

C. F. HOWES.  
Telegraph Poles.

No. 135,429.

Patented Feb. 4, 1873.

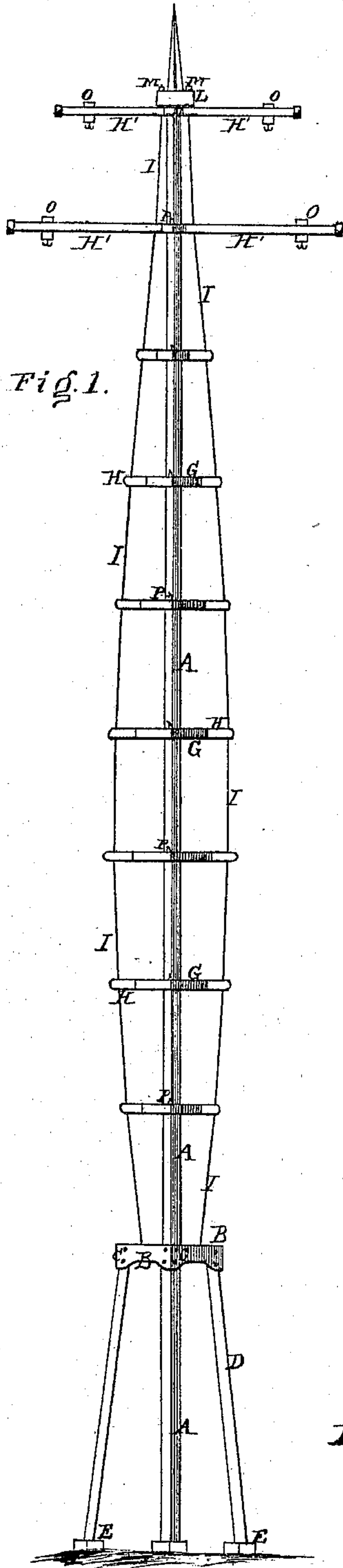


Fig. 1.

