

No. 654,820.

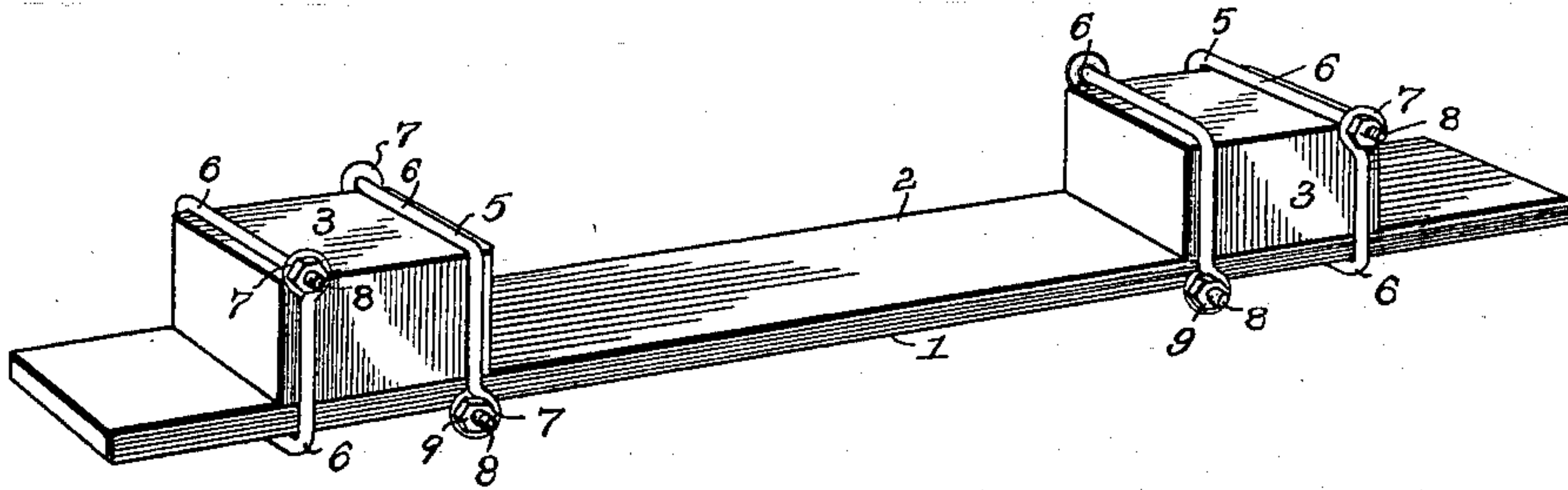
Patented July 31, 1900.

W. M. WOODWORTH.  
RAILWAY CROSS TIE.

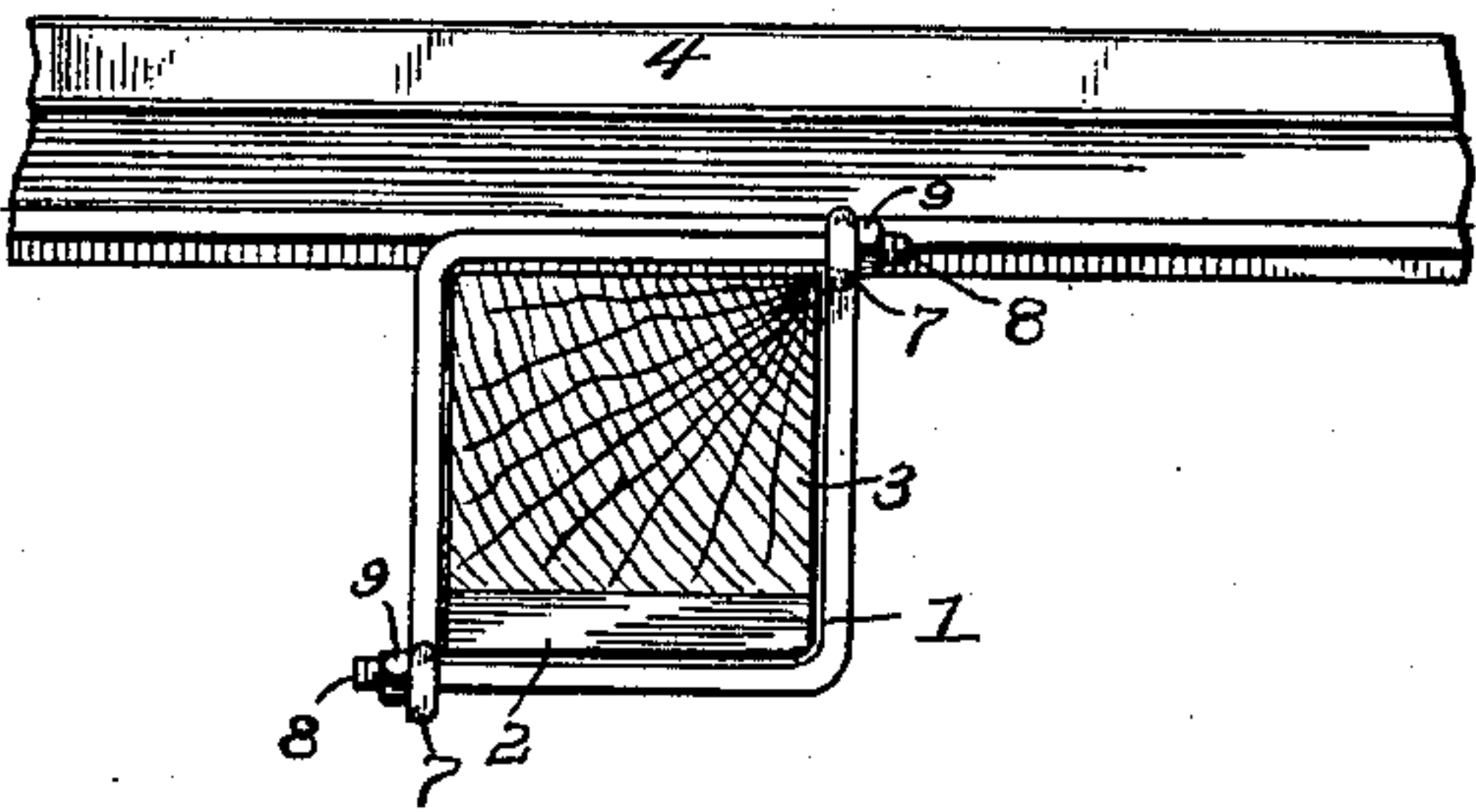
(Application filed Feb. 20, 1900.)

