

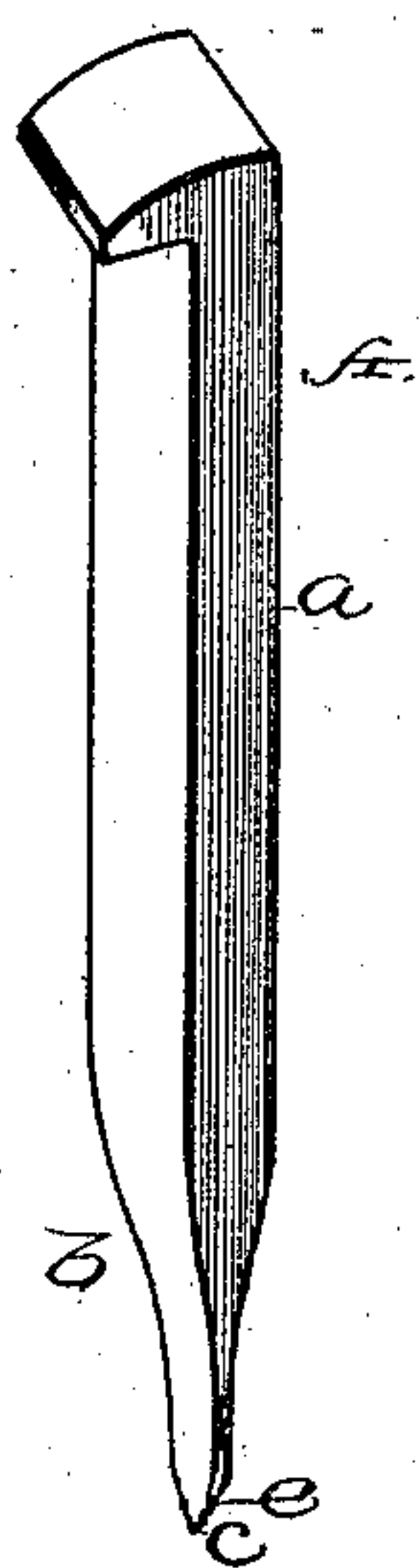
(No Model.)

W. GOLDIE.  
RAILWAY SPIKE.

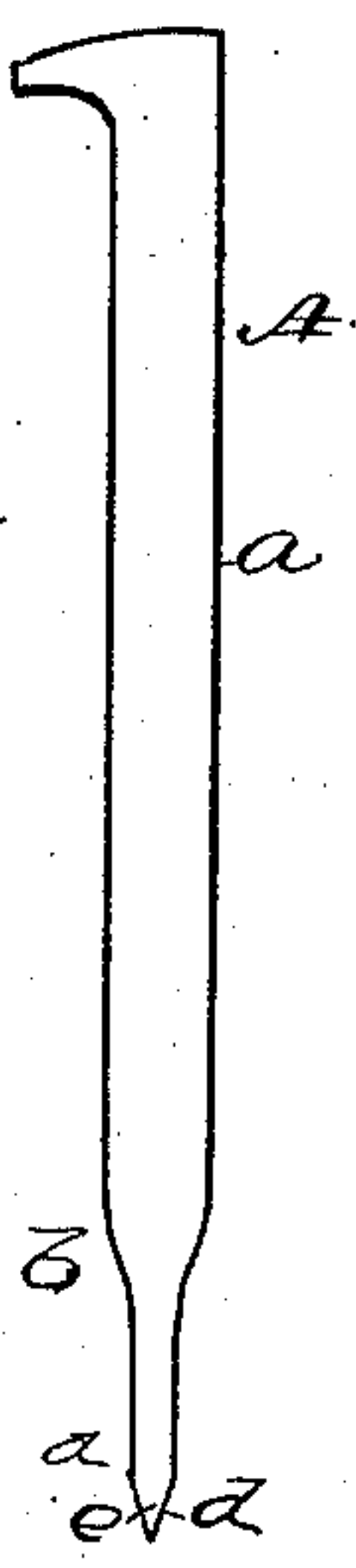
No. 300,066.

Patented June 10, 1884.

