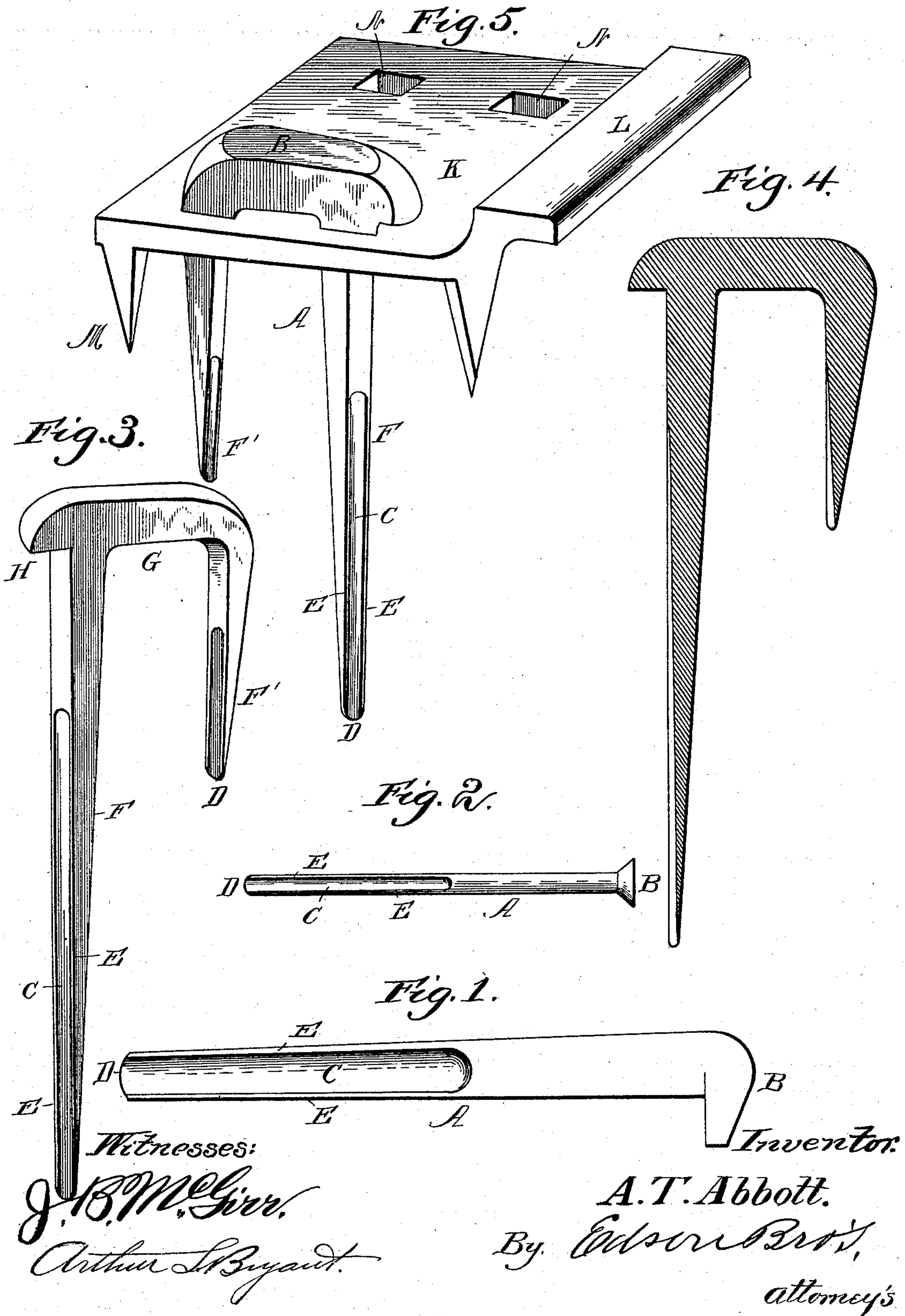


(No Model.)

A. T. ABBOTT.
NAIL OR SPIKE.

No. 505,743.

Patented Sept. 26, 1893.



UNITED STATES PATENT OFFICE.

ALFRED THOMAS ABBOTT, OF NEW YORK, N. Y.

NAIL OR SPIKE.

SPECIFICATION forming part of Letters Patent No. 505,743, dated September 26, 1893.

Application filed June 24, 1892. Serial No. 437,847. (No model.)

To all whom it may concern:

Be it known that I, ALFRED THOMAS ABBOTT, a citizen of the United States, residing at New York, in the county of New York and State of New York, have invented certain new and useful Improvements in Nails or Spikes; and I do hereby declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to improvements in nails and spikes, and the primary object of the invention is to provide a nail or spike which can be driven through or into the hardest wood, or used to connect two pieces of wood the grains of which cross each other, without danger of being bent or broken, or of splitting or splintering the wood.

