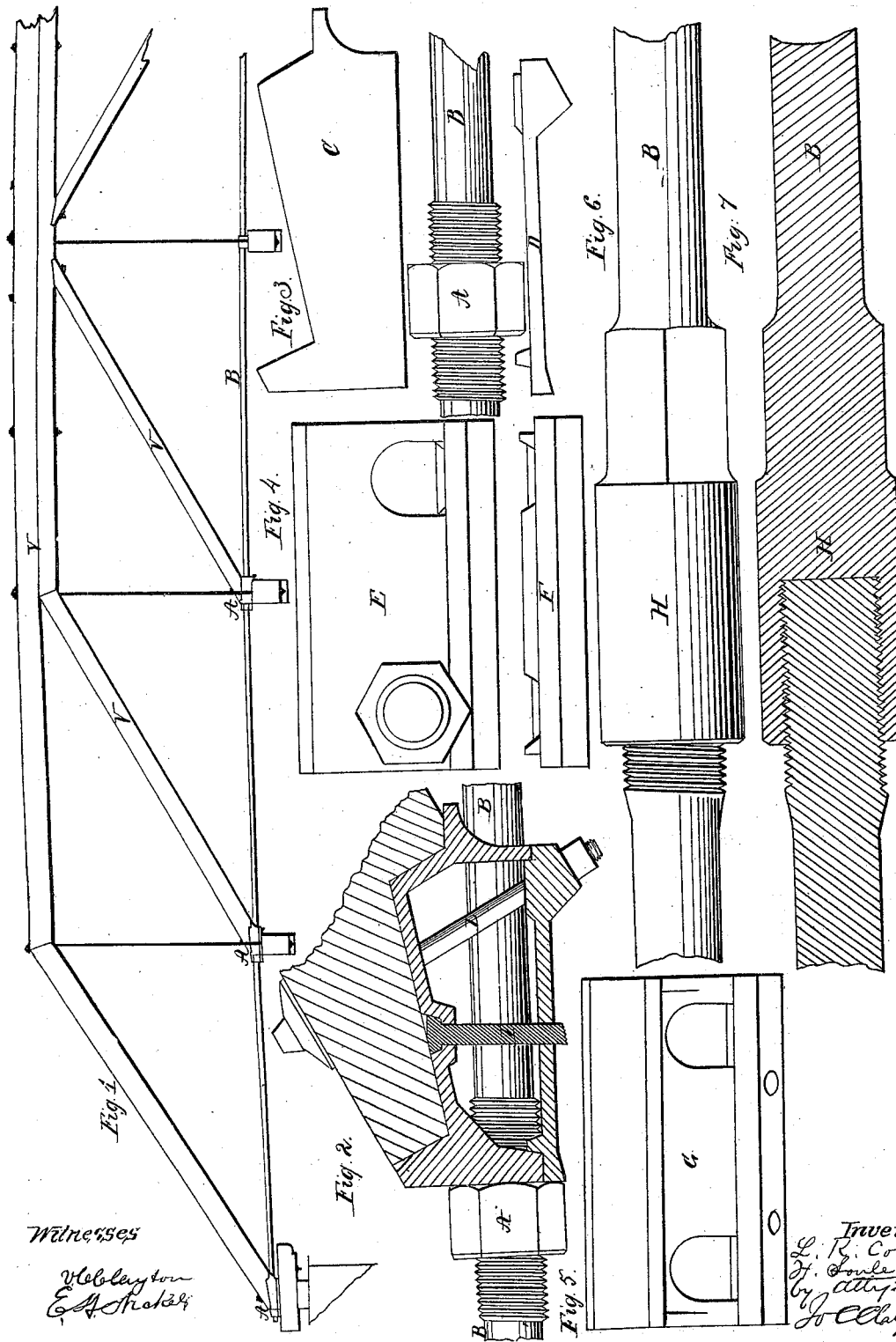


*L. M. Cole & H. Soule, Jr.*

*Truss Bridge.*

*No. 52,530.*

*Patented Feb. 13, 1866.*



*Witnesses*

*H. Clayton  
E. A. Hoke*

*Inventors  
L. M. Cole and  
H. Soule, Jr.  
by Atty.  
H. Clayton*

# UNITED STATES PATENT OFFICE.

L. K. COLE AND HOWARD SOULE, JR., OF SYRACUSE, NEW YORK.

## IMPROVEMENT IN BRIDGES.

Specification forming part of Letters Patent No. 52,536, dated February 13, 1866.

*To all whom it may concern:*

Be it known that we, L. K. COLE and HOWARD SOULE, Jr., of Syracuse, Onondaga county, in the State of New York, have invented a new and useful Continuous Iron Chord for Bridge-Trusses; and we do hereby declare that the following is a full and exact description thereof, reference being had to the accompanying drawings, and to the letters of reference thereon marked.

In the drawings, Figure 1 is an elevation of the truss. Fig. 2 is a longitudinal section through center of shoe and brace. Fig. 3 is a side elevation of shoe and chord. Fig. 4 is a rear elevation of the same. Fig. 5 is a front elevation of the shoe alone. Fig. 6 is an elevation of the tubular box-splice. Fig. 7 is a longitudinal section of the same.

In the drawings, V represents the wood-work which forms the truss, (or iron may be used as well.) B is the continuous iron chord. A is the adjustable nut, which is to be tightened up against the shoes. C is the upper portion, and D is the bottom, of the shoe; E and F the rear and G the front plates of the hollow cast-iron shoe C D E F G. I are bolts passing through the truss-beams and shoe. L are bolts passing through cross-ties and shoe. H is the continuous box-splice.

The drawings fully explain the mode of constructing and operating our invention.

The nature of our invention consists in connecting a continuous iron chord, B, and a hollow cast-iron shoe, C D E F G, with an adjusting-nut, A, as shown in the drawings, and its application to a bridge-truss, or for all purposes, of whatever name or nature, to which a truss can be applied.

By a continuous iron chord, in connection with the adjusting-nut and shoe, facilities are afforded for the removal and renewal of the wooden braces without affecting the general tension of the chord; also for so adjusting and equalizing the strain that each chord and brace and all parts of the truss shall act in harmony and bear each its proportionate strain.

In long spans, for convenience in manufacturing and transportation, it is desirable to keep the chord in two sections. Therefore we make the chord continuous by a tubular box-splice, H, or connection, consisting of a long nut welded for a portion of its length to one section of the chord, and a thread cut in the balance of the nut to correspond and form a connection with the raised thread of the other section of the chord, as shown in the drawings.

Having fully described our invention, what we claim as new, and desire to secure by Letters Patent, is—

1. The shoe C D E F G, constructed and operating substantially as described.

2. The continuous chord B and nut A, in combination with the shoe and brace V, or their equivalent, substantially as and for the purposes described.

In testimony that we claim the above we have hereunto affixed our signatures this 25th day of September, 1865.

L. K. COLE.  
HOWARD SOULE, JR.

In presence of—

S. H. SLOSSON,  
Jo. C. CLAYTON.