(No Model.)

C. E. SEYMOUR.

SPIKE.

No. 449,705. Patented Apr. 7, 1891.

Fig. 1.

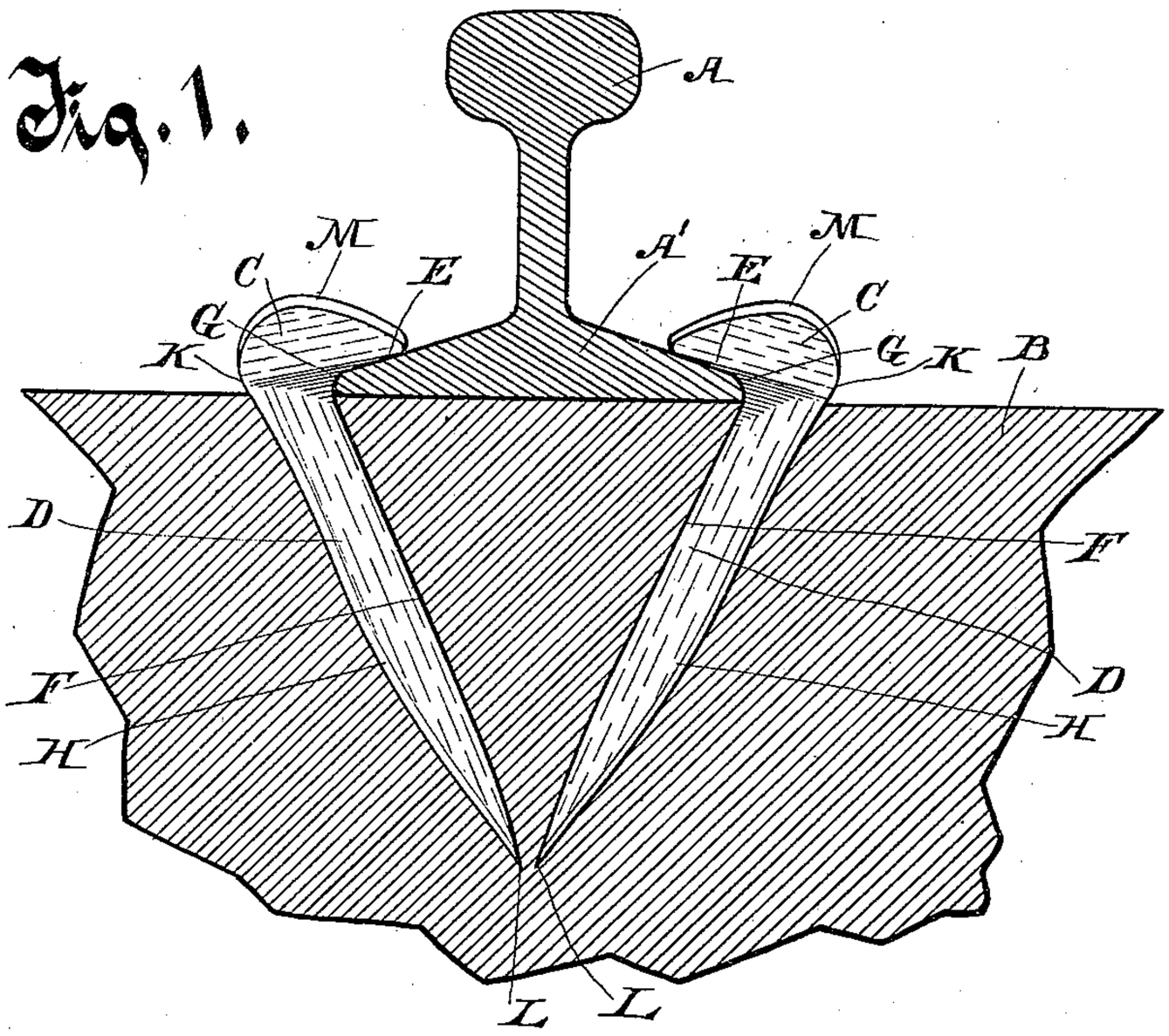


Fig. 2

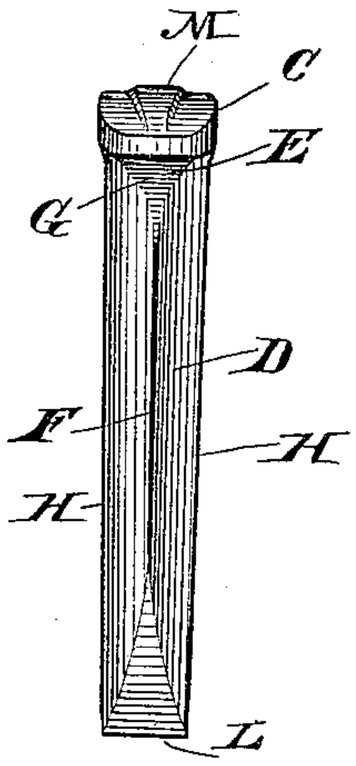


Fig. 4.

