No. 829,637. PATENTED AUG. 28, 1906.

E. I. DODDS.

FULCRUM FOR BRAKE BEAMS AND METHOD OF MANUFACTURE.

APPLICATION FILED OCT. 30, 1905.

2 SHEETS—SHEET 1.

Fig. 2.

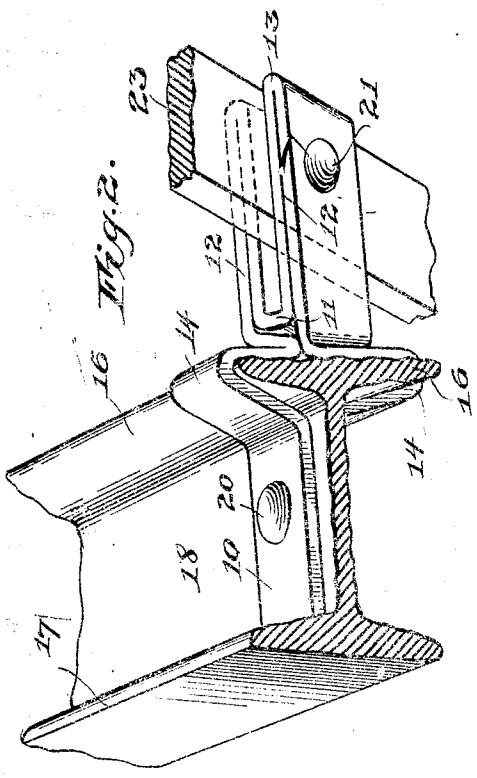
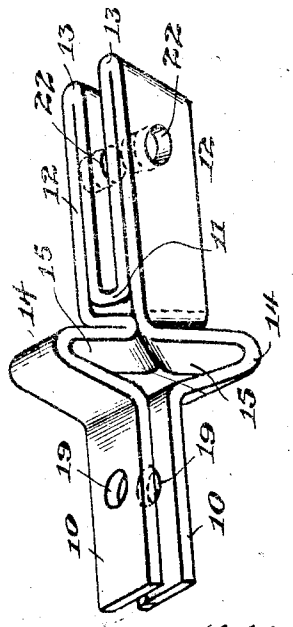


Fig. 1.



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2 SHEETS—SHEET 2.

Fig. 3.

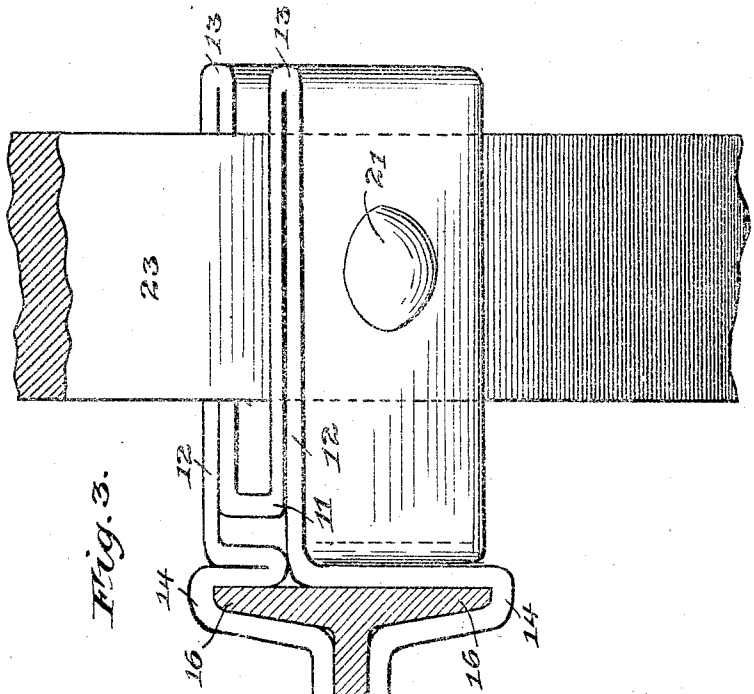
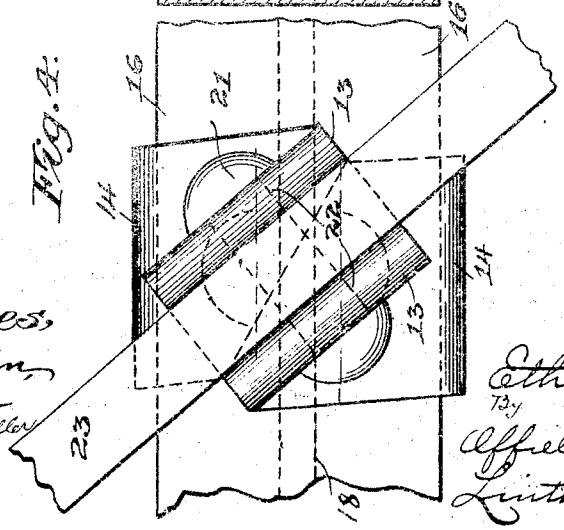


Fig. 4.



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UNITED STATES PATENT OFFICE.

ETHAN I. DODDS, OF PULLMAN, ILLINOIS, ASSIGNOR TO THE PULLMAN COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

FULCRUM FOR BRAKE-BEAMS AND METHOD OF MANUFACTURE.

No. 829,657. Specification of Letters Patent. Patented Aug. 28, 1906.

Application filed October 30, 1905. Serial No. 285,146.

To all whom it may concern:

Be it known that I, ETHAN I. DODDS, a citizen of the United States, residing at Pullman, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Fulcrums for Brake-Beams and Methods of Manufacture, of which the following is a specification.

