E. C. COVERT.

TRUSSED BEAM CONSTRUCTION.

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976,436.

Patented Nov. 22, 1910.

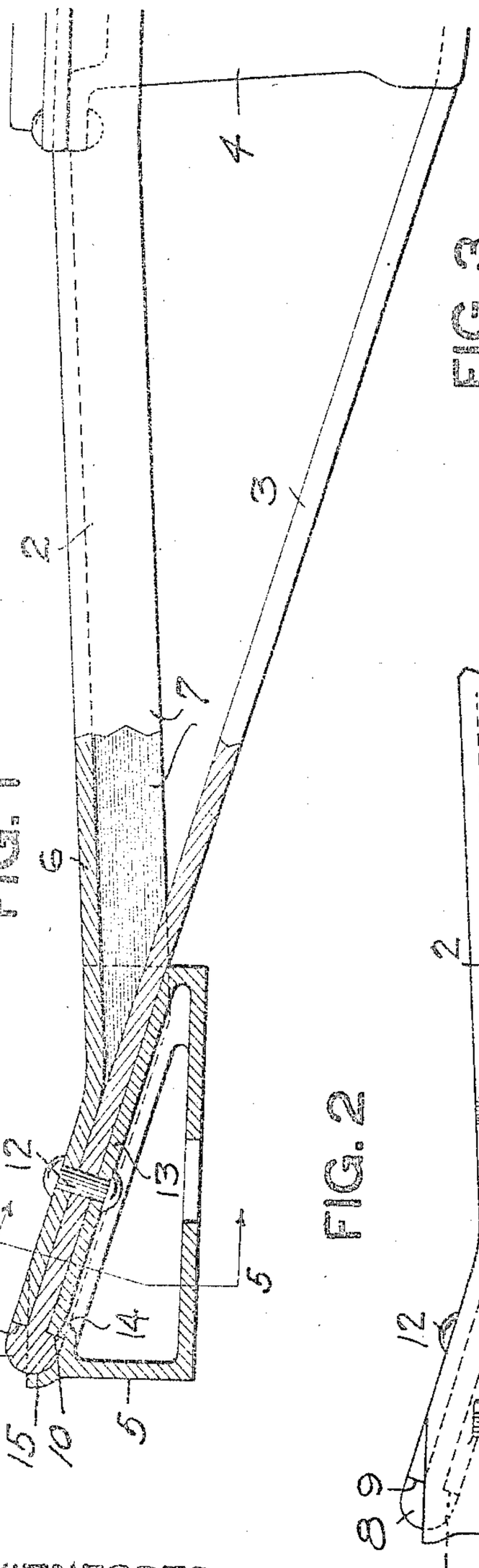

FIG. 1

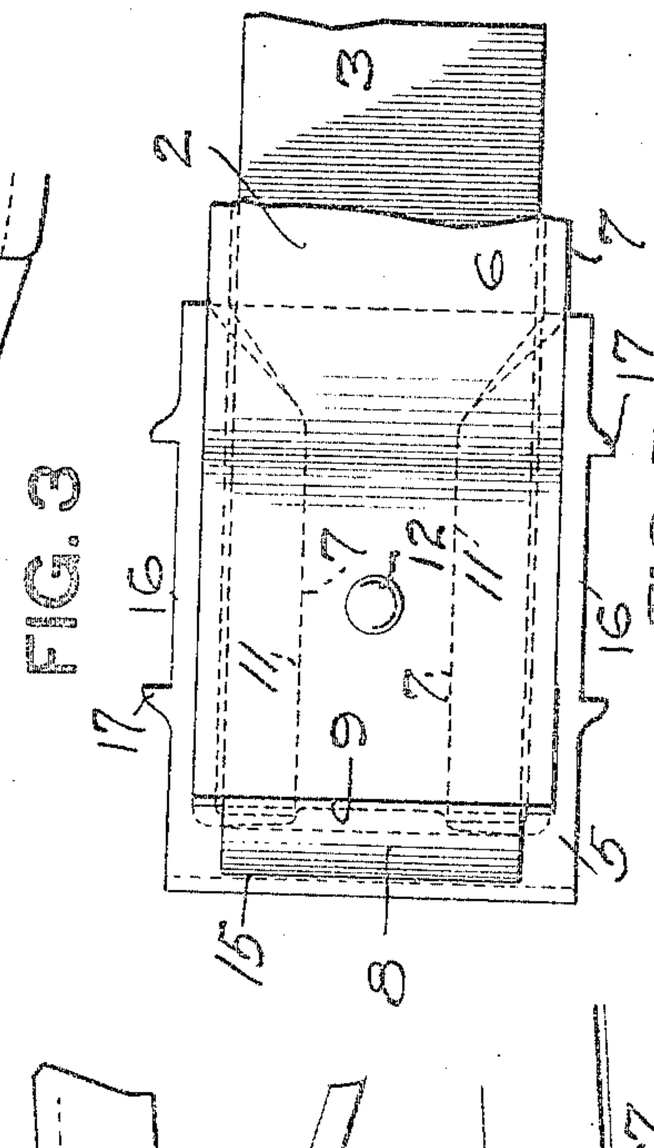

FIG. 3

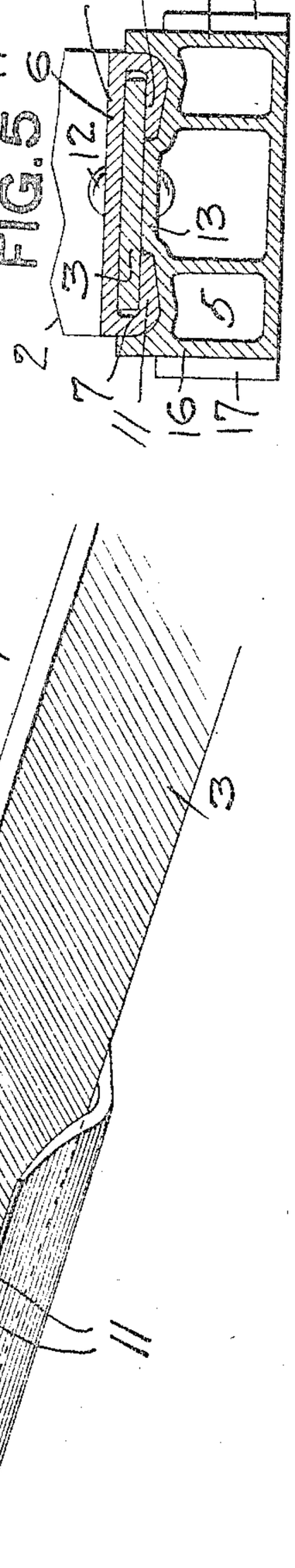

FIG. 5

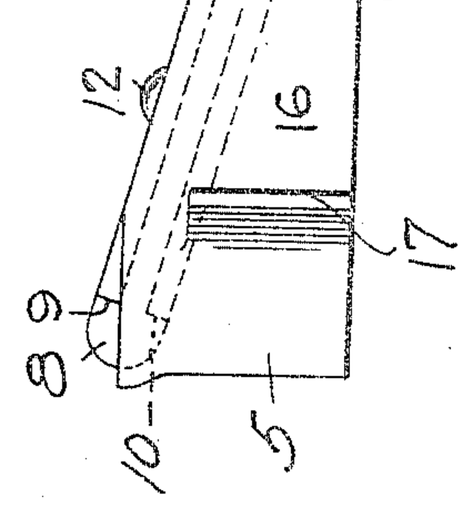

FIG. 2

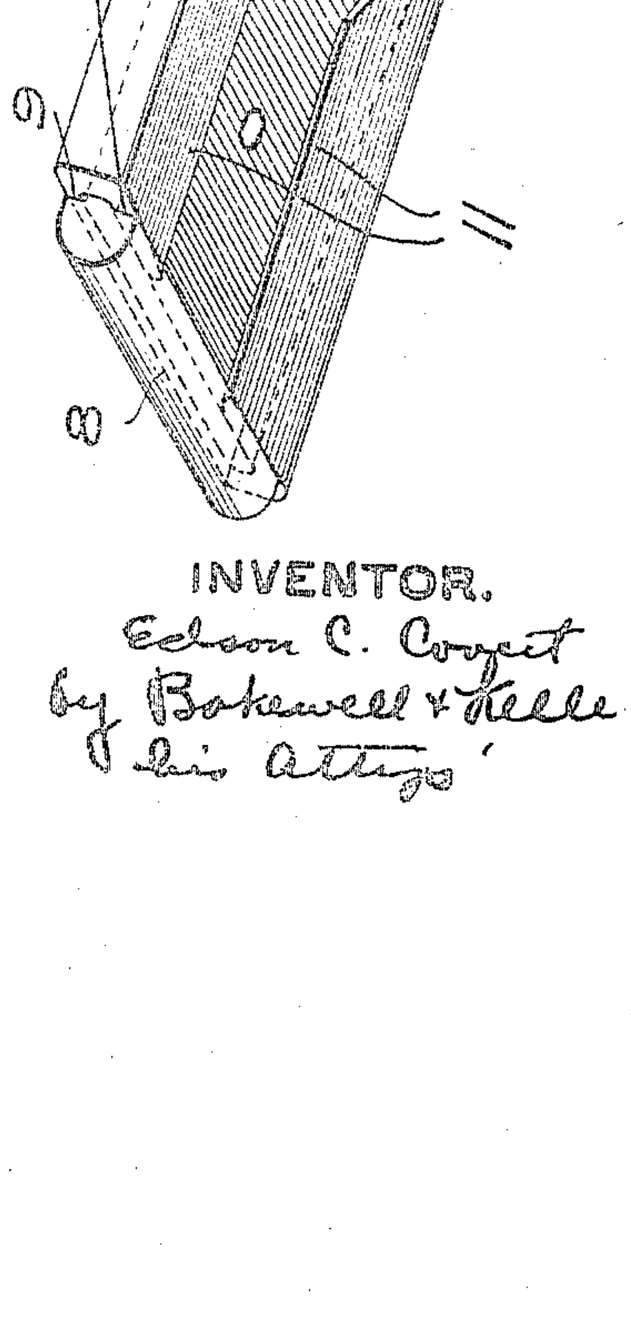

FIG. 4

WITNESSES.

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TRUSSED-BEAM CONSTRUCTION.

976,436. Specification of Letters Patent. Patented Nov. 22, 1910.

Application filed August 20, 1910. Serial No. 578,194.

To all whom it may concern:

Be it known that I, EDSON C. COVERT, of New Kensington, county of Westmoreland, and State of Pennsylvania, have invented a new and useful Improvement in Trussed-Beam Construction, of which the following is a clear, full, and exact description, reference being had to the accompanying drawings, which form part of this specification.

This invention relates to trussed beam construction, more particularly to the type commonly employing separately formed compression and tension members, comprising respectively rolled steel flanged and strap like sections which are united at their respective ends, and between which is interposed a central strut or post.

This invention is directed to the connection between the terminal portions of the compression and tension members, and it aims to provide a new and improved construction therefor in which is combined lightness with the maximum service efficiency.

With the above objects in view, I also aim to provide a form of trussed beam, in which the connection between the compression and tension members may be readily and easily effected without the employment of expensive machinery and which is thereby advantageously distinguished from that type of trussed beam embodied in truck and body bolsters and in which connection is made between the said members by folding the ends of the tension member over the ends of the compression member.

