No. 638,638.

Patented Dec. 5, 1899.

J. G. LAWLER.

BRAKE BEAM.

(Application filed Dec. 6, 1898.)

(No Model.)

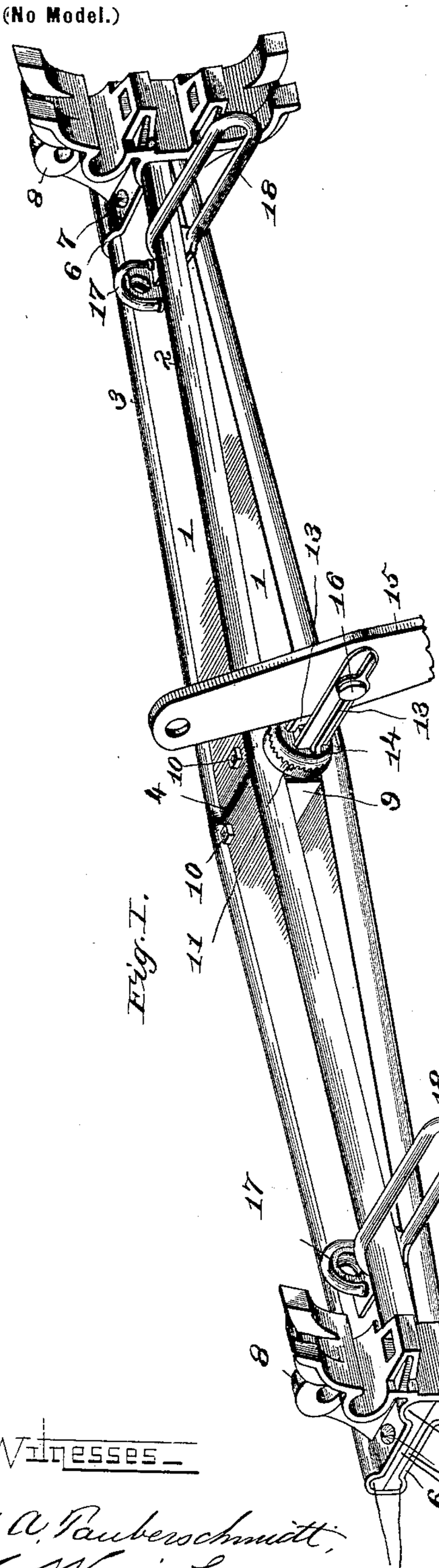

Fig. I.

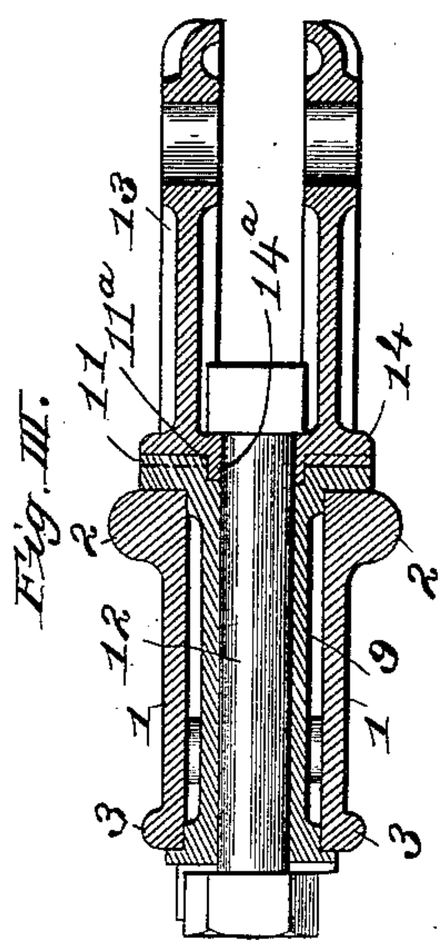

Fig. III.

