

(No Model.)

C. K. PICKLES.
BRAKE BEAM.

No. 569,667.

Patented Oct. 20, 1896.

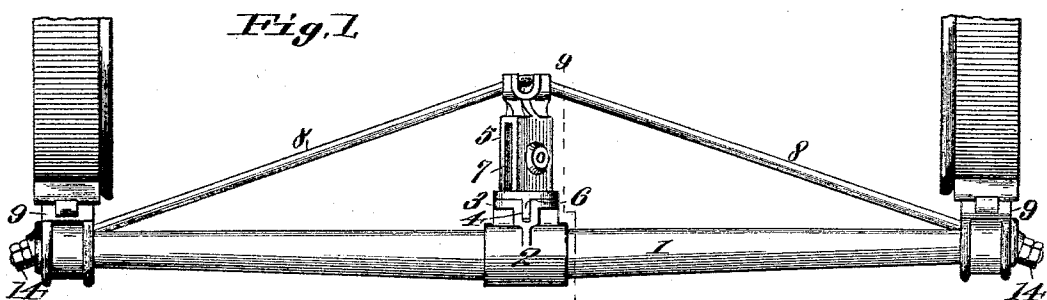


Fig. 2,

Fig. 3,

Fig. 4,

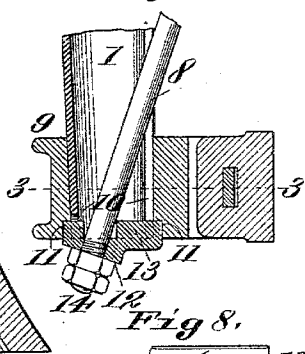
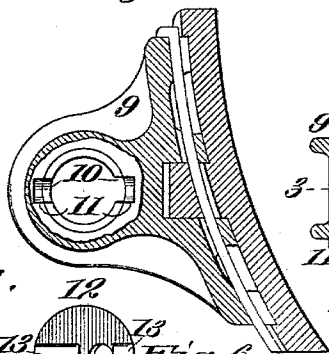
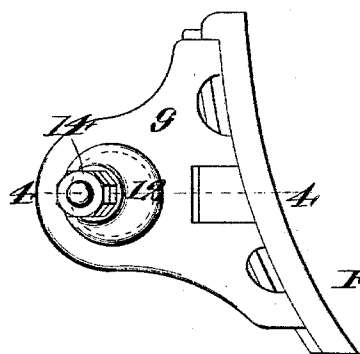


Fig. 5,

Fig. 6,

Fig. 7,



Fig. 6,

Fig. 7,

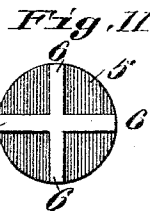
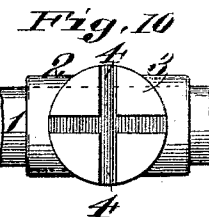
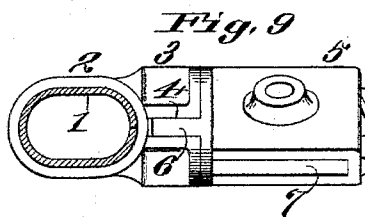
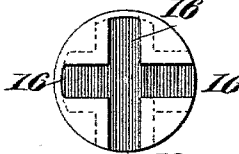
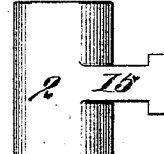
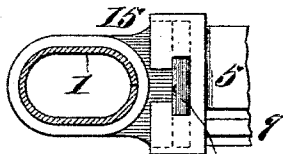


Fig. 9,

Fig. 10,

Fig. 11,



Attest;

T. Percy Carr
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Fig. 12,

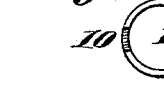


Fig. 13,

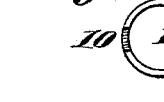


Fig. 14,

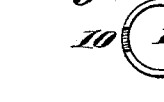
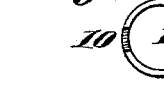


Fig. 15,



Inventor;

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Carr & Carr, attys.