I will now describe my invention so that others skilled in the art to which it appertains may understand and construct the same, referring to the accompanying drawings in which I have shown my invention as embodied in a truck bolster. I do not, however, desire to limit myself in this respect, as it will be apparent, without necessity of specific illustration, that my invention is equally applicable to body bolsters, brake-beams and other forms of trussed structures.

Figure 1 is a side elevation of one-half of a truck bolster embodying my invention; the terminal portions of the tension and compression members and the spring seat casting being centrally vertically sectioned; Fig. 2 is a side elevation of the united ends of the compression and tension members, and the spring seat casting; Fig. 3 is a top plan view; Fig. 4 is a perspective view showing the flanges of the compression member folded upon the tension member; and Fig. 5 is a transverse sectional view on the line 5—5 of Fig. 1.

In describing my invention, the reference numeral 2 represents the compression member, 3 the tension member, 4 the strut bar or king post, and 5 a spring seat casting carried by the end of the united compression and tension members, of a truck bolster.

While it will be apparent that my invention may be applied to beams or bolsters having tension and compression members of various cross sectional shapes, I have shown in the accompanying drawings, and indicated above, as the preferable embodiment thereof, the compression member as being of flanged construction and the tension member as taking the form of a strap. The strut may be of any suitable form adapted to bolster service. The compression member is of a well-known type being arranged with the web 6 disposed horizontally and the flanges 7 projecting downwardly so as to receive the ends of the tension member 3, rising at each side in a straight line from its seat in the base of the strut. As is common to bolsters of this type, the terminal portions of the compression member may be so bent as to lie in parallelism with the tension member.

In my invention each end of the tension member is provided, preferably by upsetting or forging, with the head portion 8 which carries the angularly disposed shoulders 9 and 10, disposed respectively above and below the body of the tension member, and which respectively abut against the web 6 and the flanges 7 of the compression member; the flanges 7 being folded inwardly upon the body of the tension member, as indicated by the numeral 11 and clearly shown in Fig. 4, after the compression member has been bowed or cambered and the tension member has, by means of the shoulder 9 been temporarily interlockingly fastened to the compression member. This temporary engagement of the compression member with the tension member pending more positive attachment, obviates the necessity of the employment of expensive machinery for holding the member 2 compressed or cambered while effecting union

between the terminal portion of such compression and tension members, as in the case where the tension member is folded over the end of the compression member. In my bolster with the members temporarily united as above described, the flange portions of the compression member may be readily folded over the tension member by means of a suitable press or like pressure means.

