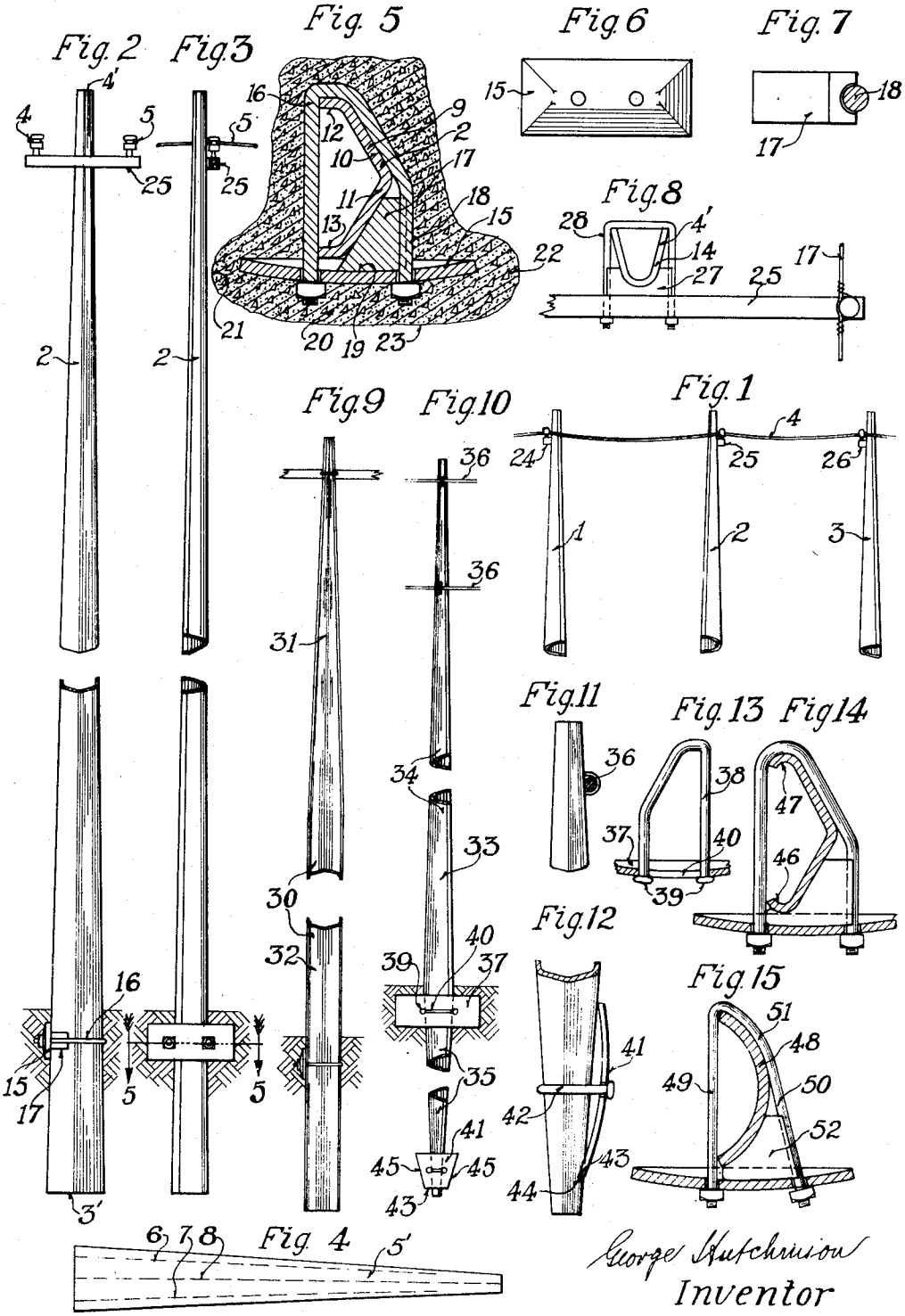
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POLE AND POST

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POLE AND POST

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This invention relates to poles, posts and the like.

In this specification, poles which occur in a straight run, or line, of poles, as distinguished from those which occur at angles or ends, are called line-poles.

In poles for carrying telegraph wires, for instance, it is usually desired that the strength of each line-pole shall be considerably greater in the direction crosswise of the wires than in the direction longwise of same. And similarly in wire fences, the strain of holding the wires taut is borne by the end posts, so that the line-posts need but little strength in said direction longwise of the wires, whereas they need much greater strength to resist the pushing of animals in the direction crosswise of the wires.

The present invention provides a novel pole or post made preferably of sheet metal, bent to a cross-section in the form of a wide-open trough, which shape gives great strength in proportion to the quantity of metal used, particularly in the direction crosswise of the pole line.

In so doing, the cross-section is comparatively narrow and sharp in said direction crosswise of the pole-line, whereby the pole is apt to cut its way through the earth in that direction, unless supplemented by side-plates or the like, to give increased area to bear against the earth. The invention accordingly provides novel means for attaching side-plates to the said narrow edge.

In the drawing:

Fig. 1 shows a line of poles, broken away.

Figs. 2 and 3 show a pole, as viewed, respectively, longwise of the pole line, and crosswise of same.

Fig. 4 shows, diagrammatically, the bending lines on a blank.