UNITED STATES PATENT OFFICE.

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OF CHICAGO, ILLINOIS.

BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 569,667, dated October 20, 1896.

Application filed September 8, 1896. Serial No. 605,159. (No model.)

To all whom it may concern:

Be it known that I, CHARLES K. PICKLES, a citizen of the United States, and a resident of the city of St. Louis and State of Missouri, have invented a new and useful Improvement in Brake-Beams, of which the following is a specification.

My invention relates to truss brake-beams, and has for its principal objects to improve the means of holding the several members of the truss in position and to improve the strut with reference to the means of rotary adjustment of its sections.

To these ends my invention consists in mounting the brake-head rigidly on the compression member by the means hereinafter described.

It also consists in making the strut in sections, one of which is adapted to be fitted over the compression member and is adapted to have the other section interlock with it in either of two positions at right angles to each other.

It also consists in details of constructions and in the arrangements and combinations of parts hereinafter described and claimed.

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

In the accompanying drawings, which form part of this specification, Figure 1 is a plan view of my brake-beam. Fig. 2 is an end view thereof. Fig. 3 is an end elevation of the compression member and of the part of the brake-head immediately around it, the rest of the brake-head being shown in section on the line 3 3 of Fig. 4. The end plate and the tension member seen in Fig. 4 are omitted from this view. Fig. 4 is a horizontal section through one end of the truss-frame on the line 4 4 of Fig. 2. Figs. 5 and 6 are respectively edge and inside views of the end plate which locks the brake-head to the compression member. Fig. 7 is a view of the inner side of the compression member, and Fig. 8 is a detail of the outer end portion of the same. Fig. 9 is a cross-section of the truss-frame on the line 9 9 of Fig. 1. Figs. 10 and 11 are end views of the meeting ends of the two sections of the strut, respectively. Figs. 12, 13, and 14 are views of a modification of the strut, and Fig. 15 is a detail of a modification in

which the ends of the compression member are elliptical.

Like symbols refer to like parts wherever they occur.

The compression member or beam proper, 1, of the present truss-frame is elliptical in cross-section at its middle portion, the end portions being of elliptical, circular, or other form, as desired. When the beam is made of sheet-steel, as is preferable, the blank sheet is cut of an elongated lozenge shape and is rolled on its long diagonal until its edges meet at the middle portion. The beam thus formed is larger in cross-section at the middle than elsewhere and its perimeter is closed by the abutting edges at the middle, while a gap is left between such edges at the end portions; that is, the beam gradually increases in cross-sectional area from each end to near the middle and has gore-shaped slots extending from each end to near the middle.

Over the middle elliptical portion of the beam proper, 1, an elliptical collar 2 fits tightly enough to prevent rotation thereon. This elliptical collar has a boss 3 integral therewith and projecting outwardly on the same side with the slot in the plane of the major diameter of the beam, and grooves or sockets 4, intersecting at right angles, are formed in the outer face of said boss.

The strut or king-post 5 has ribs or bars 6 projecting from one end and adapted to fit into the cross grooves or sockets 4 of the collar-boss. The strut may be turned through an angle of ninety degrees by merely shifting its ribs from the cross-grooves in which they may be to the cross-grooves next adjacent thereto. The outer end of the strut is provided with cross-grooves likewise arranged at right angles and adapted to receive the tension member in either position of the strut above referred to. A slot 7 for the equalizing-lever extends through the strut at an angle of forty-five degrees with the cross-grooves, so that the beam may be used at either end of the car by turning the strut, and with it the equalizing-lever, through a right angle.

The tension member 8 extends from the grooves in the end of the strut through the slots near the ends of the beam proper and out at each end through a hole in the brake-

head, its ends being screw-threaded and furnished with nuts for tightening the same.

Each of the brake-heads 9 has a socket therein adapted to receive an end of the beam proper. The simplest means of preventing rotation of the brake-head on the beam is to make the ends of the beam elliptical and have the brake-head fit tightly thereon, this being the construction indicated in Fig. 15.

