C. KELLOGG.

Construction of Iron Truss-Bridge.

No. 162,077. Patented April 13, 1875.

FIG. 1.

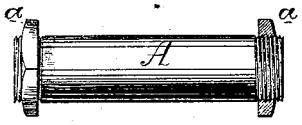
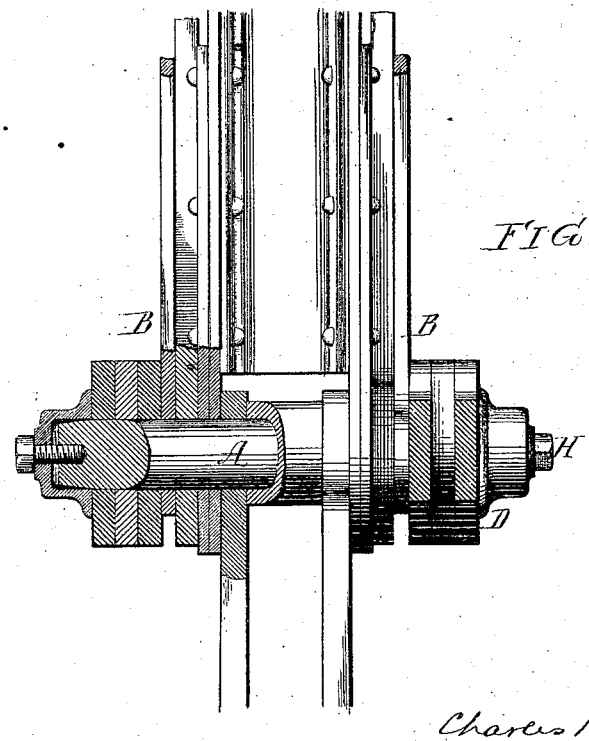


FIG. 2.

FIG. 3.



Witnesses,
Harry Smith
Hubert Howson

Charles Kellogg
by his Attys
Howson & Howson

THE GRAPHIC CO. PHOTO-LITH. 39 & 41 PARK PLACE, N.Y.

UNITED STATES PATENT OFFICE.

CHARLES KELLOGG, OF ATHENS, PENNSYLVANIA.

IMPROVEMENT IN THE CONSTRUCTION OF IRON TRUSS-BRIDGES.

Specification forming part of Letters Patent No. **162,077**, dated April 13, 1875; application filed December 3, 1874.

To all whom it may concern:

Be it known that I, CHARLES KELLOGG, of Athens, Bradford county, Pennsylvania, have invented certain Improvements in the Construction of Bridges, of which the following is a specification:

My invention relates to the mode of constructing and retaining in their places the pins used in the construction of truss-frame bridges, such, for instance, as the pins for connecting the posts, lower chord-rods, and diagonals together; and the object of my invention is to obviate the difficulties experienced in the use of ordinary pins of this class.

Before I proceed to describe my invention it will be well to refer to the usual bridge-pins, one of which is illustrated in Fig. 1 of the accompanying drawing. It consists of a solid cylinder of wrought iron, threaded at each end for the reception of a nut, *a*, by which nut the pin is retained in its place. The difficulty with these ordinary pins is that in driving them into their places, and even during transportation, the screw-threads are apt to become so wounded that it is a difficult matter to apply the nuts. This difficulty has been, in a measure, overcome by reducing the ends of the pins in diameter where they receive the nuts, and by screwing a tapering cap, *d*, on one end of the pin to facilitate driving, and to protect the screw-thread, the cap being removed to make way for a nut when the pin has been driven to its place. I obviate these difficulties by constructing the pin, and combining it with retaining-washers in the manner illustrated in Fig. 3, in which A represents the pin, the latter being made tapering at each end, so as to facilitate driving. B B are the two outer rods of the lower chord, all the chord-rods having the usual eyes, through which the pin is driven. To the same pin are connected the post diagonals and counter diagonals, these members filling the space between the two sets of chord-rods. Over each tapering end of the pin is placed a cup-shaped cast-iron washer, D, which is caused to bear against the eye of the outer chord-rod B by a set-screw, H, adapted to a threaded orifice in the end of the pin, the washers with their set-screws thus serving to retain the pin in place, and at the same time presenting a neat appearance at the junction of the different members of the bridge.

Owing to the tapering ends of the pins, and to the absence of external screw-threads, they cannot be damaged during transportation, or during the erection of the bridge, and they can be easily passed through those members which are united at one pin-joint.

As there is always a space between the end of the pin and the washer, the latter can be screwed up so as to press the bars closely together and exclude water from the joint, a result which, owing to the varying thicknesses of the bars, could not always be attained when the ordinary pins were used.

I claim as my invention—

The combination of the within-described bridge-pin A and its tapering ends with the retaining-washers D and set-screws H.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES KELLOGG.

Witnesses:
F. R. PIKE,
D. K. JACKMAN, Jr.