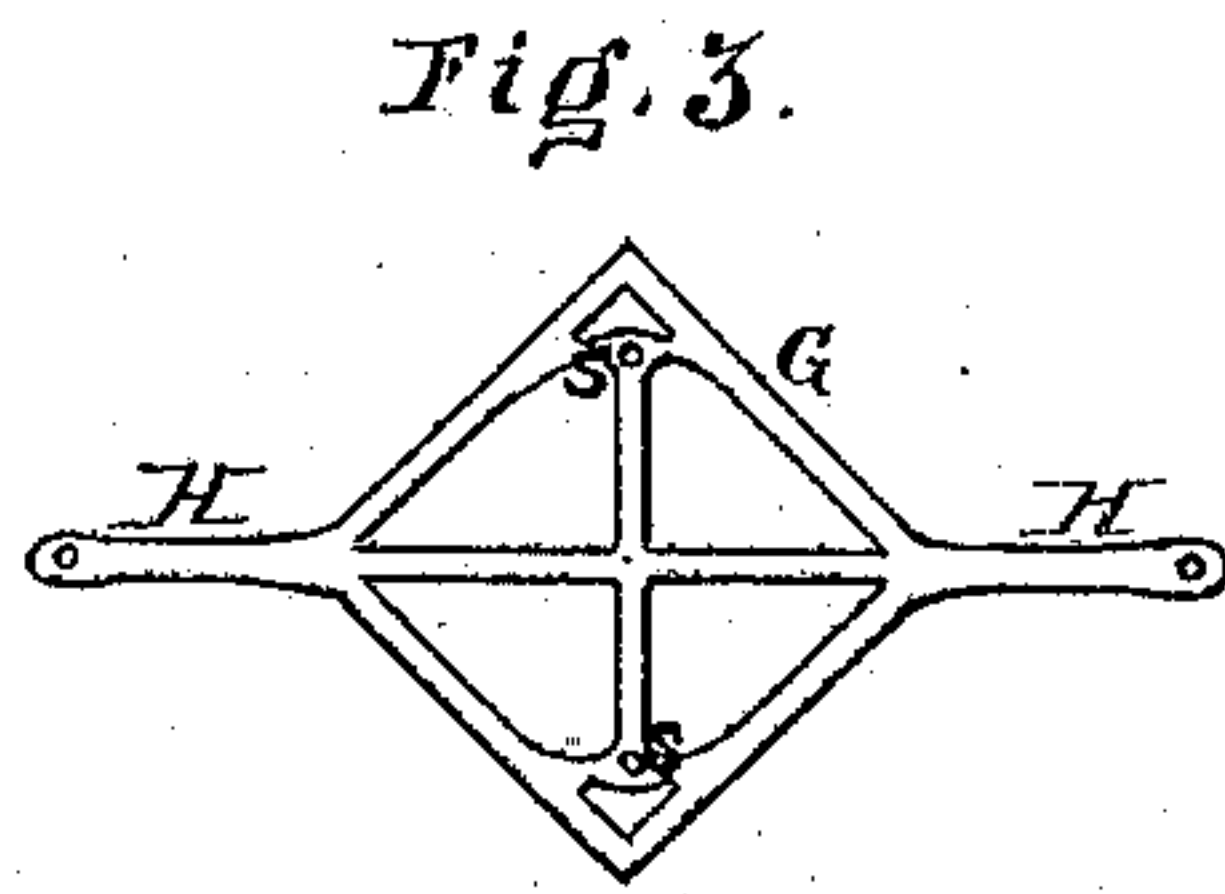


Fig. 3.

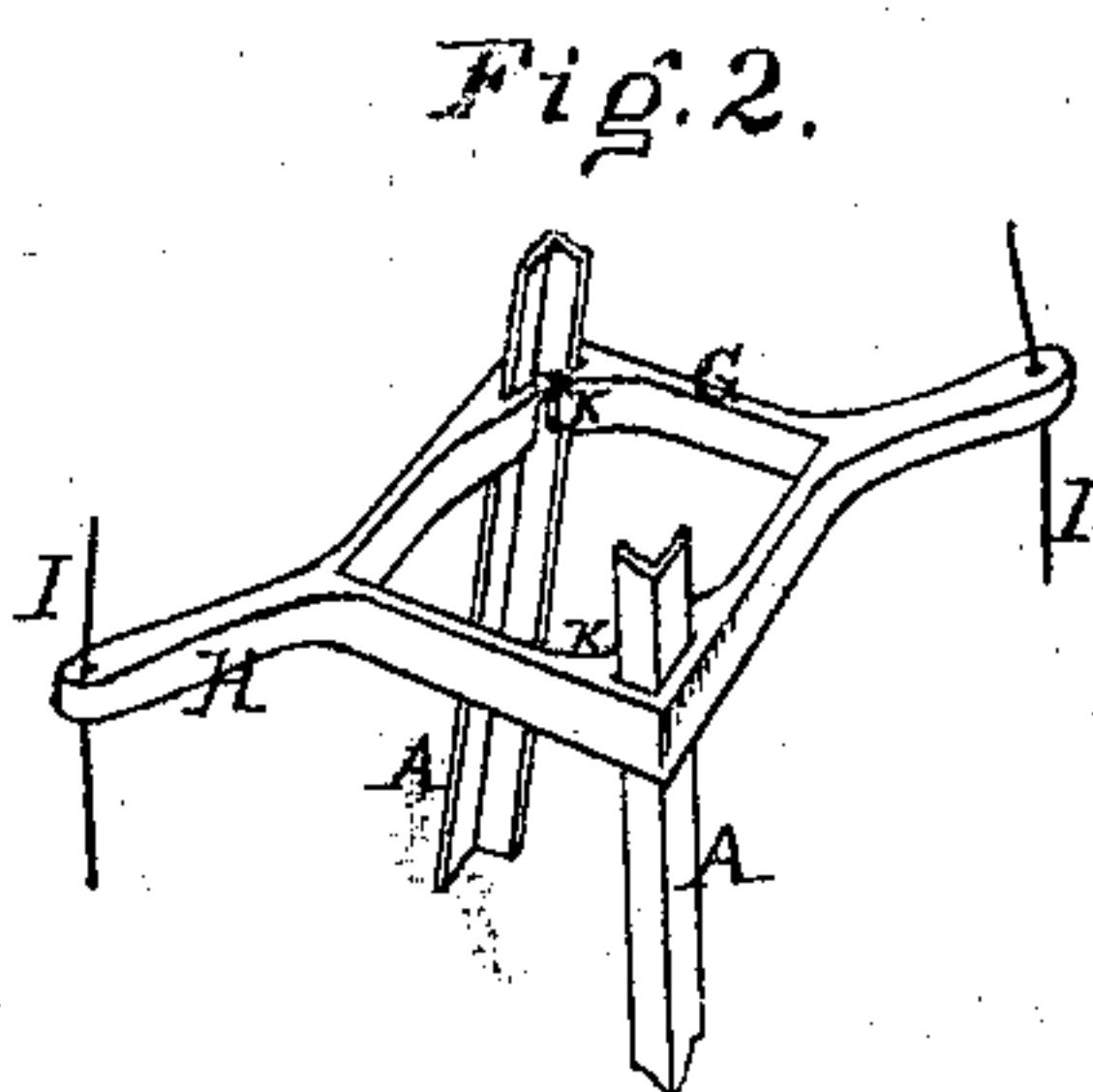


Fig. 2.

