(No Model.)

W. J. MORDEN.

SPIKE FOR RAILROAD RAILS.

No. 277,597. Patented May 15, 1883.

Fig. 2.

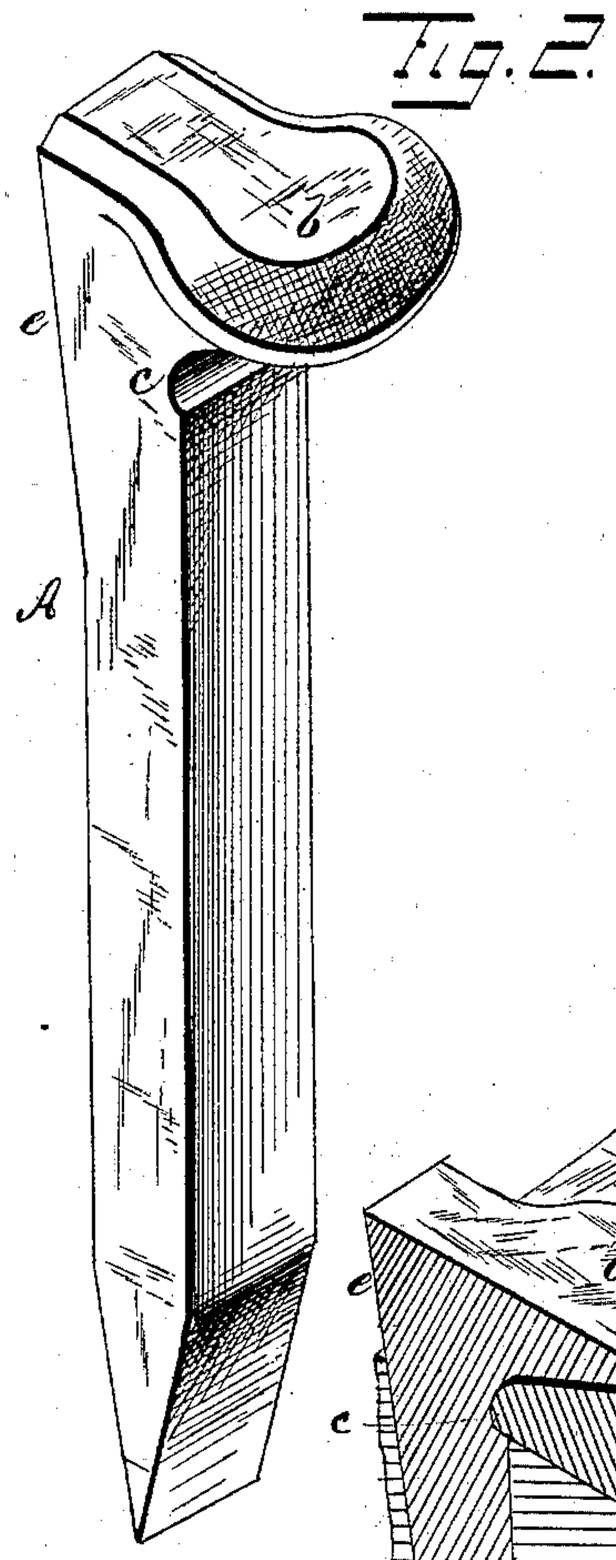
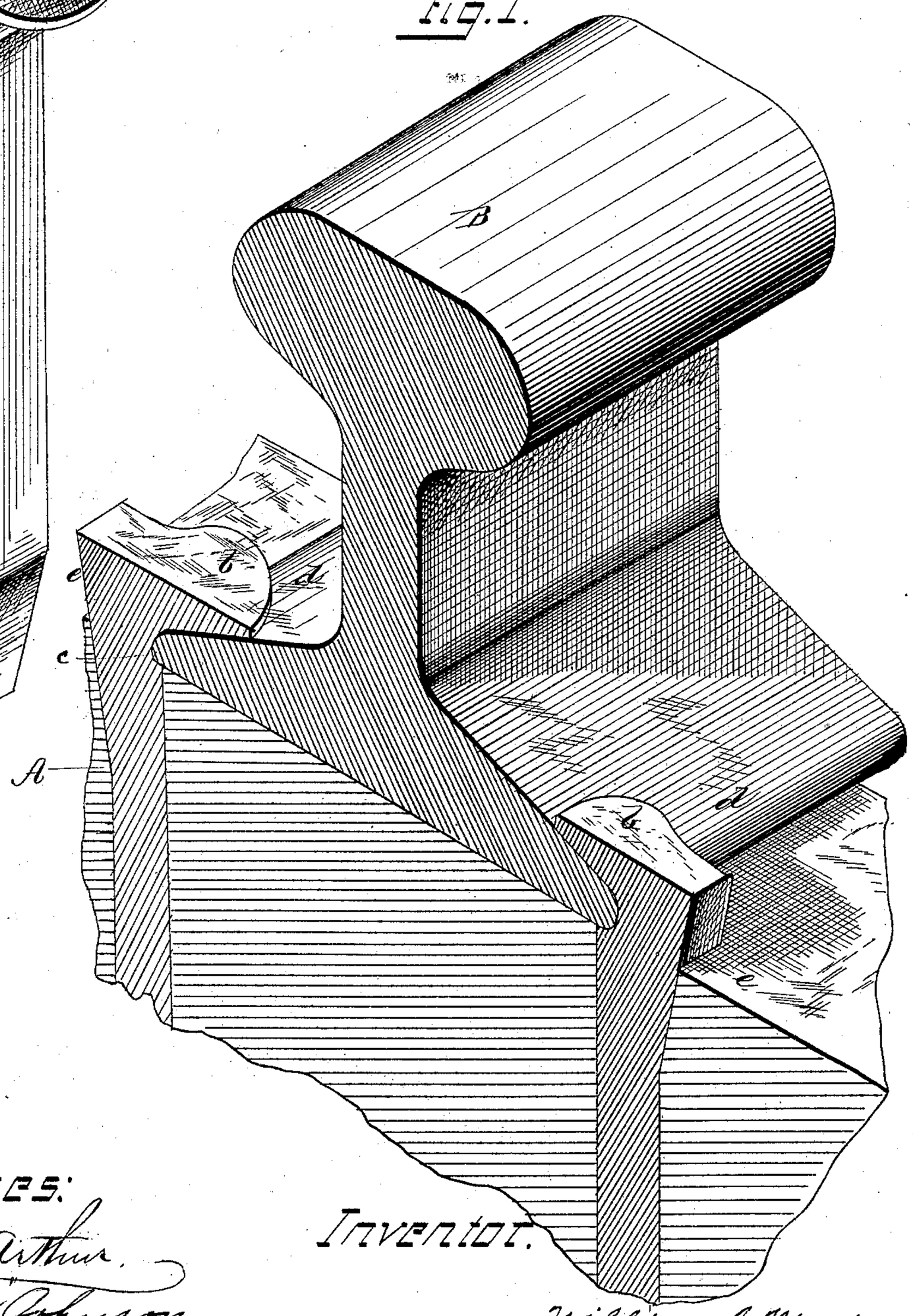


