

No. 630,049.

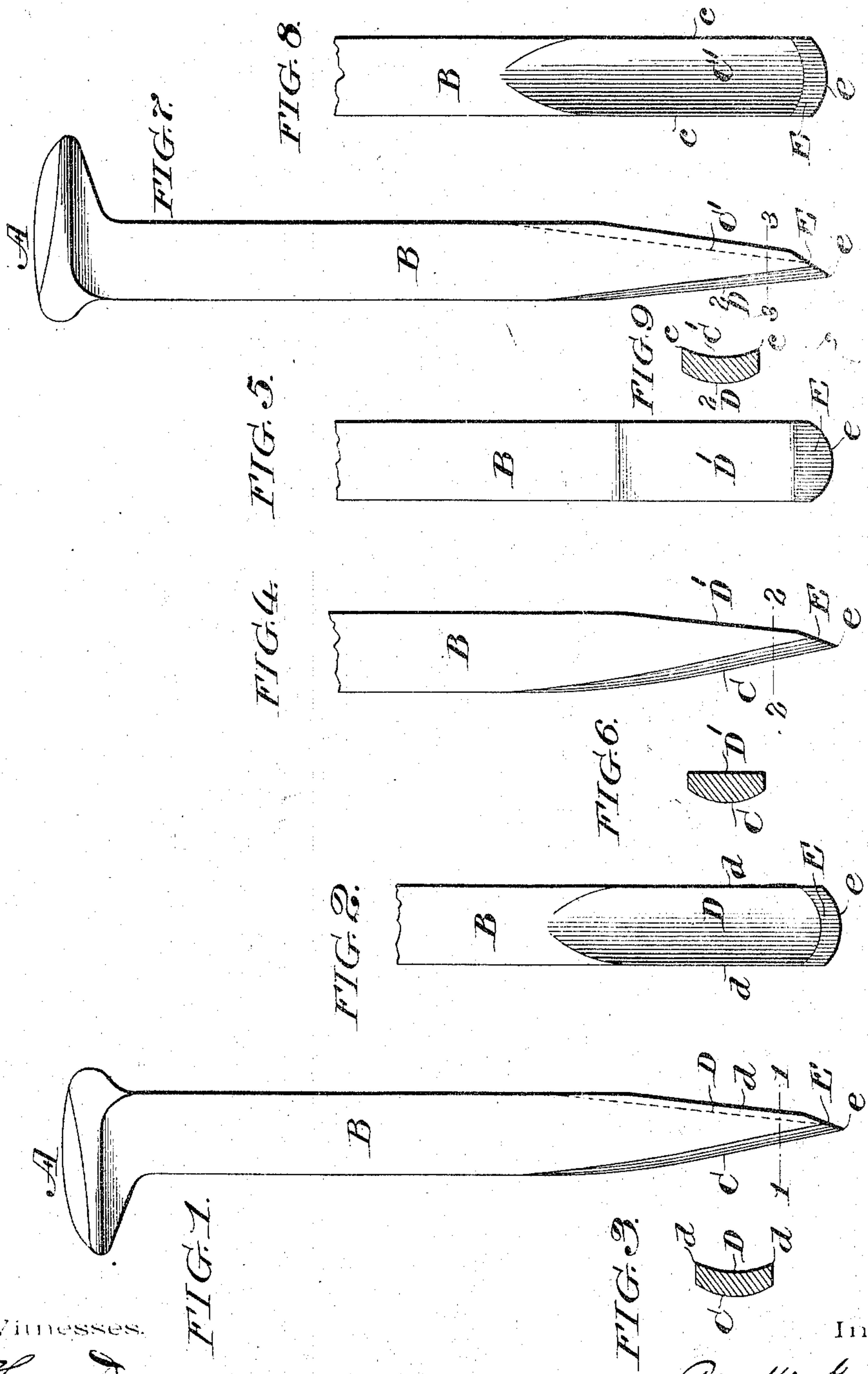
Patented Aug. 1, 1899.

A. W. GRIFFITH.
SPIKE.

(Application filed Aug. 12, 1898.)

(No Model.)

