

(No Model.)

G. J. GOODHUE.

TIMBER STRUCTURE FOR MINES.

No. 377,197.

Patented Jan. 31, 1888.

Fig. 1.

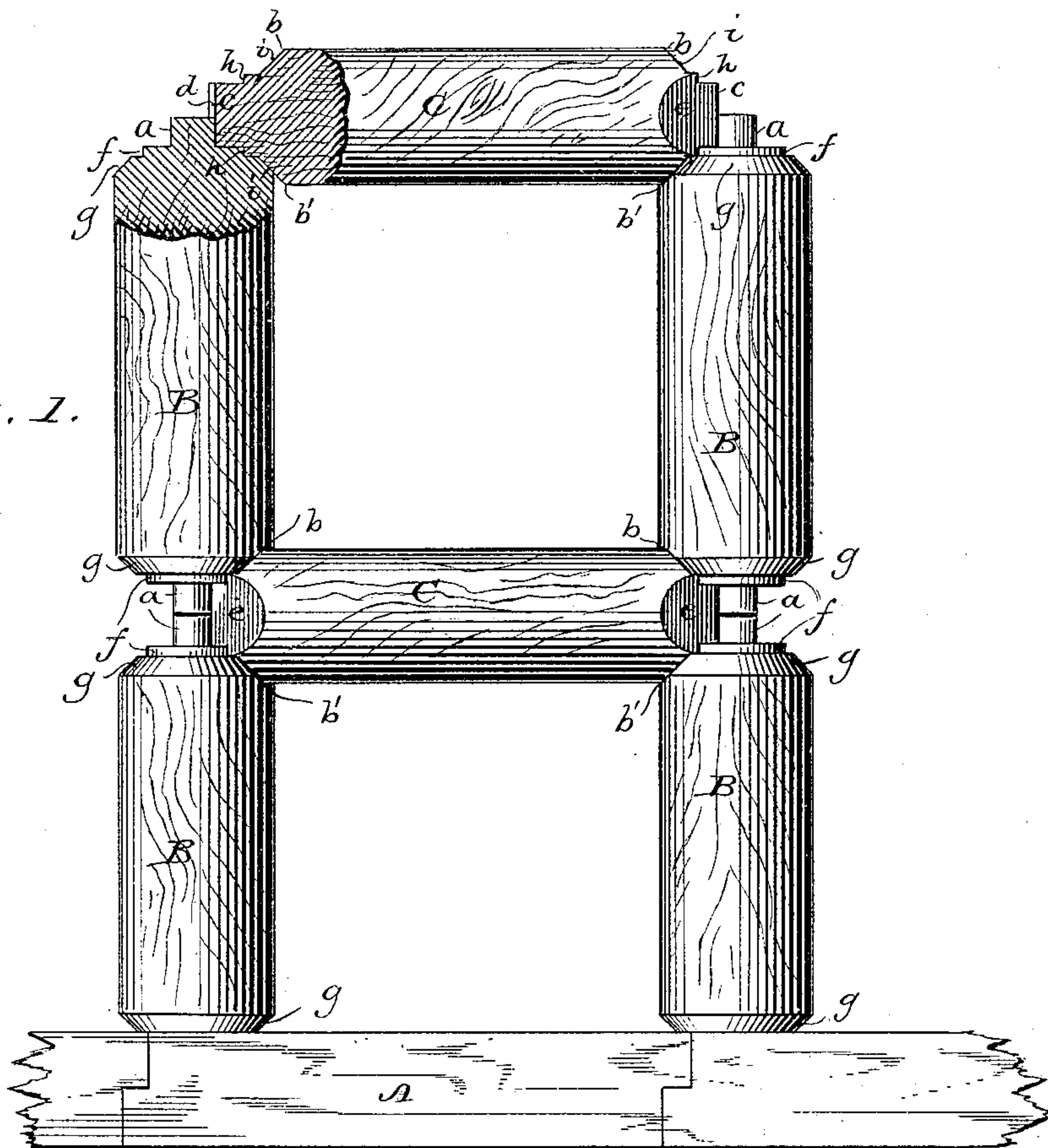


Fig. 3.