Fig. 1.



Witnesses:
W. C. McArthur.
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UNITED STATES PATENT OFFICE.

WILLIAM J. MORDEN, OF CHICAGO, ILLINOIS.

SPIKE FOR RAILROAD-RAILS.

SPECIFICATION forming part of Letters Patent No. 277,597, dated May 15, 1883.

Application filed August 25, 1882. (No model.)

To all whom it may concern:

Be it known that I, WILLIAM J. MORDEN, a citizen of the United States of America, residing at Chicago, in the county of Cook and State of Illinois, have invented an Improvement in Spikes for Railroad-Rails, of which the following is a specification, to wit:

This invention relates to spikes for securing railroad-rails to the cross-ties or sills; and it consists in a spike formed with a transverse groove across its body, immediately under the head, and a wedge or incline upon its back, substantially as hereinafter more fully set forth.

In order to enable others skilled in the art to avail themselves of the benefits of my invention, I will now proceed to describe it, referring to the accompanying drawings, in which—

Figure 1 is a sectional perspective view of a railroad-rail secured to the cross-tie by a spike such as I describe, and Fig. 2 is a perspective view of my improved spike.

Similar letters of reference denote similar parts throughout the several views.

A represents a spike having its head and shank of the usual form. Immediately under the projecting head *b*, I form the spike with a longitudinal groove or depression, *c*, of the proper size to receive the edge of the flange *d* on the foot of the rail B. The back of the spike is formed with an inclined portion, *e*, of wedge-shape at its upper end. When a rail is secured to the tie by a spike of the ordinary form, the weight of the trains passing over the road soon sinks the rail into the tie, and it then has a slight material play and is depressed, and springs back again with the passage of every train. In this motion the rail by friction against the spike soon loosens it, and draws the spike a little with every upward spring of the rail until it is entirely out of the cross-ties, and with nothing to hold it the rail turns with the next train that passes and causes an accident. It is found that the rail will usually be safe enough as long as the spike remains in its bed, even if it be loosened.

It will be seen that a spike made as I have described, and driven close to the foot of a rail, will, when it is driven entirely in, be forced forward by the inclined or wedge back until the groove in its face clasps the edge of the rail. The fibers of wood which have been severed and bent in the operation of driving the spike soon return to their normal position and hold the spike in its relation to the rail. If, now, the rail rises and falls, as described, it is evident that where the spike is slightly withdrawn by the spring of the rail, it must also be driven back again the next time a train passes, and can never be worked out by this motion. Not being liable to be withdrawn, as described, the spike does not need to be so long, and the material thus saved will about equal the extra amount in the head. The device will therefore cost no more to form than that in ordinary use, and is much safer and better.

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

A railroad-spike formed with the groove or depression *c*, and inclined or wedge back *e*, substantially as and for the purpose set forth.

In testimony whereof I affix my signature in presence of two witnesses.

WILLIAM J. MORDEN.

Witnesses:

FRANK JOHNSON,

J. E. STEVENSON.