(No Model.)

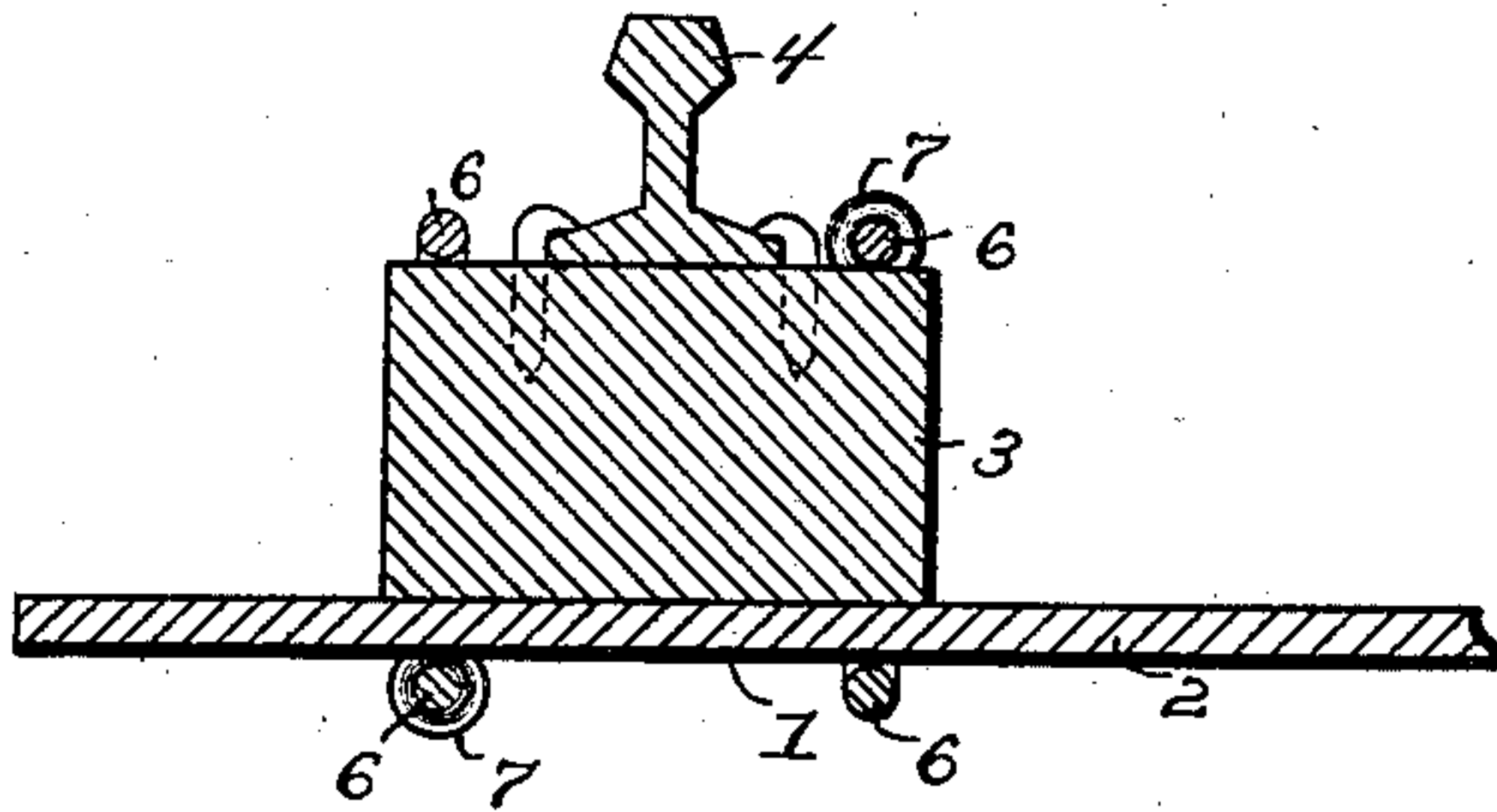
*Fig. 1.*



*Fig. 3.*



*Fig. 2.*



Witnesses

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# UNITED STATES PATENT OFFICE.