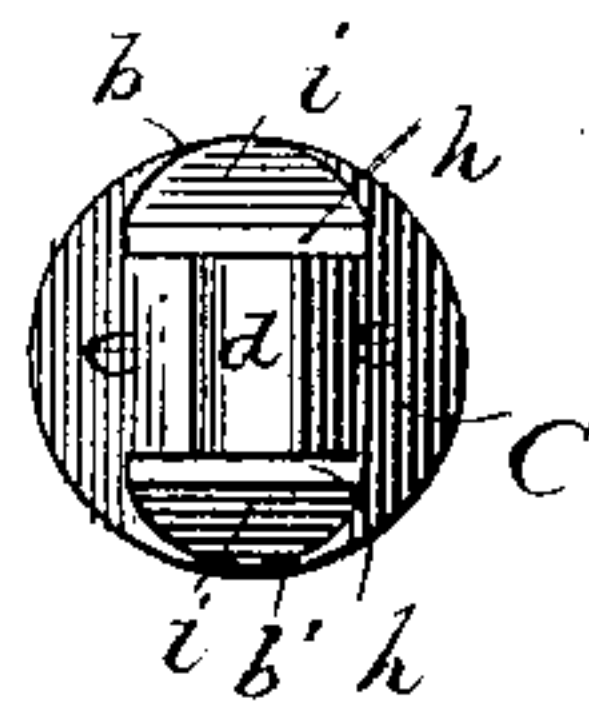
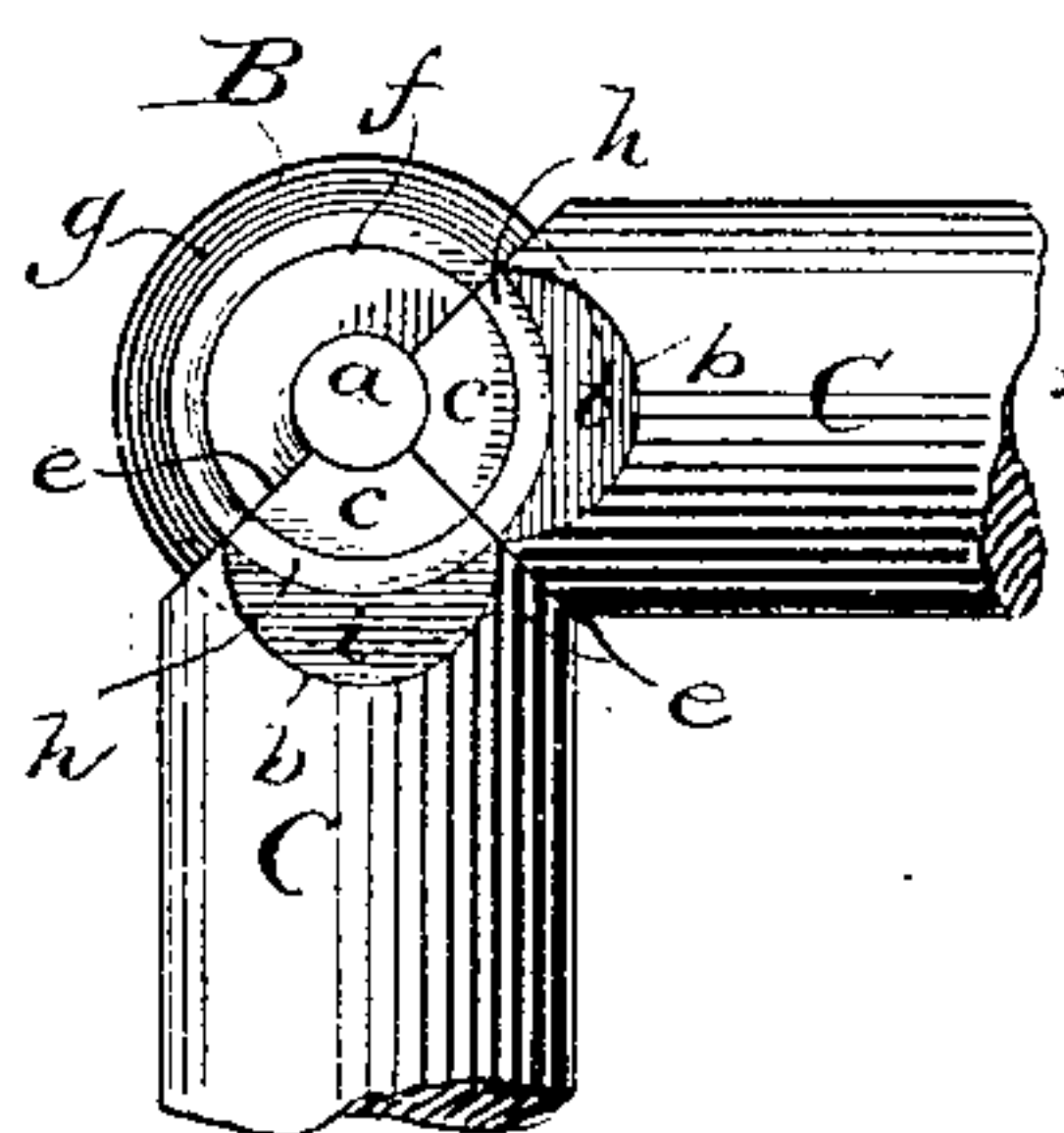


Fig. 2.



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TIMBER STRUCTURE FOR MINES.

SPECIFICATION forming part of Letters Patent No. 377,197, dated January 31, 1888.

Application filed November 14, 1887. Serial No. 255,066. (No model.)

To all whom it may concern:

Be it known that I, GEORGE J. GOODHUE, of Stevens Point, in the county of Portage, and in the State of Wisconsin, have invented certain new and useful Improvements in Timber Structures for Mines; and I do hereby declare that the following is a full, clear, and exact description thereof.

