No. 683,729. Patented Oct. 1, 1901.

N. H. DAVIS.

TRUSS AND BRAKE BEAM.

(Application filed May 13, 1901.

(No Model.)

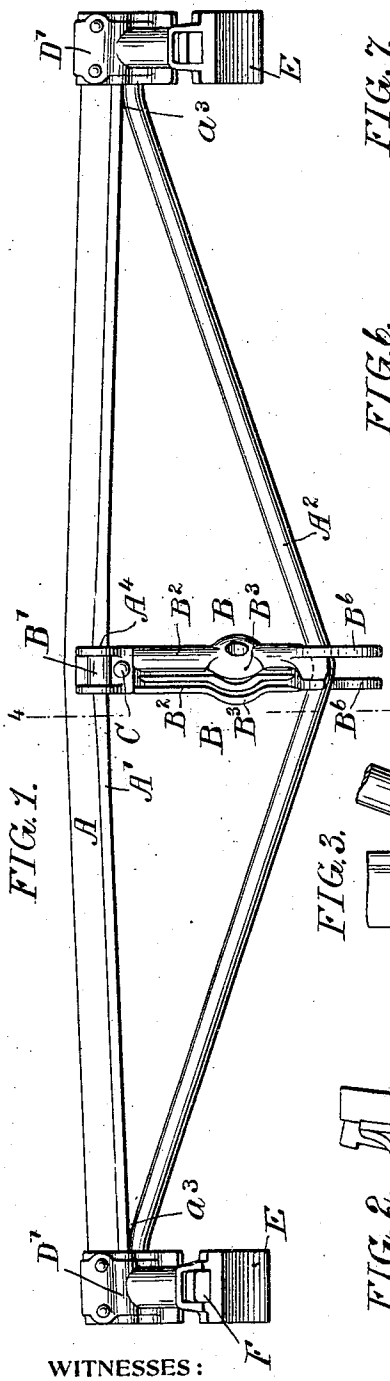


FIG. 1.

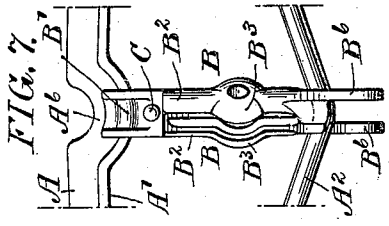


FIG. 7.

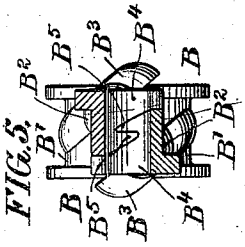


FIG. 5.

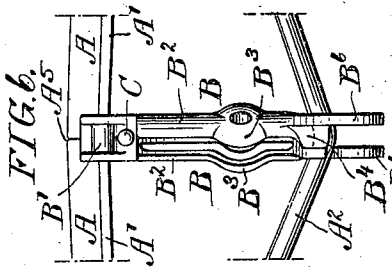


FIG. 6.

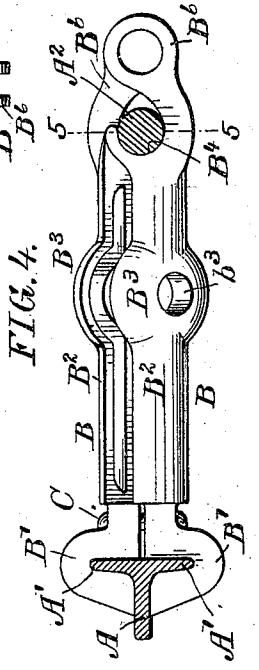


FIG. 4.

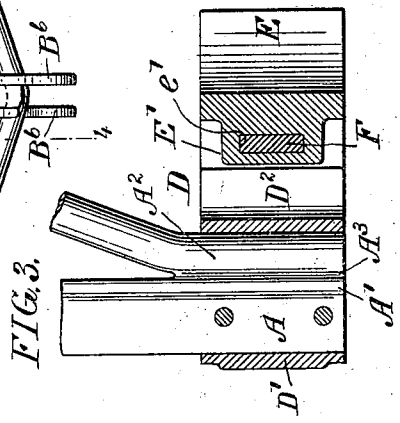


FIG. 3.