Witnesses  
Geo. R. Patterson  
Andrew Zane

Inventor,  
Charles F. Howes.  
per George E. Duckley  
att'y.

# UNITED STATES PATENT OFFICE.

CHARLES F. HOWES, OF PHILADELPHIA, PENNSYLVANIA, ASSIGNOR TO  
HIMSELF AND RYLAND W. HOWES, OF BOSTON, MASSACHUSETTS.

## IMPROVEMENT IN TELEGRAPH-POLES.

Specification forming part of Letters Patent No. 135,429, dated February 4, 1873.

*To all whom it may concern:*

Be it known that I, CHARLES F. HOWES, of Philadelphia, State of Pennsylvania, have invented certain new and useful Improvements in Telegraph-Poles; and I do hereby declare the following to be a full, clear, and exact description of the same.

• My invention consists of a telegraph-pole, formed of two or more uprights or strips of iron, steel, or wood, supported or strengthened by tension-wires attached to the pole in the direction of its length and held apart by struts or their equivalents. Also, in combination with two or more uprights of a telegraph-pole, bands having projections to support and hold apart the tension-wires forming struts, the upright strips serving the double purpose of bracing the pole in an upright position and stiffening it between its base and apex, and the tension-wires serving to so stiffen it in the other direction.

In the accompanying drawing, Figure 1 is an elevation of a pole formed of two strips of angle-iron converging to a point at the top with two tension-wires, one on each side, held apart by short horizontal struts; Fig. 2, a detached perspective view of a part of Fig. 1, showing the two angle-iron strips and the position of the tension-wires held apart by the short struts; Fig. 3, a plan, showing one of the struts detached, having two holes, S, for the passage of tension-wires L, the wires being on the inside of upright strips A.

To enable others skilled in the art to make and use my invention, I will describe its construction and operation.

A A are upright strips of angle-iron, standing apart at the bottom and converging toward the top of the pole. B is a base-band or ring through which the strips A pass to the stone or other foundation—these strips A being riveted or bolted to band B at the points of contact C. D are supporting-strips passing from the band B to the foundations E. E are stone blocks into which the ends of strips A and D are set. G, bands or rings having projecting arms H forming struts to receive and hold apart the tension-wires I; also lips K to receive the angle-iron strips A. L is the cap through which the ends of the wires I and of the strips A pass; the ends of the wires are

secured in place and tightened up by means of a screw-thread and nuts, M, on the ends of the tension-wires I. H' are mere continuations of arms H lengthened to receive the insulators O. P are tongues or beards struck up with a chisel to prevent any slight slipping up of rings or bands G. The strips A, diverging from the top toward the bottom, form a brace to prevent the pole inclining either way, and stiffen it, and tension-wires or rods I brace and stiffen the pole in the other way, so that a very light pole can be made very strong. The lower ends of the tension-wires I are secured in the band B by a screw-nut and thread beneath; in the same manner they are secured at the top by nuts and threads M. There may be only one or more of bands G at a point or points between the base and top of the pole. These bands or struts I prefer to be made of malleable iron, and may have a bar or bars of iron crossing them diagonally to take part of the pressure off the periphery, as in Fig. 3. The number of struts or arms H and wires I may be increased or diminished according to the height of the pole; the higher the pole the greater number of struts and tension-wires should be used as the lateral strain on the pole is increased. The rings G on the iron strips A may be supported in place by any suitable device other than that shown; rivets, screws, or bolts would answer the purpose as well as the lips K, which latter, when used, may be tightened down by hammering.

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

1. A telegraph-pole formed of two or more uprights or strips, A, of iron, steel, or wood, supported or strengthened by tension-wires attached to the pole and held apart by struts G, or their equivalents, and arranged in relation thereto, substantially as described.

2. In combination, with two or more uprights, A, of a telegraph-pole, bands, or struts, G, having projections H, substantially as described.

CHARLES F. HOWES.

Witnesses:

ANDREW ZANE, Jr.,  
GEO. R. PATTERSON.