2 Sheets—Sheet 1.



Witnesses.
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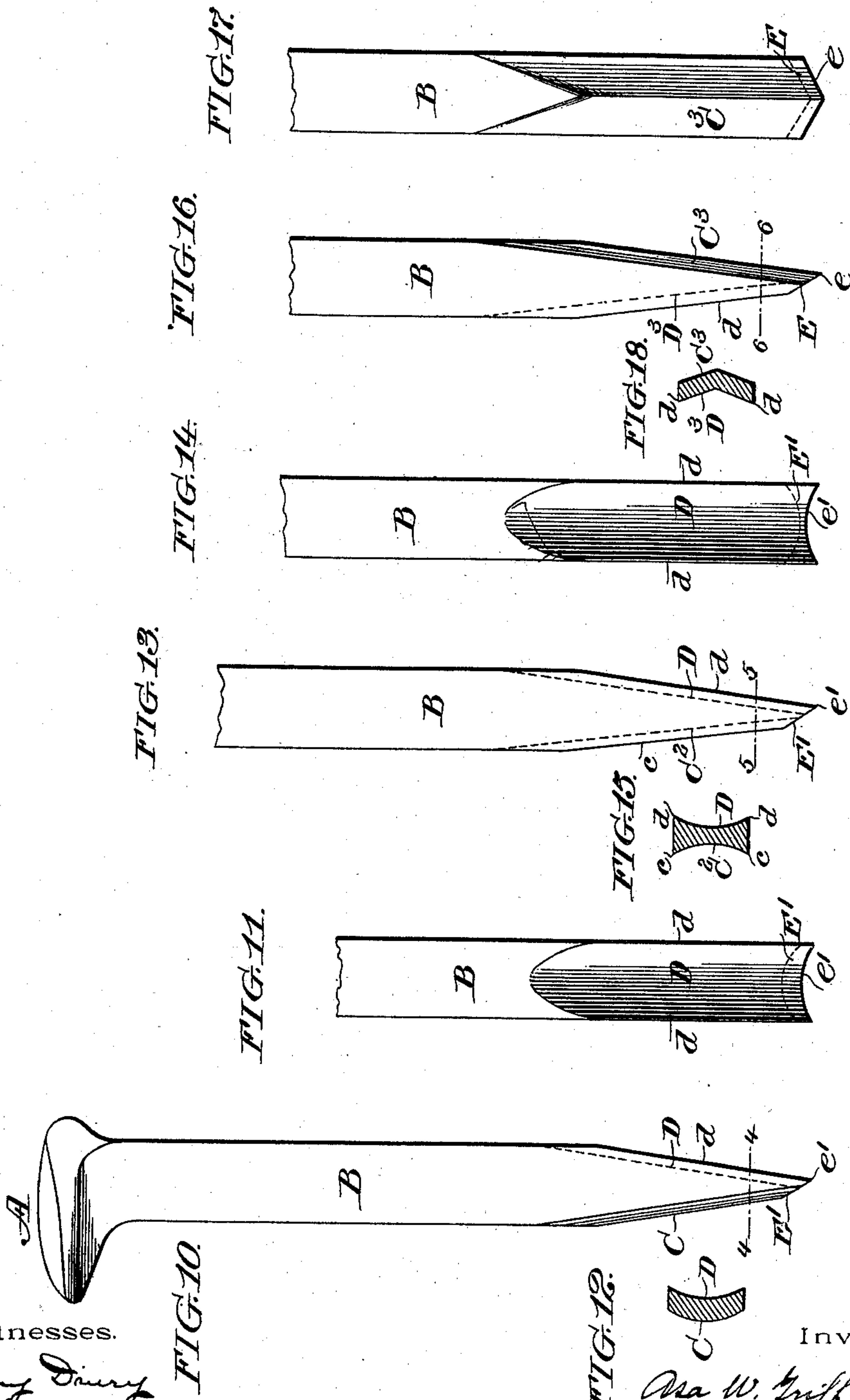
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Witnesses.

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UNITED STATES PATENT OFFICE.