After the flanges of the compression member have been folded upon the tension member, the spring seat casting 5 is placed in position and secured to the united terminal portions of the said compression and tension members by means of the suitable rivet 12, which passes through the said members and the wall 13 of the member 5. This wall 13 lies in facial abutment with the under face of the tension member and has the terminal shoulder 14 which abuts against the shoulder 10 of the compression member at points lying between the inturned flanges of the compression member. The portions 11, abutting wall 13 and shoulder 14 serve to prevent the head 8 of the tension member from being torsionally thrown from the end of the compression member, under operative stresses, and this reinforcement is augmented by the curved wall 15 of the casting 5, which wall is formed complementary and lies under and in abutment with the lower curved face of the head 8. As the upper face or wall 13 of the member 5 slopes upwardly, it will be apparent that under the enormous loads transmitted to the said casting 5, the tendency, so to speak, is to urge such casting outwardly in facial contact with the under face and abutment with the shoulder 14 of the tension member, as against forces tending to urge the casting in an opposite direction.

The side walls 16 of the spring seat casting 5 embrace the sides of the conjoined ends of the compression and tension members and are provided with the usual column guides 17.

It will be apparent that while I have referred to the member 5 as being a "casting," it may be formed from wrought metal as by pressing from sheet metal, and that other changes may be made in the construction shown without departing from my invention, and I do not therefore desire to limit myself thereto. For instance, the compression and tension members may vary in cross sectional shapes and the principle of uniting the said members may find a different embodiment from that disclosed in the drawings.

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

1. In a trussed beam construction, the combination of a compression member, a strut, and a tension member in engagement with the ends of the compression member, the compression member having portions folded to underlie the tension member.

2. In a trussed beam construction, the combination of a compression member, a strut, and a tension member having a shoulder in engagement with the ends of the compression member, the compression member having portions folded to underlie the tension member.

3. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member in engagement with the end of the compression member, the flanges of the compression member, adjacent to the ends thereof, being folded inwardly upon the tension member.

4. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member having a shoulder in engagement with the end of the compression member, the flanges of the compression member being folded upon the tension member at points adjacent to the terminal portions thereof.

5. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member in engagement with the end of the compression member and lying for a portion of its length substantially in parallelism with the terminal portion of the compression member, the flanges of the compression member being folded inwardly upon the tension member at points adjacent to the parallel union of the members.

6. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member lying substantially parallel with the end of the compression member and having a shoulder in engagement with the end of the compression member, the flanges of the compression member being folded upon the tension member at points adjacent the parallel union of the members.

7. In a trussed beam construction, the combination of a flanged compression member, a strut, and a tension member having its terminal portions interposed between the body and inwardly folded flange portions of the compression member and having shoulders in abutment with the terminal portions of the body and flange portions.

8. In a trussed beam construction, the combination of a flanged compression member, a strut, a tension member in engagement with the end of a compression member, the flanges of the compression member being folded adjacent their ends, inwardly upon the tension member, and a casting secured to the terminal portions of the compression and tension members.

9. In a trussed beam construction, the combination of a flanged compression mem-

ber, a strut, a tension member in engagement with the end of the compression member, the flanges of the compression member being folded adjacent their ends inwardly upon the tension member, and a casting secured to the terminal portions of the compression and tension members and having a face interposed between the inturned flanges of the compression member.

10. In a trussed beam construction, the combination of a flanged compression member, a strut, a tension member in engagement with the end of the compression member, the flanges of the compression member being folded adjacent their ends inwardly upon the tension member, and a casting secured to the terminal portions of the compression and tension members and having a shoulder lying in abutment with a shoulder of the tension member.

11. In a trussed beam construction, the combination of a flanged compression member, a strut, a tension member in engagement with the end of the compression member, the flanges of the compression member for a portion of their length being folded inwardly upon the tension member, and a casting secured to the terminal portions of the compression and tension members and having a face disposed between the inturned flanges of the compression member and a shoulder in abutment with a shoulder of the compression member.

12. In a trussed beam construction, the combination of a flanged compression member, a strut, a tension member having a shouldered terminal head engaging with the end of the compression member, the flanges of the compression member being folded inwardly upon the tension members at points adjacent to the terminal portions thereof, and a casting secured to the terminal portions of the compression and tension members and having a recessed face lying in abutment with the head of the tension member.

In testimony whereof, I have hereunto set my hand.

EDSON C. COVERT.

Witnesses:

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ANNA R. BEATTY.