WILLIAM M. WOODWORTH, OF SYCAMORE, INDIANA.

## RAILWAY CROSS-TIE.

SPECIFICATION forming part of Letters Patent No. 654,820, dated July 31, 1900.

Application filed February 20, 1900. Serial No. 5,938. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM M. WOODWORTH, a citizen of the United States, residing at Sycamore, in the county of Howard and State of Indiana, have invented a new and useful Railway Cross-Tie, of which the following is a specification.

The invention relates to improvements in railway cross-ties.

One object of the present invention is to improve the construction of railway cross-ties and to provide a simple, inexpensive, and durable one which will possess the elasticity of an ordinary wooden cross-tie and which will enable comparatively-small blocks of wood to be employed for supporting the rails without liability of the blocks splitting when the spikes are driven into them to hold the rails.

A further object of the invention is to provide a cross-tie of this character which will be effectually prevented from slipping longitudinally and which will enable the blocks to be conveniently renewed without removing it.

The invention consists in the construction and novel combination and arrangement of parts hereinafter fully described, illustrated in the accompanying drawings, and pointed out in the claim hereto appended.

In the drawings, Figure 1 is a perspective view of a railway cross-tie constructed in accordance with this invention. Fig. 2 is a transverse sectional view of the same. Fig. 3 is a longitudinal sectional view of one end of the cross-tie, illustrating the manner of mounting a rail thereon.

Like numerals of reference designate corresponding parts in all the figures of the drawings.

1 designates a railway cross-tie comprising a flat bar 2 and blocks 3 of wood, secured to the upper face of the flat metal bar 2, adjacent to the ends thereof, as clearly shown in Fig. 1 of the drawings. The flat metallic bar may be constructed of any suitable material and is designed to be embedded in the ballast of a road-bed, whereby the wooden blocks will operate to anchor the cross-tie and lock it against longitudinal and lateral movement.

The wooden blocks 3 are adapted to support the rails 4 in the usual manner, and they afford the elasticity of an ordinary wooden

cross-tie, and they are secured to the metal bar or piece 2 by means of transversely-disposed clamps 5, arranged in pairs and located at the ends of the wooden blocks or bodies. The clamps 5, which are composed of two L-shaped members 6, embrace the blocks and the bar 1 and firmly compress the former and effectually prevent the same from splitting when the railway-spikes are driven into it for securing the rail in position. Each L-shaped member 6 is provided at one end with an eye 7, and its other end 8 is threaded and is passed through the eye of the other member, the two members being firmly secured together and retained in engagement with the metal piece and the wooden body by nuts 9, arranged on the threaded ends 8 and engaging the eyes 7. By this construction the wood is compressed and the blocks are detachably secured to the bar 1 and are adapted to readily release the blocks when it is necessary to renew the same. The life of the wood is greatly increased, as the blocks are not perforated for the reception of bolts or similar fastening devices, and only a comparatively-small amount of wood is employed, thereby providing an exceedingly inexpensive cross-tie. The bar 1 is practically indestructible, and it is unnecessary to remove the same from its position in the ballast to renew the blocks, and the latter may be placed beneath the rails without removing the same.

It will be apparent that the device is exceedingly simple and inexpensive in construction, that it compresses the wood and prevents the same from splitting when spikes are driven into it, and that the blocks may be removed and renewed without removing the bar 1 or the rails.

What is claimed is—

A device of the class described comprising a straight flat bar of even thickness throughout its length presenting smooth horizontal upper and lower faces, the approximately-cubical imperforate blocks arranged upon the upper face of the bar at points between the ends thereof and being of even width with the said bar, and the clamps arranged in pairs and located adjacent to the side faces of the blocks and comprising two substantially L-shaped members having their vertical por-



tions extending from the lower face of the bar to the upper faces of the blocks, the horizontal portions being arranged respectively on the lower face of the bar and on the upper  
5 faces of the blocks, each member being provided at one end with an eye and having its other end threaded and extending through the eye of the adjacent member, and the nuts arranged on the threaded ends of the mem-  
10 bers at the side faces of the blocks and at the

side edges of the bar and engaging the eyes of the members, substantially as described.

In testimony that I claim the foregoing as my own I have hereto affixed my signature in the presence of two witnesses.

WILLIAM M. WOODWORTH.

Witnesses:

H. E. ASH,

JOHN HOLLIDAY.