ASA W. GRIFFITH, OF WILMINGTON, DELAWARE, ASSIGNOR TO THE
DIAMOND STATE IRON COMPANY, OF SAME PLACE.

SPIKE.

SPECIFICATION forming part of Letters Patent No. 630,049, dated August 1, 1899.

Application filed August 12, 1898. Serial No. 688,418. (No model.)

To all whom it may concern:

Be it known that I, ASA W. GRIFFITH, a citizen of the United States of America, residing in Wilmington, in the county of New Castle, in the State of Delaware, have invented a certain new and useful Improvement in Spikes, of which the following is a true and exact description, reference being had to the accompanying drawings, which form a part thereof.

My invention relates to the construction of the points of spikes, and is especially designed for what are known as "railroad-spikes," though adapted also for use in other forms of spike.

In designing my new spike-point I have had several objects in view, among which may be noted the following: to provide a spike with a knife-like cutting edge running in whole or in part diagonally to the center line of the spike and preferably formed flush with one of the compressing-bevels of the spike without forming as an incident to such diagonal edge oblique bevels; to provide on the edges of one or both of the compressing-bevels, particularly on the edge of the rear compressing-bevel, relatively sharp corner edges, which will tend to sever the fiber as it is pushed forward by the entering spike-point and prevent its tearing, and to provide a spike-point with a sharp diagonal cutting edge formed by the intersection of a straight cut made in a plane lying at an acute angle to the bevel in which the cutting edge is to be formed, with a curved or angular compressing-bevel, preferably with a convexly curved or angled bevel.

Other features of my improved construction will be best understood as described in connection with the drawings, in which—

Figure 1 is a side view of a spike embodying my invention in what I believe to be its best and most convenient form. Fig. 2 is a rear view of the spike-point, and Fig. 3 a cross-section on the line 1 1 of Fig. 1. Fig. 4 is a side view of a modified form of point shown in rear view in Fig. 5 and in cross-section on the line 2 2 of Fig. 4 in Fig. 6. Fig. 7 is a side view of still another modification, Fig. 8 being a front view of this form of point and Fig. 9 a cross-section on the line 3 3 of

Fig. 7. Fig. 10 is a side elevation of another modification, this form of point being shown in rear view in Fig. 11 and in cross-section on the line 4 4 of Fig. 10 in Fig. 12. Fig. 13 is a side view of another modification of my point shown in rear view in Fig. 14 and in cross-section on the line 5 5 of Fig. 13 in Fig. 15. Fig. 16 is a side view of still another modification of my point shown in front view in Fig. 17 and in cross-section on the line 6 6 of Fig. 16 in Fig. 18.

A, in Figs. 1, 7, and 10, indicates the head of the spike; B, in all the figures, the usual rectangular body of the spike.

C, Figs. 1, 2, and 3, indicates the front compressing-bevel, which is here shown as convexly curved, merging gradually into the face of the spike-body. D in the same figures indicates a rear compressing-bevel, here shown as concavely curved and merging gradually into the rear face of the spike-body. The convex curvature of the bevel D extends, as shown, to the extreme corner edges of the spike, forming along these corner edges and in line with the corner edges of the spike-body relatively sharp cutting edges, (indicated at *d d*.)

E is an intersecting cut lying in a plane forming in Figs. 1, 2, and 3 an acute angle with the front compressing-bevel C and producing by its intersection with the said front compressing-bevel the convexly-curved diagonal cutting edge *e*.

In Figs. 7, 8, and 9 I have illustrated the construction of a spike-point in which the curvature of the compressing-bevel is reversed from that indicated in Fig. 1 and in which the diagonal cutting edge is formed in the rear compressing-bevel instead of the front compressing-bevel. In this construction the convex rear compressing-bevel is indicated at C'. The sharp cutting edges here formed on the front of the spike are indicated at *c c*.

In Figs. 4, 5, and 6 I have shown the spike-point as having the convexly-curved front compressing-bevel C, but a plane rear compressing-bevel, (indicated at D'.) The form of the cutting edge of the spike produced by an intersecting cut E is the same as Fig. 1; but the point as a whole is thicker at the

outer end than in the modification shown in Figs. 1 and 7, and it is without the sharp corner cutting edges on either face.