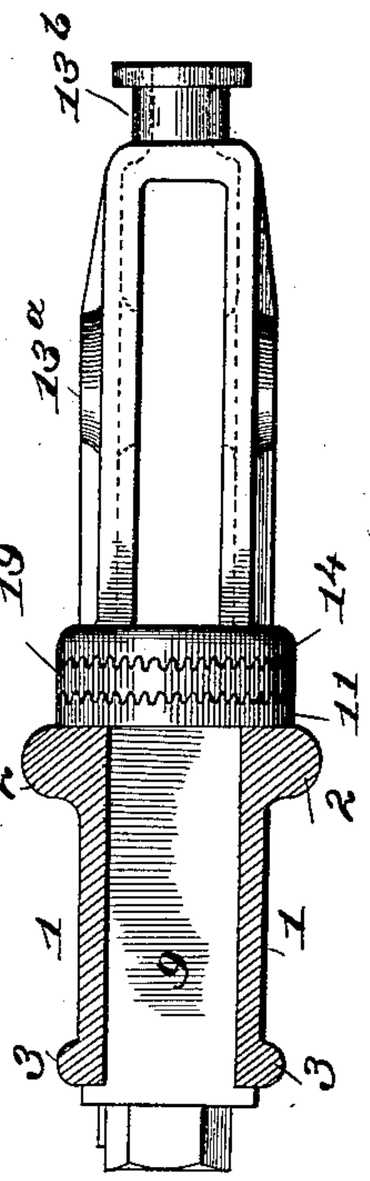

Fig. IV.

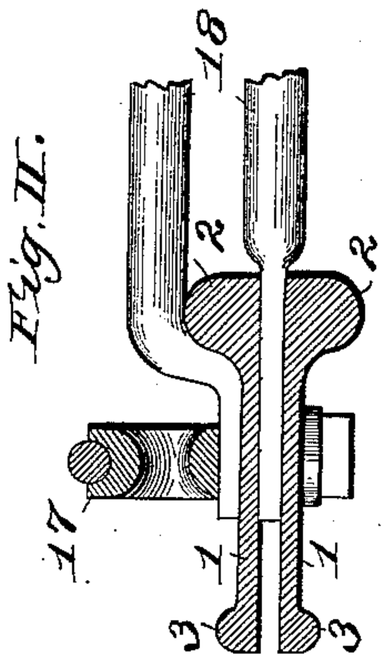

Fig. II.

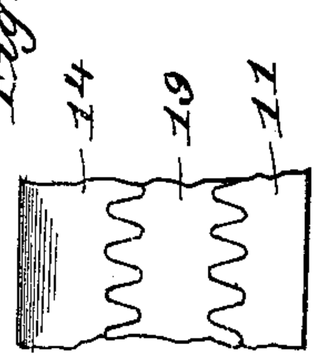

Fig. V.

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JAMES G. LAWLER, OF ST. CHARLES, MISSOURI.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 638,638, dated December 5, 1899.

Application filed December 6, 1898. Serial No. 698,438. (No model.)

To all whom it may concern:

Be it known that I, JAMES G. LAWLER, a citizen of the United States, residing at St. Charles, in the county of St. Charles and State of Missouri, have invented certain new and useful Improvements in Brake-Beams, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, forming part of this specification.

My invention relates to a brake-beam for railway-cars, the principal features of which are a pair of struts having flat inner opposing surfaces and outer faces formed with curved ribs at the edges of the struts.

The invention further relates to a reversible or changeable fulcrum for the brake-lever.

My invention consists in features of novelty hereinafter fully described, and pointed out in the claims.

Figure I is a perspective view of my improved beam. Fig. II is a cross-sectional view of the beam, taken at the location of one of the eyes that receive the safety-chain. Fig. III is a cross-sectional view taken through the central portion of the beam, the filler-block, and fulcrum. Fig. IV is a view showing the struts in cross-section and a modification of the fulcrum in elevation with the addition of the adjustment-washer located between the filler-block and the fulcrum. Fig. V is an enlarged detail view of fragments of the filler-block and fulcrum-heads and the washer interposed between said heads, as shown in Fig. IV.

1 1 designate the struts, formed with curved ribs 2 and 3 on the outer faces at the edges thereof. These struts are inclined outwardly from central apexes 4 to their outer ends. At each end of the beam is a brake-block 5, formed with a shackle 6, that embraces and conforms to the shape of the beam at the ends, where the struts are parallel with each other, said shackles being secured to the beam by rivets 7 or other suitable means of attachment. The brake-blocks are provided with eyes 8, that receive the suspending hangers.