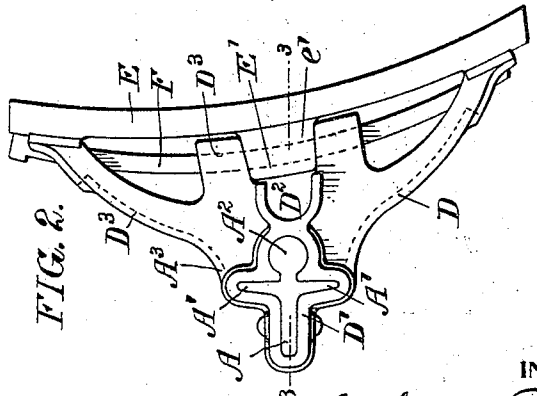


FIG. 2.

WITNESSES:

H. Stewart

Wm. F. Donnelly

INVENTOR

Nathan H. Davis

by his atty.

Francis T. Chambers

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

UNITED STATES PATENT OFFICE.

NATHAN H. DAVIS, OF PHILADELPHIA, PENNSYLVANIA.

TRUSS AND BRAKE-BEAM.

SPECIFICATION forming part of Letters Patent No. 683,729, dated October 1, 1901.

Application filed May 13, 1901. Serial No. 59,943. (No model.)

To all whom it may concern:

Be it known that I, NATHAN H. DAVIS, a citizen of the United States of America, residing in the city and county of Philadelphia, in the State of Pennsylvania, have invented certain new and useful Improvements in Trusses and Brake-Beams, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates primarily to the construction of trusses especially adapted for use as brake-beams; and it has for its object to provide such a truss or beam as will be at once simple in construction and of great strength.

Generally speaking, my invention will be classed as an improvement upon the truss shown and described in my former Letters Patent, No. 574,887, dated January 12, 1897, and, like the truss of my said former patent, the tension and compression members are formed integrally with each other, with preferably the compression member of shorter effective length than the tension member.

My present invention consists primarily in the sectional form of the truss, the compression member having the general shape of the letter T, with the central flange extending outward and the tension member having some simple form, preferably that of a substantially round rod, said tension and compression members being integrally united at their ends on the truss-beam, terminating in extensions of a generally cruciform section.

Another feature of my invention consists in the construction of the strut separating the tension and compression members, said strut being formed of two similar parts provided with hooks at one end to engage the sides of the compression member and with sockets at their other ends adapted to register with each other and rest upon the inner face of the tension member.

The above-noted and other features of my invention will be best understood as described in connection with the drawings in which my new truss is illustrated, and in which—

Figure 1 is an elevation of a truss; Fig. 2, an end view, on a larger scale, showing the brake-block in position; Fig. 3, a cross-section through the brake-block and brake, taken on the section-line 3 3 of Fig. 2; Fig. 4, an enlarged view of the strut, the truss being shown in section, as on the line 4 4 of Fig. 1; Fig. 5, a cross-section through the members making up the strut, taken as on the section-line 5 5 of Fig. 4; and Figs. 6 and 7, views illustrating two modifications in the mode of shortening the compression member of the truss.

My truss or beam is made from a rolled bar of metal having substantially the cross-section illustrated in Fig. 2—that is to say, consisting of an outwardly-extending web A, two lateral and oppositely-extending webs A′ A′, and a rod-like section A^2 lying opposite to the web A and connected with the other parts of the bar by a relatively thin neck, (indicated at A^3.) In using such a bar, which in itself is new and forms the subject-matter of an application for a design patent filed May 13, 1901, Serial No. 60,128, I divide the rod-like extension A^2 from the other parts of the bar along the thin neck A^3 between the points indicated at a^3 a^3, Fig. 1, and then spread the divided portions apart, preferably, shortening one portion in any convenient way—for instance, by upsetting said portion, as described in my former patent above mentioned and indicated at A^4, Fig. 1, or again by cutting out a section of said divided portion and bringing the ends together, as indicated at A^5, Fig. 6, and as claimed in my pending application for a patent filed August 11, 1900, Serial No. 26,618, or again by corrugating the undivided portion, as indicated at A^6, Fig. 7, and claimed in my pending application for Letters Patent filed August 11, 1900, Serial No. 26,617. The shortened member is of course in ordinary construction the compression member of the truss, which according to my new construction has a T-shaped section with a central web A extending outward, the tension and longer member A^2 having, preferably, a generally rod-like section, and the terminal ends of the truss having the generally cruciform section of the bar from which the truss members are formed.