The object of my present invention is the production of a brake-beam fulcrum which can be economically manufactured from a single piece of rolled sheet metal. A rectangular strip of metal is bent so as to form a pair of ears for attachment to the brake-beam and a pair of ears to form the support for the fulcrum-pin of the actuating-lever, the two pairs of ears being joined by intermediate connecting parts. The pairs of ears are then twisted relatively to one another, so as to secure the proper angular displacement. A device of this character is strong and rigid and is free from the sand and air-holes and other defects found in malleable and cast iron brake-beam fulcrums, which render them in use unreliable and dangerous because of the frequent breakage of such parts.

The drawings which accompany this specification and form a part hereof illustrate the preferred mechanical embodiment of my invention.

In said drawings, Figure 1 is a perspective view of my brake-beam fulcrum. Fig. 2 is a similar view showing the fulcrum attached to the brake-beam and also to the actuating-lever. Fig. 3 is a cross-section through the I brake-beam and illustrates the attachment of the fulcrum to the beam and to the lever, and Fig. 4 is a right-hand end view of the parts shown in Fig. 3.

To manufacture a brake-beam fulcrum according to the principle of my present invention, a rectangular strip of metal is folded over transversely, so as to bring its ends 10 10 adjacent to and parallel with each other, the space between the two being equal to the thickness of the web of the brake-beam to which the same is adapted to be attached. The central part 11 of the metal strip is then bent inwardly to lie against the sides 12 12 and form therewith ears 13 13, which are of double thickness of the metal and spaced apart a distance substantially equal to the thickness of the actuating-lever to which they are attached. A portion of each side of the metal strip is also bowed outwardly, as at 14 14, thereby forming oppositely-disposed recesses 15 on the inside of the structure, within which the flanges 16 16 of I brake-beam 17 are adapted to fit, the web 18 being disposed between the ears 10. After the metal strip has been bent to the shape described the two pairs of ears 10 10 and 13 13 are twisted relatively to one another to approximately forty-five degrees, thereby providing for the angular difference between the positions of the brake-beam and the actuating-lever. A rivet 20 passes through alined holes 19 in the ears 10 and also through a hole in the web 18 of the brake-beam, thereby securely attaching the fulcrum to the beam with its ears on opposite sides of the web. A rivet or bolt 21 passes through the alined holes 22 in the ears 13 and also through a hole in the operating-lever 23, the latter being pivoted upon the bolt or rivet 21.

Although I have described the method of manufacturing my novel brake-beam fulcrum as consisting of a series of steps performed successively, it should be understood that the fulcrum can be so made or all of the steps may be performed substantially simultaneously. It is also apparent that my improved fulcrum because it is made of rolled sheet metal is free from the defects incidental to cast-metal structures and for that reason is safer to use, besides reducing the number of mishaps and of repairs required.

This patent is intended to embrace only so much of the disclosure made herein as is covered by the claims.

I claim—

1. A brake-beam fulcrum consisting of a bent strip of metal having sidewise adjacent ends forming attaching means to a brake-beam, and having a central part extended inwardly to form with the adjacent portions of the strip, ears for attachment to an actuating-lever, substantially as described.

2. A brake-beam fulcrum consisting of a bent strip of metal having parallel sidewise adjacent ends forming attaching means to a brake-beam, and having parallel ears of double thickness angularly offset relatively to said ends and adapted to receive the actuating-lever between their adjacent faces, substantially as described.

3. A fulcrum for attachment to a flanged brake-beam consisting of a bent strip of metal

having parallel sidewise adjacent ends forming attaching means to a brake-beam, parallel ears of double thickness adapted to receive an actuating-lever between their adjacent faces, and intermediate oppositely and outwardly bowed portions adapted to fit the flange of the brake-beam, substantially as described.

4. A fulcrum for attachment to a flanged brake-beam consisting of a bent strip of metal having sidewise adjacent ends forming attaching means to the brake-beam, parallel angularly-offset ears of double thickness adapted to receive an actuating-lever between their adjacent faces, and intermediate oppositely and outwardly bowed portions adapted to fit the flange of the brake-beam, substantially as described.

5. The method of manufacturing a brake-beam fulcrum which consists in folding over a strip of metal transversely so that its ends are adjacent to each other to form means of attachment to a brake-beam, and bending inwardly the central part of said strip to form with the adjacent portions of the strip ears for attachment to an actuating-lever, substantially as described.

6. The method of manufacturing a brake-beam fulcrum which consists in folding over a strip of metal transversely so that its ends are parallel to form means of attachment to a brake-beam, bending inwardly the central part of said strip so as to lie flat against the adjacent portions to form therewith ears for attachment to an actuating-lever, and twisting said attaching ends and ears relatively to one another to secure a relative angular displacement, substantially as described.

7. The method of manufacturing a brake-beam fulcrum which consists in folding over a strip of metal transversely so that its ends are parallel to form means of attachment to a flanged brake-beam, bending inwardly the central part of said strip so as to lie flat against the adjacent portions to form therewith ears for attachment to an actuating-lever, and bowing outwardly the two portions of said strip between said attaching ends and ears to form internal oppositely-disposed recesses to receive the flanges of said brake-beam, substantially as described.

8. The method of manufacturing a brake-beam fulcrum which consists in folding over a strip of metal transversely so that its ends are parallel to form means of attachment to a flanged brake-beam, bending inwardly the central part of said strip so as to lie flat against the adjacent portions to form therewith ears for attachment to an actuating-lever, bowing outwardly the two portions of said strip between said attaching ends and ears to form internal oppositely-disposed recesses to receive the flanges of said brake-beam, and twisting said attaching ends and ears relatively to one another to secure a relative angular displacement, substantially as described.

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