A second object of my invention is to provide a nail or spike which will equally compact and press against the fibers of the wood throughout its length so as not to become loose and worthless in case it should be subjected to a slight longitudinal movement as is the case with the ordinary nail or spike having an angular tapering penetrating stem or shank.

A further object of my invention is to provide a spike which will hold with great tenacity and operate to prevent the rails of a track from spreading, especially on curves where the rails are subjected to increased lateral pressure, and which will not become loosened by the jarring and lateral thrusts to which they are subjected.

With these ends in view my invention consists in the peculiar construction and arrangement of parts as will be hereinafter fully pointed out and claimed.

In the accompanying drawings—Figure 1 is a side view of an ordinary spike constructed in accordance with my invention. Fig 2 is a similar view of a nail embodying my improvements. Fig. 3 is a perspective detail view of my improved railway spike. Fig. 4 is a longitudinal sectional view of the same; and Fig. 5 is a perspective view of the same used in connection with a rail retaining plate.

Like letters of reference denote corresponding parts in all the figures of the drawings, referring to which—

A designates the body of my improved nail or spike, which is made of any suitable material, preferably steel, and of the proper size; and it is provided at one end with a head B of any desired form.

The nail or spike A is made of equal diameter or size throughout its length and in one face thereof is formed a longitudinal groove C which increases in depth from its inner to its outer end. The lower or outer end of the groove C opens through the penetrating end of the nail or spike and forms a concave cutting edge D which extends continuously across the spike from side to side. The groove C is made of equal width throughout its length and thus forms two parallel side cutting edges E which extend from the concave cutting edge C to the inner end of the groove. The advantages of such a construction over the ordinary form of spike or nail provided with an angular tapering penetrating stem or shank will be readily apparent.

In driving a nail or spike constructed in accordance with my invention, the concave cutting edge D cuts its way into the wood the full width of the nail or spike, and also cuts the grain of the wood at an oblique angle according to the size and depth of the groove C.

A nail constructed as herein described and shown, will take a firmer hold in the wood and retain it better than the tapering nails in use because, as the nail is of equal width, the fibers of the wood will be compressed equally throughout the length of the nail and it can be moved longitudinally without becoming loose, whereas if a bevel or tapered nail is moved longitudinally the slightest distance it loses its hold on the wood completely.

A nail constructed as herein described can be driven with much less force by reason of its cutting the grain of the wood diagonally or obliquely instead of square across as a wedge pointed nail does.

In Figs. 3 to 5 inclusive, of the drawings I have illustrated a railroad spike constructed in accordance with my invention.

My improved railroad spike consists of two parallel stems or shanks F, F', which are connected or braced at their upper ends by an arch or bridge piece G which arch extends slightly beyond the main stem F of the spike

to form an overhanging lip or flange H. The main stem F is made of greater length than the auxiliary stem F' and in the front face of each of said stems or shanks is formed a longitudinal groove C similar to that hereinbefore described in connection with the nail or spike illustrated in Figs. 1 and 2. The rear faces of the stems or shanks F, F', are made perfectly flat and smooth, as shown, so that when the spike is driven into a tie the rear flat faces of the stems or shanks F, F', abut or bear squarely against the ends of the grain and take a firm, solid and substantial hold. The top surface of the connecting piece G is made flat to facilitate the driving of the spike.

If desired the spikes can be used in connection with a rail retaining plate K which is provided at one edge with a projecting flange L adapted to take over the foot of a rail and on its under side with a series of securing teeth M, by means of which and the spike it can be firmly secured in position on a tie.

In the main body of the rail retaining plate K are formed apertures N separated or spaced apart sufficient to receive the main and auxiliary stems or shanks F, F', respectively, of the spike.

When the stems of the spike are inserted through two of the openings N in the plate K and said stems and the teeth M driven firmly into the tie, the flange L is forced close against the side of the rail and the latter held firmly in position.

The stems of the spike take a firmer hold on the wood than the ordinary form of spike and said stems will not become loosened by the jarring or lateral pressure on the rails

while the plate L will effectually prevent any spreading of the rails of the track.

The bridge connecting the main and auxiliary stems of the spike enables a person to readily withdraw the spike from the tie by inserting the claw of a crow bar thereunder.

I am aware that changes in the form and proportion of parts and details of construction of the devices herein shown and described as an embodiment of my invention can be made without departing from the spirit or sacrificing the advantages thereof, and I therefore reserve the right to make such changes as fairly fall within the scope of the same.

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

1. A rail retaining plate, K, provided on its under side with a series of attaching teeth, M, and, at one side, with a laterally projecting rail flange L, which flange extends the entire length of the plate and lies in a plane above the body of the plate, K, and the aligned sets of apertures substantially as described.

2. The combination with a two pronged spike, of a retaining plate, K, provided at one side with a laterally projecting rail flange, L, and having two aligned apertures, N formed therein and spaced apart sufficiently far to receive both prongs of the spike, substantially as and for the purpose described.

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

ALFRED THOMAS ABBOTT.

Witnesses:

RICHARD PARKER,
JAMES MORTON.