, that engages the said flattened side 13 for the purpose indicated.

As another feature of my present invention I provide an extremely simple and efficient device for securing the guide-rods to the brake-beam. These guide-rods are indicated at 15, and they are provided with notches 16, that engage with coöperating notches 17, formed in the adjacent flanges of the brake-beam 1. The guide-rods 15 are passed through the eyes of the coöperating eyebolts 18, the screw-threaded stems of which are passed through the center web or body of the brake-beam 1 and are provided with nuts 19, by means of which they are tightly drawn onto the coöperating guide-rods 15, thereby holding the coöperating notches 16 and 17 in tight engagement. Thus the guide-rods 15 are very rigidly and securely held in working positions on the brake-beam by a device which is extremely simple and very easily and quickly operated. After the parts are thus secured the projecting threaded ends of the eyebolts 18 are preferably slightly upset or riveted to prevent the nuts 19 from accidentally working loose, while at the same time permitting the ready removal of the nuts by the use of a wrench.

Very frequently it is desirable to suspend the brake-beam by means of inside hangers—that is, hangers working between the wheels. To provide for this arrangement, I form the

eyebolts 18 with additional eyes 20, to which the depending hangers (not shown) may be attached. At a point where these eyes 20 join the primary eyes of the eyebolts I preferably form the same with laterally-expanded portions 21, that bear against the tops or outer surfaces of the coöperating guide-rods 15, and thus not only strengthen the eyebolts, but brace the same against tilting movements longitudinally of said guide-rods.

The brake-beam above described is of exceptionally-small cost for a device of its character. This is due to the facts that very little preparation of the parts is required to connect them and they are very easily connected or put together. At the same time when the parts are once put together they give an extremely strong and durable construction.

It will of course be understood that my invention above described is capable of modification as to details of construction. For example, so far as the brake-shoe heads and lever-brackets are concerned it would be immaterial whether or not the brake-beam proper was formed of an I-bar or of a T-bar, for example. However, the I bar or beam is for other reasons the best for the purpose at hand. Again, so far as the guide-rods and their means for attachment are concerned it would be immaterial whether the brake-beam proper be in the form of an I-bar or in the form of a channel-bar, for example.

What I claim, and desire to secure by Letters Patent of the United States, is as follows:

1. The combination with a brake-beam having a pair of longitudinal flanges projecting from the side thereof, of a guide-rod having notched engagements with both of said flanges, and a draw-bolt engaging said guide-rod between said flanges and clamping the same to said beam, substantially as described.

2. The combination with the brake-beam, having longitudinal flanges that are notched as at 17 of the guide-rods 15, notched as at 16 for engagement with said notches 17, and the eyebolt 18 embracing said guide-rod 15, passed through said brake-beam and provided with a nut 19, said parts operating substantially as and for the purposes set forth.

3. The combination with a brake-beam, of the reversible lever-bracket 9 having the ears 8 and headed swiveled stud or projection 10, and the socket-section 3 cast around said stud or projection to form a swivel-joint and provided with integrally-cast clamping-jaws for rigidly securing it to the said brake-beam, substantially as described.

4. The combination with a brake-beam, of a reversible lever-bracket formed in two sections, one having a headed stud or projection, and the other being cast around said stud or projection, and a bolt or pin engaging the said stud or projection and its seat for preventing swivel movements of the parts, substantially as described.

5 5. The combination with a brake-beam, having longitudinal flanges, of the guide-rod 15 having notched engagements with both flanges of said beam, and the eyebolt 18 engaging said guide-rod and securing the same to said brake-beam, the said eyebolt being provided with the integrally-formed extension-eye 20, the latter adapting the beam to

be hung from an inside hanger, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

EDWIN C. WASHBURN.

Witnesses:

M. M. McGRARY,

F. D. MERCHANT.

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