A brake-beam constructed with two ribbed struts separated in the center to receive the fulcrum and having ends parallel with each other to receive the brake-heads imparts all the requisite strength to the brake-beam and provides tension and compression members which have the strain equally distributed throughout the brake-beam. The ribs 2 and 3 at the sides and edges provide a greatly-increased degree of strength to withstand the strain to which a brake-beam is subjected in practical use. A strut with the curved ribs 2 and 3 upon it is capable of withstanding much greater strain, either directly against the edges thereof or in a sidewise direction.

Between the struts 1, at their separated central portions, is a filler-block 9, that is held by bolts 10 or other suitable fastening. The filler-block is formed with a head 11, having radial serrations or teeth, and is provided with an opening extending longitudinally therethrough, that receives a bolt 12. The filler-block is also formed with a central socket or recess 11ª within its head.

13 is a fulcrum that is provided with a head 14, formed with radial serrations or teeth that conform to and are arranged to engage with the radial serrations or teeth of the head 11 of the filler-block. The fulcrum is also formed with a central boss 14ª within its head, which enters the socket or recess 11ª. The head of the fulcrum receives the bolt 12, and it is by means of this bolt that the fulcrum is secured to the filler-block in any position to which it may be turned and is held firmly by reason of the radial teeth or serrations on the opposing heads 11 and 14 engaging with each other.

15 designates a brake-lever which is pivoted by a bolt 16 to the fulcrum. The construction of the filler-block and fulcrum, formed with opposing radial teeth or serrations and held together by a bolt, allows for the adjustment of the fulcrum to accommodate brake-levers that pass right or left from perpendicular. This overcomes the necessity of carrying right and left hand brake-beams. A fulcrum so connected is reversible, and the beam can be changed from right to left to suit the circumstances under which it is applied, and such fulcrum can also be set to suit any angle that may be desirable.

The levers may be adjusted to suit the conditions of any particular instance, and thereby avoid the necessity of bending the brake-levers to prevent their coming in contact with other parts of the car to which the beam is applied. The fulcrum being removably

connected to the filler-block, it can be readily removed when broken or worn, and therefore unserviceable, and be replaced by a new fulcrum without the necessity of removing the beam from the car.

Another important feature in connection with this beam lies in the fact that by making the beam of two parallel struts separated at the center of their length to receive the filler-block provides space to secure the fulcrum without weakening the top or bottom struts, also the stiffening of said struts sidewise to avoid any buckling when strain is applied to the beam transversely or across the two sections.

17 designates eyes that receive the safety chains or links, and 18 are wheel guide-pins extending outwardly in line with the brake-blocks.

In Figs. IV and V, I have shown the fulcrum 13^a provided with a closed end 13^b. In this construction I have also shown a washer 19, fitted between the head 11 of the filler-block and the head 14 of the fulcrum. This washer is provided with radial teeth or serrations on both of its faces that receive the opposing radial teeth or serrations on the heads located at its opposite sides. This washer is introduced for the purpose of accomplishing a greater number of adjustments of the fulcrum with relation to the filler-block in order to attain a greater number of different angles for the fulcrum right or left from perpendicular, for the reason that the radial teeth or serrations on the fulcrum-head can occupy a position in front of the radial teeth or serrations of the bolt-head when the washer is employed to provide half-space adjustment between the heads.

I claim as my invention—

1. A brake-beam comprising a pair of struts, a filler-block located between the said struts, and provided with a radially-serrated head having a central socket or recess, and a fulcrum having a radially-serrated head held in engagement with the serrated head of the filler-block and a central boss fitting in the central socket or recess; substantially as described.

2. In a brake-beam, the combination of a pair of struts having plane inner faces and ribs at the edges of their outer faces, a filler-block located between said struts; said filler-block being provided with a radially-serrated head, having a central socket or recess and a fulcrum having a radially-serrated head held in engagement with the serrated head of said filler-block and a central boss fitting in the central socket or recess, substantially as described.

3. In a brake-beam, the combination of a pair of struts, a filler-block located between said struts, said filler-block being provided with a radially-serrated head, a fulcrum provided with a radially-serrated head, a washer having radially-serrated faces interposed between said heads, and means for securing said fulcrum to said filler-block, substantially as described.

JAS. G. LAWLER.

In presence of—
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JOS. H. ALEXANDER.