In the construction shown in Figs. 2, 3, and 4 the ends of the beam are circular and the socket extends entirely through the brake-head. In this case two or more notches 10 (of which the gore-shaped slot may be considered one) are made in each end of the beam, and corresponding notches 11 are formed in the outer side of the brake-head to register therewith. A plate 12, provided with lugs or ribs 13, adapted to fit into the notches both of the beam and of the brake-head, closes the end of the brake-head socket and of the beam therein. This end plate 12 contains the hole through which the tension member extends and is held in place by the nut 14 on said member.

The operation of this construction is as follows: The elliptical collar of the strut fits tightly over the elliptical compression member and is thereby held firmly against rotation. The outer section of the strut can only be removed from and fitted into the collar-section endwise, and when adjusted at the desired angle the tension member is fitted into its end groove and tightened by means of the nuts on the end of the tension member. The strut is thus prevented from moving laterally or endwise. The relative positions of the beam and of the tension member are permanent because the edges of the slot in the beam bear against said tension member. The beam and the brake-head are rigidly held together by the lugs on the end plate interlocking with the notches in the beam and in the brake-head, the end plate itself being held firmly by the nut on the tension member. The several members of the truss are thus held rigidly together.

In the modification of the strut shown in Figs. 12, 13, and 14 the boss on the elliptical collar-section is made in the form of a straight rib 15 with a widened head. The corresponding face of the outer section of the strut has slots 16 cut therein at right angles to each other and of the same sectional form as the rib and extending to the side of the strut, whereby the T-shaped rib on the collar may be interlocked edgewise with either of the corresponding T-shaped slots of the outer section.

Obviously numerous changes may be made in the details of construction without departing from my invention. For instance, the beam proper may be of the same cross-section throughout, or its contour may be continuous instead of having a gap therein. So also the locking-ribs of the strut may be

on one section or the other, as desired, and their shape may be altered in divers ways. So also separate locking-lugs may be formed on the end plate for the respective notches in the beam and in the brake-head instead of having said lugs engage both sets of notches.

What I claim as new, and desire to secure by Letters Patent, is—

1. A truss brake-beam comprising a compression member of elliptical cross-section at its middle portion and having an elliptical collar fitting over said compression member and forming part of the strut, substantially as and for the purpose set forth.

2. A brake-beam comprising a strut composed of sections having respectively a rib and cross-grooves in their abutting ends, said rib being adapted to interlock with either of said cross-grooves, substantially as and for the purpose set forth.

3. A brake-beam comprising a strut composed of sections having respectively a rib and cross-grooves in their abutting ends, said rib being adapted to interlock with either of said cross-grooves, and the outer section having cross-grooves adapted to receive the tension member, substantially as and for the purpose set forth.

4. A brake-beam comprising a compression member, a strut and a tension member, and brake-heads each having a hole into which an end of the compression member extends and through which the tension member extends, and an end plate for each of said brake-heads, said end plate having ribs thereon engaging notches in the end of the compression member and in the outer side of the brake-head, said end plate having also a hole through which the tension member extends, and a nut on each end of the tension member, whereby the end plate locks the compression member and the brake-head rigidly together, substantially as and for the purpose set forth.

5. A brake-beam consisting of a compression member having notches in its ends and an opening near each end for the tension member, brake-heads each having a hole into which an end of the compression member fits and having notches in its outer face, an end plate for each brake-head having ribs fitting into the notches of the brake-head and of the compression member and having a hole for the tension member, a strut mounted on the middle of the compression member, and a tension member fitting over the end of the strut and having its respective ends extend through the openings in the compression member and the holes in the end plates, said ends being screw-threaded and provided with nuts, substantially as and for the purpose set forth.

Signed at St. Louis, Missouri, September 5, 1896.

CHARLES K. PICKLES.

Witnesses:

JAMES A. CARR,
T. PERCY CARR.