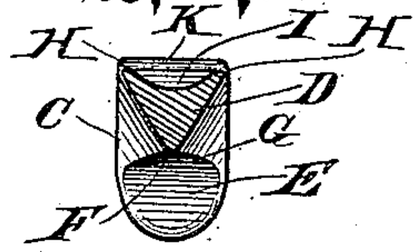
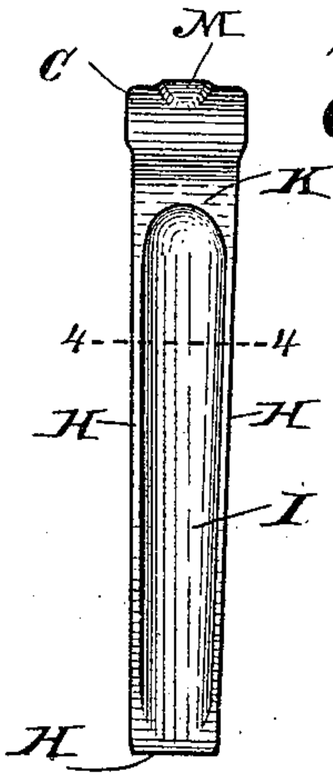


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

CHARLES E. SEYMOUR, OF HURLEY, WISCONSIN.

SPIKE.

SPECIFICATION forming part of Letters Patent No. 449,705, dated April 7, 1891.

Application filed June 7, 1890. Serial No. 354,559. (No model.)

To all whom it may concern:

Be it known that I, CHARLES E. SEYMOUR, of Hurley, in the county of Ashland and State of Wisconsin, have invented a new and useful Improvement in Spikes, of which the following is a description, reference being had to the accompanying drawings, which are a part of this specification.

The object and result of my invention are to provide a spike having a sharp or chisel edge adapted to enter a tie at right angles to the grain and cut the fiber; that when driven into the tie will enter it in a diagonal direction; that will hold the fiber at the surface of the tie down in its normal position, and will not splinter it or force it outwardly, exposing a ragged edge of the fiber; that will lie flat against and clamp the base of the rail, and that has the maximum amount of strength for the weight of the material used.

Figure 1 shows two of my improved spikes in connection with a rail and tie, the rail and tie being shown in vertical section. Fig. 2 is a front elevation of my complete device. Fig. 3 is a rear elevation of the same device. Fig. 4 is a transverse section on line 4 4 of Fig. 3.

A is an ordinary railroad-rail, having a downwardly and outwardly inclined base A′.

B is a tie on which the rail is supported, the tie being constructed of wood, and arranged at right angles to the rail, so that the fiber or grain of the tie runs at right angles to the rail, or from one side to the other of the drawings.

The spike is formed with a head C and a shank D. The head C of the spike projects beyond the front of the shank, and is so formed that its inner lower surface E is at an angle somewhat less than a right angle to the line of the inner edge F of the shank. The inner surface E of the head of the spike has such sufficient width laterally as to give ample bearing on the inclined surface of the base A′ of the rail, and this laterally-extending surface is carried down a little on the shank, forming a broad bearing G at the top of the shank on its front edge adapted to bear against the edge of the base of the rail. From the broad bearing G downwardly to near the lower end of the spike there is a straight or nearly straight thin edge F. From the thin edge F the shank widens rearwardly, being beveled outwardly on both sides thereof to the rear outer edges H H, forming a shank which in general outline is in transverse section nearly an equilateral triangle, as shown in Fig. 4. The rear of the shank is hollowed out longitudinally, as seen at I, thereby saving material without lessening the strength of the shank, and at the same time forming a channel into which the ends of the cut-off fiber of the tie at the rear of the spike is received as the spike is being driven, which fiber at the outer surface of the tie, as the spike comes to its seat against the base of the rail, bears against the upper rear flat part K, and is thereby held firmly down, as the spike stands at an incline thereto, whereby the fiber is held compactly together, and is not thrown upwardly and outwardly in a splinter or furred-up mass, as is common in connection with the use of spikes of the ordinary form. At the lower end of the shank the rear edges H H are beveled off or carried forward toward the front, and the lower edge of the inner edge F is beveled off slightly rearwardly, forming a transverse chisel-edge L. The inclination or bevel of the rear edges H H forwardly to the edge L is considerably greater than the rearward inclination or bevel of the edge F toward the edge L, whereby as the spike is driven into the tie the greater wedge-shaped bearing of its rear surface forces its sharp end toward the front, so that the spike will take the direction and come to its seat in the position shown in Fig. 1. This inwardly-inclined direction taken by the spike in driving is also assisted by the fact that the front edge F of the shank is a sharp edge, while the rear has a broad bearing between the edges H H adapted to force it toward its front. This construction also tends to keep the spike close to the base of the rail while it is being driven and brings it snugly to and upon the base of the rail when it comes to its seat. It will also be understood that the spikes are usually driven into the tie in pairs on opposite sides of the rail, and it will be seen that when my improved spikes are so arranged and driven into a tie the extremities of the shanks will come near together beneath the rail centrally, and that in such po-

sition they will so grip the fiber of the tie as to hold the rail firmly thereto, being by their construction and position in the tie capable of resisting much more effectually than a spike driven perpendicularly into the tie is the spring or vertical lift of the rail. The hollow I in the back of the shank beside saving material, which is used to broaden the spike and form the edges II H, also gives a form to the spike that is adapted to prevent its twisting while being driven into the tie. A small rib or bearing M is preferably thrown up on the top of the head for strengthening it and for receiving the blows of the driving instrument thereon.

What I claim as new, and desire to secure by Letters Patent, is—

A spike formed with a head and a shank, the head having its inner lower face set at an angle less than a right angle to the front surface of the shank, the shank having a narrow front edge and a laterally-extending chisel-point, and a broad rear surface beveled at its outer end to the chisel-edge, the bevel at the rear of the chisel-edge being greater than the bevel in its front, substantially as described.

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

CHARLES E. SEYMOUR.

Witnesses:
LOUIS SCHINTZ,
J. W. HAMMOND.