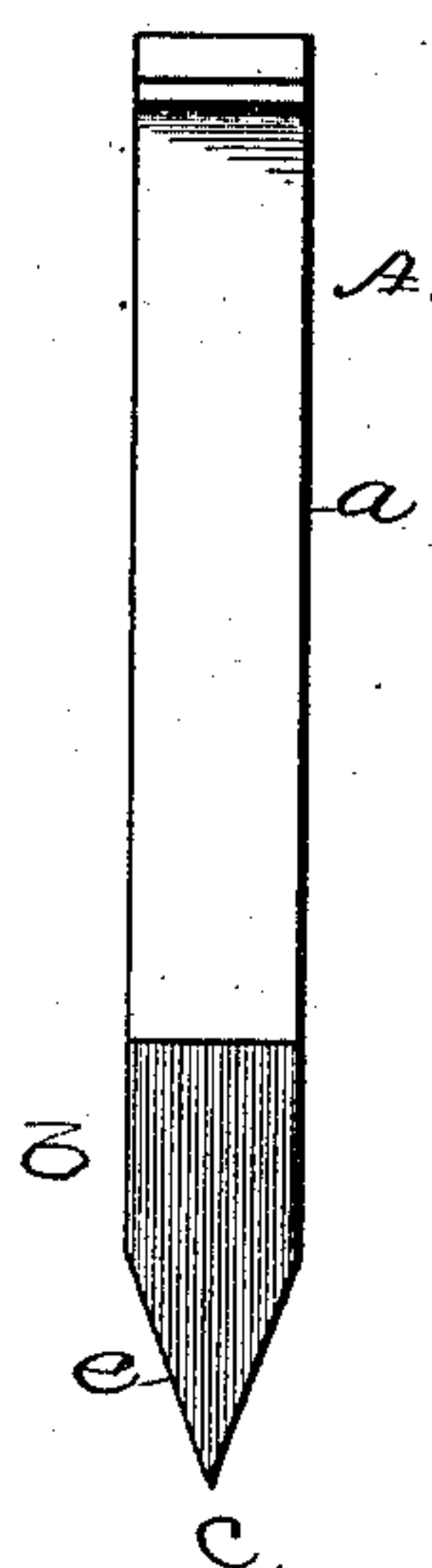
*Fig. 1.*



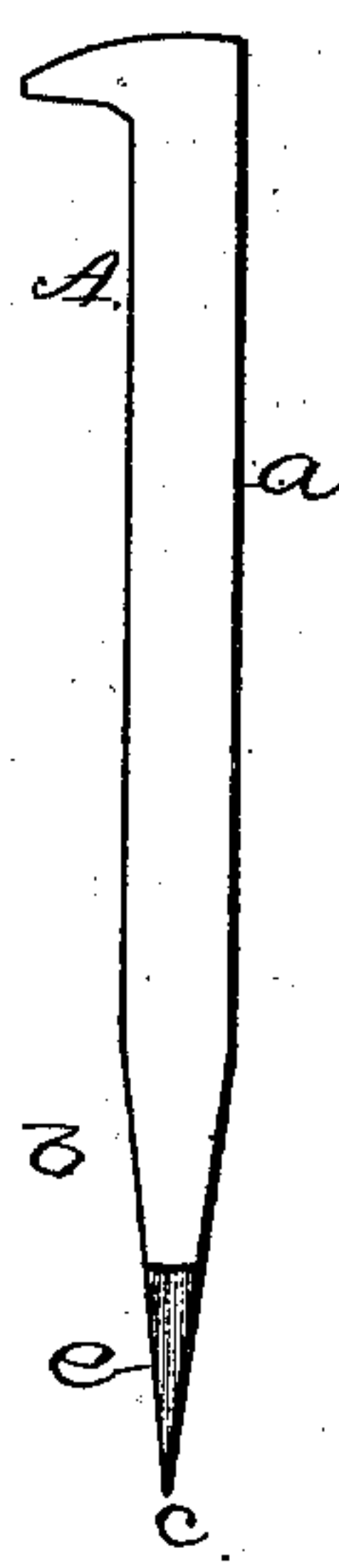
*Fig. 2.*



*Fig. 3.*



*Fig. 4.*



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# UNITED STATES PATENT OFFICE.