My invention relates to timber structures for mines, being designed as an improvement on the structure described in Letters Patent No. 358,261, issued to me February 22, 1887; and it consists in certain peculiarities of construction and combination of parts, to be hereinafter described with reference to the accompanying drawings, and subsequently claimed.

In the drawings, Figure 1 represents a side elevation, partly in section, of a structure embodying my invention; Fig. 2, a partial plan view of the same; and Fig. 3, an end view of a cap that forms part of the structure.

Referring by letter to the drawings, A represents a sill that forms the foundation of my structure. Upon the sill A, at each corner of a mine-chamber, is set a leg, B, and the tops of these legs are connected by caps C, that in turn are designed to support additional legs and their connecting-caps, the building of the structure being thus carried on in an upward direction, as the work of excavating a mine may necessitate. As in my former patent, the legs B and caps C are preferably made from round timber, the former being provided with gudgeons *a* and the ends of the latter shaped to leave top and bottom arc-shaped shoulders, *b b'*, and tongues *c*, these tongues being cut away to form recesses *d*, and beveled on their sides at an angle of about forty-five degrees, as shown at *e*. The legs B are also preferably cut away at their ends to form circular shoulders *f*, all of these shoulders being of uniform diameter and said legs and caps shaped by suitable machinery. The caps C being set on the legs B, the tongues *c* of the former rest upon the tops of the latter, their arc-shaped shoulders *b'* bearing against the circular shoulders *f* of said legs, their beveled faces forming miter-joints and the recesses *d* fitting the gudgeons *a* on said legs. The several caps being in position, their arc shaped shoulders *b* form circular seats just above and in line with each

leg on which the tongues *c* rest, and thus circular seats are provided for the shoulders *f* on the next succeeding legs, the spaces formed by the recessed ends of said tongues serving as sockets to receive the gudgeons on the latter legs.

In a structure made in accordance with my present invention I reduce the ends of the legs B at their greatest diameter to form a bevel, *g*, on an angle of about forty-five degrees, and I also shape the ends of the caps C to form arc-shaped shoulders *h* thereon, and cut a bevel, *i*, on each of the shoulders *b b'*, the latter bev- els having a corresponding angle to those on the legs.

By the construction just described I obtain a miter-joint between the legs and caps, and thus secure a snug fit without reference to the diameters of the logs from which these legs and caps are made, while at the same time I obtain a greater amount of bearing-surface between the parts, to thereby increase the strength of the structure and prevent splitting of said caps.

The length of the bev- els *g i* on the legs and caps will vary in proportion to the diameter of the logs from which said parts are made; hence the greater the diameter of these logs the longer the miter-joints between said legs and caps and consequent increase of bearing-surface.

It is obvious that I may omit the circular shoulders *f* on the legs B and the arc-shaped shoulders *h* on the caps without departing from the spirit of my invention; but the construction illustrated in the drawings has been found preferable.

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

1. In a timber structure for mines, the combination, with suitable legs beveled at their ends, of caps having their respective ends cut away to form beveled tongues, and upper and lower shoulders beveled to correspond with the bev- els on the legs, substantially as and for the purpose set forth.

2. In a timber structure for mines, the combination, with suitable legs provided with gudgeons and reduced at their ends to form bev- els, of caps cut away at their respective

ends to form beveled tongues recessed to fit the gudgeons, and upper and lower shoulders beveled to correspond with the bevels on the legs, substantially as and for the purpose set forth.

3. In a timber structure for mines, the combination, with legs having beveled extremities and cut away to form circular gudgeons, of caps cut away at their respective ends to form beveled tongues recessed to fit the gudgeons, and upper and lower shoulders beveled to correspond with the bevels on the legs, substantially as and for the purpose set forth.

4. In a timber structure for mines, the combination, with legs having beveled extremities cut away to form shoulders, of caps having their respective ends cut away to form beveled tongues, and upper and lower shoulders beveled to correspond with the bevels on the legs, substantially as and for the purpose set forth.

5. In a timber structure for mines, the combination, with the legs B, having their ex-

trimities reduced to form the shoulders *f* and bevels *g*, of the caps C, having their ends cut away to form the beveled tongues *c*, beveled shoulders *b b'*, and plain shoulders *h*, substantially as and for the purpose set forth.

6. In a timber structure for mines, the combination, with the legs B, having their extremities reduced to form the gudgeons *a*, shoulders *f*, and bevels *g*, of the caps C, having their ends cut away to form the recessed and beveled tongues *c*, beveled shoulders *b b'*, and plain shoulders *h*, substantially as and for the purpose set for.

In testimony that I claim the foregoing I have hereunto set my hand, at Milwaukee, in the county of Milwaukee and State of Wisconsin, in the presence of two witnesses.

GEORGE J. GOODHUE.

Witnesses:

T. D. RHODA,
S. S. STOUT.