The tension and compression members of the truss are separated, as shown, by a strut which may be of any convenient construction, but which I prefer to construct, as shown

in the drawings, of two identical parts, which may conveniently be of malleable cast-iron, said parts having at one end hook-like extensions B′, adapted to fit against and grip the sides of the compression member of the truss, and said strut parts having at their other ends the socket-like terminals (indicated at B^4 B^4) adapted to register in line with each other and to rest upon the inner face of the tension member, as shown. It will readily be seen that by means of this construction each strut part can be set upon the tension member and then rotated inward until its edge B′ engages with the compression member, as shown in Fig. 4, a single rivet C or other convenient fastening then holding the strut parts together and in proper relationship to the tension and compression members. In order to prevent any tendency of the sockets B^4 to move apart from each other, I preferably form them with hook-like extensions, as indicated at B^5, said hooks being shaped and arranged generally as shown, so that when the strut parts are moved inward the hooks will engage with each other, as indicated in Fig. 5, locking the two sections together as effectually as they are locked at the other end by the rivet C. The intermediate parts B^2 of the strut parts are for use in brake-beams preferably made so as to lie at an oblique angle both to the hooks B′ and to the sockets B^4 and are formed with intermediate enlargements B^3, pierced with eyes b^3 to engage with the brake-lever. As a convenient fastening-place for a suspending-link I prefer to construct the strut parts with eyes B^6, extending beyond the tension member and held on curved arms, so that the eyes in the two parts will come opposite to each other, as shown.

The brake-heads used in connection with my truss or beam may of course be of any convenient construction. By preference, however, I form them, as best shown in Figs. 2 and 3, with sockets D D′, formed to fit upon the generally cruciform ends of the beam, and with transverse openings or passages D^2, through which a suspending-link can pass. The heads are preferably formed of malleable cast-iron cored out, as indicated at the dotted lines D^3, E indicating a shoe in place upon the head, and F a wedge-key for holding the shoe in place. The brake-head illustrated forms the subject-matter of my application for Letters Patent filed May 13, 1901, Serial No. 59,944.

Having now described my invention, what I claim as new, and desire to secure by Letters Patent, is—

1. A truss or beam having a T-shaped compression member and a tension member of simple form, said members being integrally united at their ends in beam-terminals of cruciform section and said truss having a strut separating the central parts of the tension and compression members.

2. A truss or beam having a T-shaped compression member and a longer tension member of simple form, said members being integrally united at their ends in beam-terminals of cruciform section and said truss having a strut separating the central parts of the tension and compression members.

3. A truss or beam having a T-shaped compression member and a tension member of substantially round section, said members being integrally united at their ends in beam-terminals of cruciform section and said truss having a strut separating the central parts of the tension and compression members.

4. In a truss or beam, a strut made up of two similar parts having jaws B′ adapted to engage opposite sides of one truss member and sockets B^4 adapted to register with each other and overlap and rest on the opposite truss member.

5. In a truss or beam, a strut made up of two similar parts having jaws B′ adapted to engage opposite sides of one truss member and sockets B^4 with projecting hooks B^5, said sockets being adapted to register and said hooks to interengage when the sockets rest on the opposite truss member.

6. In a truss or beam, a strut made up of two similar parts having jaws B′ adapted to engage opposite sides of one truss member, sockets B^4 adapted to register with each other and rest on the opposite truss member and eyes B^6 formed on the socket ends of the parts and extending beyond the truss member.

7. In a truss or beam, a strut made up of two similar parts having jaws B′ adapted to engage opposite sides of one truss member, sockets B^4 adapted to register with each other and overlap and rest on the opposite truss member, and eyes B^3 formed intermediate the jaws and sockets.

8. In a truss or beam, a strut made up of two similar parts having jaws B′ adapted to engage opposite sides of one truss member, sockets B^4 adapted to register with each other and rest on the opposite truss member, eyes B^3 formed intermediate the jaws and sockets and eyes B^6 formed on the socket ends of the parts and extending beyond the truss member.

9. In combination with a brake-beam having its tension and compression members made integral and uniting at their ends in terminals of a generally cruciform section, a brake-block having a socket D′ adapted to slip over and conform to the shape of said terminal and a transverse opening D^2 formed in it immediately inside of said socket.

NATHAN H. DAVIS.

Witnesses:
CHAS. F. MYERS,
D. STEWART.