

(No Model.)

O. C. SMITH.
RAILWAY TRUSS.

No. 430,304.

Patented June 17, 1890.

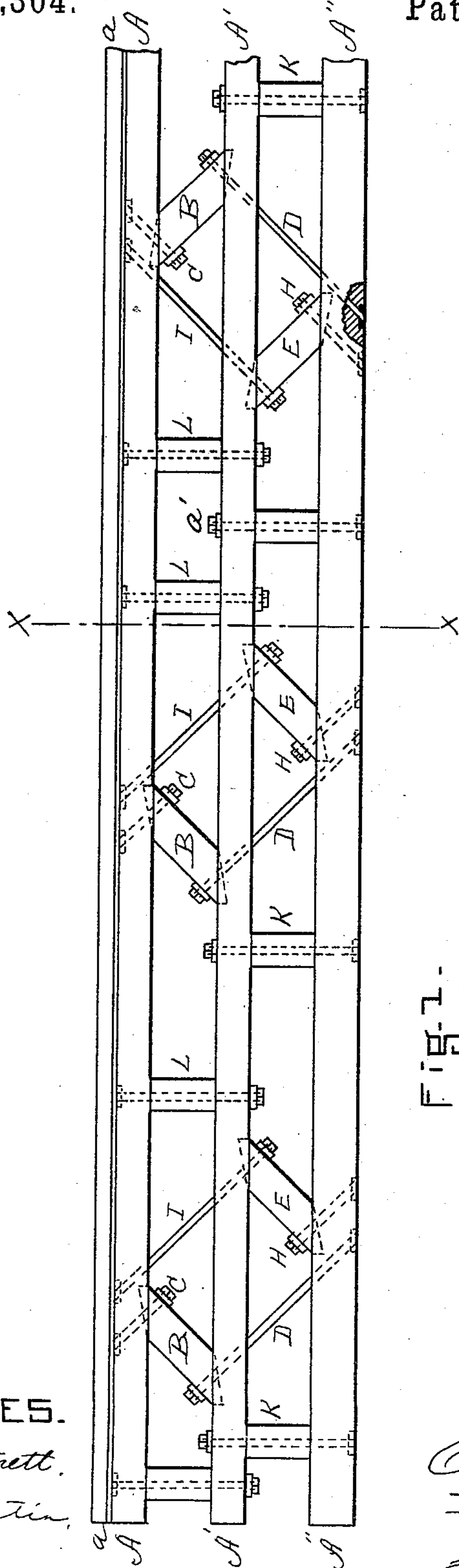


Fig-2-

Fig-1-

WITNESSES.

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OLIVER C. SMITH, OF IPSWICH, MASSACHUSETTS, ASSIGNOR TO THE ELECTRIC
RAPID TRANSIT COMPANY, OF NEW HAMPSHIRE.

RAILWAY-TRUSS.

SPECIFICATION forming part of Letters Patent No. 430,304, dated June 17, 1890.

Application filed December 26, 1889. Serial No. 334,994. (No model.)

To all whom it may concern:

Be it known that I, OLIVER C. SMITH, of Ipswich, in the county of Essex and State of Massachusetts, have invented a new and useful Improvement in Railway-Trusses, of which the following is a specification.

This is a compound truss for railways, the nature of the same being fully described below, and illustrated in the accompanying drawings, in which—

Figure 1 is a side elevation of a truss embodying my invention; and Fig. 2 is a transverse vertical section on line *x*, Fig. 1.

A, A', and A'' represent, respectively, upper, middle, and lower longitudinal timbers or string-pieces, and *a* a track supported directly by the string-piece A. The longitudinal center of the truss is at the upright *a*'.

B B are struts between the upper string-piece A and the central string-piece A', secured at their upper ends to the timber A by the bolts C, and at their lower ends to the lower string-piece A'' by the bolts D, passing through the timber A'.

E E are struts between the central string-piece A' and the lower string-piece A'', secured at their lower ends to the string-piece A'' by the bolts H and at their upper ends to the upper string-piece A by the bolts I, passing through the timber A'. The upper and lower struts B E are parallel with each other, as are the upper and lower rods I D, and the struts on both sides of the center of the truss incline toward such center.

K K are uprights secured between the central and lower timbers A' A'' near the lower ends of the struts B, and preferably at such a distance therefrom that a line drawn longitudinally through said struts would pass through the centers of the said uprights.

L L are uprights secured between the central and upper timbers A' A near the upper ends of the struts E, and preferably at such a distance therefrom that a line drawn longitudinally through said struts would pass

through the centers of the said uprights. By means of this combination of three timbers and the struts and uprights, arranged as above described, the struts take the strain of compression and the uprights sustain the resistance of the extension by a direct support near the end of each strut and transfer part of the crushing weight of the load to the central string-piece and from it to the lower string-piece. By this arrangement it will be seen that the bolts that hold the extension strain do not extend from the top to the bottom of the truss, but only to opposite sides of the middle string-piece. The bolts therefore cannot form an electrical connection between the top and bottom (wooden) string-pieces, and rails fastened to them can be thus easily insulated for carrying a current of electricity. Again, the bolts D I are not subjected to a strain from screwing up the nuts too tightly, and all their strength is utilized in holding the weight of the truss and its load.

In an elevated railway constructed with this truss the rails can be used to conduct electricity to the car-motor and return the current to the generator.

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

The herein-described compound truss, consisting, essentially, of the upper, lower, and middle string-pieces A A' A'', the struts B between the upper and middle string-pieces, the struts E between the lower and middle string-pieces, the uprights K between the lower and middle string-pieces, the uprights L between the upper and middle string-pieces, the lifting-bolts I between the upper and middle string-pieces, and the lifting-bolts D between the lower and middle string-pieces, substantially as set forth.

OLIVER C. SMITH.

Witnesses:

HENRY W. WILLIAMS,
J. M. HARTNETT.