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## RAILWAY-SPIKE.

SPECIFICATION forming part of Letters Patent No. 300,066, dated June 10, 1884.

Application filed December 31, 1883. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM GOLDIE, a citizen of the United States, residing at West Bay City, in the county of Bay and State of Michigan, have invented certain new and useful Improvements in Railway-Spikes, of which the following is a specification, reference being had therein to the accompanying drawings.

10 My invention relates to an improvement in spikes for securing railway-rails to the ties or sleepers; and the object of the invention is to improve the construction of the point, so as to give it great penetrating power, and at the same time enable it to form a clean and comparatively smooth opening in the wood. A further object is to lessen the cost of manufacture, and so produce a cheaper spike.

20 In Letters Patent No. 278,428, granted to me May 29, 1883, I described and showed a spike with a body of greater area in cross-section at the upper end than at the lower, inclined compressing-surfaces between the upper and lower part, and a lance-shaped point with two sharp cutting-edges.

25 My present invention is particularly adapted to be used in connection with the form of spike above mentioned; but use is not confined to that connection, and it may be employed in any chisel-pointed spike.

30 The invention consists, essentially, of a spike of oblong cross-section and a peculiar tapering point, also of oblong cross-section, and having inclined sides, forming a narrow wedge; further, in combining with a spike having a narrow supplementary lower portion, a relatively thick upper portion, and connecting inclined compressing-surfaces, a point having inclined sides of varying area; and, further, 40 in details of construction fully hereinafter described.

45 In the drawings accompanying this specification, Figure 1 is a perspective view, and Fig. 2 an elevation, of the spike illustrated in my aforesaid patent with my improved point. Figs. 3 and 4 represent in front and side elevation an ordinary railway-spike with my improved point.

50 Referring to Figs. 1 and 2, A represents a spike constructed substantially in accordance

with my Letters Patent before referred to. The main portion *a* of the spike is of oblong cross-section, with parallel sides, and these sides being respectively about three-fourths of an inch and half an inch in width. At a suitable distance above the point the broader sides incline or converge, forming compressing-surfaces *b b*. The portion of the spike just below these inclines is therefore greatly reduced in thickness, though the parallelism 60 of the sides is still preserved. The point *c* is formed by beveling off the four sides of this reduced portion, producing a rectangular point having four inclined sides, *d d e e*, the sides *d d* being of greater area than the sides *e e*. 65 The sides *e e* may be formed from the ordinary chisel-point by clipping the corners, as shown in Figs. 3 and 4. The spike is driven into the wood so that the smaller sides *e e* are brought in contact with the side grain of the 70 wood. The part that operates as a wedge to split the wood is thus of very small extent, and the narrow inclined sides *e e*, by their shape, prevent the tearing and mutilation of the wood caused by the right-angled corners 75 of the ordinary chisel-point. After the point has been driven in, the pressure changes as the compressing-inclines on the broad sides of the spike enter and are brought in contact with the end grain. The spike is thus held by 80 pressure in both directions.

There are several important advantages gained by using a point of the form described. First, the shape of the spike is such that a small hole is formed in line with the grain of 85 the wood, which is gradually expanded as the broader portion is driven in, so that there is pressure upon all sides of the spike, but by far the greater portion by the end grain upon the broader side of the spike; further, when 90 the ties are of soft wood, the fibers are carried down and crushed by the corners of an ordinary wedge-point until they pack with sufficient tightness, and on a repetition of the operation they are cut and mutilated, destroying 95 the wood and permitting the spike to yield readily to lateral pressure. My construction obviates all this, as the fibers are not carried down and crushed, but are simply pushed aside, forming solid straight walls of com- 100



pressed wood, which bear firmly upon the spike.

Having described my invention, I claim—

5 In a railway-spike having a main portion, *a*, and compressing-inclines, a supplemental portion of reduced rectangular cross-section, and a point formed by beveling toward a common center the sides of the reduced portion, substantially as described.

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

WILLIAM GOLDIE.

Witnesses:

L. M. WATERS,

F. L. WANDS.