In the modification shown in Figs. 10, 11, 5 and 12 the form of the compressing-bevels is the same as in Fig. 1; but the intersecting sharpening cut, here indicated at E' , is formed at an acute angle to the concave rear bevel D , the result being the formation of a concave 10 cutting edge (indicated at e') lying, as shown, in the rear compressing-bevel of the spike.

In Figs. 13, 14, and 15 I have shown a modification in which the spike is formed with a concave rear bevel D and also provided with 15 a concave front bevel, here indicated at C^2 . The intersecting cut E' in this construction forms a concavely-curved edge e' , as in the case of Fig. 10.

In Figs. 16, 17, and 18 I have shown a construction similar to that of Figs. 1, 2, and 3, 20 except that the front and rear bevels, here indicated at C^3 and D^3 , are pressed to angular convex and concave form instead of curved sections, the result being, as shown, that the 25 intersecting cut E forms angular instead of curved cutting edges, as indicated at e .

The particular advantage of my new spike in all of its modifications is that it provides for diagonal cutting edges at the end of the 30 spike without requiring as an incident to the presence of such cutting edge oblique facets or compressing-bevels—such, for instance, as are shown in the patent to Goldie, No. 394,113, of December 4, 1888. It is also obvious that 35 my invention adapts itself to the production of a slender wedge-like point on the spike, and also in my preferred construction, involving the use of a compressing-bevel extending to the extreme corner edges of the spike, that 40 I secure relatively sharp cutting edges coincident with the corners of the spike, which will have to a greater extent than heretofore a tendency to cut the fiber of the wood, which at this point is necessarily displaced, prevent- 45 ing either the drawing in of fiber which should lie against the side of the spike or pushing out laterally the fiber which should lie against the front and rear of the spike. The most pronounced advantage of this feature of construction is of course obtained in the modification illustrated in Figs. 13, 14, and 15; but I prefer to provide the spike with a convex 50 cutting edge, and therefore to use a spike-point having one concave and one convex compressing-bevel, as indicated in Figs. 1, 7, 55 and 16, and on the whole prefer to make the front compressing-bevel convex and the rear compressing-bevel concave, as indicated in

Fig. 1, thus obtaining the sharp cutting edges a on the edge of the spike, where I find them 60 to be most serviceable.

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

1. A spike having two compressing-bevels 65 one of which is of curved form in cross-section and a curved cutting edge formed in said curved bevel by a straight cut across the point of the spike in a plane intersecting both compressing-bevels and forming an acute angle 70 with said curved bevel.

2. A spike having two compressing-bevels one of which is of convex form in cross-section and a convexly-curved cutting edge 75 formed in said convex bevel by a straight cut across the point of the spike in a plane intersecting both compressing-bevels and forming an acute angle with said convex bevel.

3. A spike having compressing-bevels, one convexly and the other concavely curved in 80 cross-section and a curved cutting edge formed in one of said bevels by a straight cut across the point of the spike in a plane forming an acute angle with said bevel.

4. A spike having compressing-bevels, one 85 convexly and the other concavely curved in cross-section and a convexly-curved cutting edge formed in the convex bevel by a straight cut across the point of the spike in a plane forming an acute angle with said bevel. 90

5. A spike having one of its compressing-bevels pressed to a concave cross-section merging into the plane of the corresponding face of the spike and with sharp corner edges in line 95 with the corner edges of the spike-body, its other or second compressing-bevel of curved cross-section and a curved cutting edge formed in said second bevel by a straight cut across the point of the spike in a plane forming an acute angle with the curved second 100 bevel.

6. A spike having one of its compressing-bevels pressed to a concave cross-section merging into the plane of the corresponding face of the spike and with sharp corner edges in 105 line with the corner edges of the spike-body, its other or second compressing-bevel of convexly-curved cross-section and a convexly-curved cutting edge formed in said convex bevel by a straight cut across the point of the 110 spike in a plane forming an acute angle with the said convex bevel.

ASA W. GRIFFITH.

Witnesses:

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CHARLES W. GOODING.