Fig. 5 is a cross-section on line 5—5 Fig. 3, showing attachment of side-plate to pole.

Fig. 6 is an elevation of a side-plate.

Fig. 7 is an elevation of a packing block.

Fig. 8 is a top view partly broken away showing attachment of cross arm.

Fig. 9 is a modification, showing a pole partly parallel and partly tapered, viewed longwise of the pole-line.

Fig. 10 is another modification, showing the invention as applied to a line-post for fencing. It is viewed crosswise of the fence-line.

Figs. 11 and 12 are enlarged, broken-away views of the upper and lower ends respectively of the fence-post, Fig. 12 showing attachment of toe-plate.

Fig. 13 is a detail of the strap as used with the fence-post.

And Figs. 14 and 15 are modifications of the cross-section of the pole.

Referring to the drawing:—

The direction of the pole-line is shown by the succession of line-poles 1, 2, and 3 in Fig. 1, and by the telegraph wires or cables 4 and 5, Figs. 1, 2, and 3, which wires follow the pole-line.

As shown in Figs. 2 and 3, the line-pole 2 is tapered uniformly from its butt 3' to its top 4'. The blank 5', Fig. 4, shows bending lines 6, 7, and 8. Along these bending lines the blank is bent to the cross-section 9 shown most clearly in Fig. 5, which section may be described as a trough, or as a wide-open V with inturned wings, such V having the arms 10 and 11, and having the inturned wings 12 and 13. Such wings are preferably parallel with each other, as there shown.

Viewing said trough or V-shaped cross-section 9 as a whole, it is specially to be noted that its width is substantially greater than its depth. Also that, when the pole is erected, the imaginary horizontal cross-line which joins the lips of the trough lies at a right angle to the pole-line.

Said cross-section 9, Fig. 5, continues in the same general shape throughout most of the length of the pole 2, notwithstanding the taper of the pole. Near the top of the pole, however, for convenience in manufacture, the wing-bends indicated by said lines 6 and 7, Fig. 4, may be allowed to disappear, whereby the top of the pole may degenerate into the narrower V- or U-shaped cross-section 14 shown in Fig. 8. Notwithstanding such change of shape at the top, the cross-section of the pole generally is that of a trough substantially wider than it is deep, as hereinabove described.

Referring to Figs. 2, 3, 5, 6, and 7:—

The side-plate 15 is held in place by the strap 16 in conjunction with the triangular packing block 17. Said strap is roughly in the form of a staple, embracing the V edgewise; and said block, fitting against said sloping arm 11 of the V, and against the leg 18 of said strap 16, and against the concave inner surface 19 of said side-plate 15, assists said strap in holding said side-plate rigidly at right angles to said imaginary cross-line of the V or trough, notwithstanding the narrowness of the trough in side view, and the fact that said trough contacts uncentrally against the side-plate.

Where concrete 20 is used, Fig. 5, the side-plate mechanism described affords a strong re-

inforcement to the concrete, enabling the latter to be built out laterally as shown at **21** and **22**, to form a wide face **23** to bear against the earth. But where concrete is not used, said mechanism is eminently suitable for earth alone.

From the foregoing description as a whole it will be noted that the wide-open V is placed with its greater strength, but narrower earth-face, crosswise of the pole-line, and that the narrow earth-face is then supplemented by the side-plate.

The said telegraph wires **4** and **5**, extending, as aforesaid, longwise of the pole-line, are carried upon the cross-arms **24**, **25**, and **26**, which extend crosswise of the pole-line, and are carried, respectively, by said poles **1**, **2**, and **3**, Fig. 1. Said cross-arms are attached preferably to the convex faces of the poles, as shown in the drawing, see Figs. 1, 2, 3, and 8, in order to bring them the nearer to the axes of strength of the poles. Such attaching is effected by the cross-arm packing block **27**, Fig. 8, and the cross-arm strap **28**.

In Fig. 1, the poles **1** and **3** have their concave faces to the right, as viewed in the drawing, while the pole **2** has its concave face to the left. Such alternation enables the poles to supplement each other, in respect of strength long-wise of the pole-line, this being desirable because the trough sections herein shown are more easily buckled in the direction toward their concave faces than in the direction toward their convex faces.

Turning to the first modification:—

The pole **30**, Fig. 9, has its upper portion **31** tapered, and its lower portion **32** parallel.

Turning to the second modification:—

The fence-post **33**, Fig. 10, has its above-ground portion **34** tapered uniformly upward, from a little below the ground-line, and has also its lower portion **35** tapered downward.

This "double-tapered" construction is employed when the below-ground portion represents a considerable fraction of the whole length, whereby an appreciable saving of material is effected by such double tapering. But the employment of this construction causes no departure from the spirit of the invention, namely, first, the use of a wide-open trough section, set astride the fence-line; and, second, the provision of special means for holding a side-plate at right angles to the narrow and unsymmetrical face which the pole thereby presents toward a side plate.

Accordingly:—In Figs. 10 and 11, the wires **36** show the direction of the fence-line. The side-plate **37** is attached to said fence-post **33** in the same way in which the side-plate **15** is attached to the pole **2**, as hereinbefore described, except that the staple-shaped strap **38**, Fig. 13, has permanent heads **39** at its ends, and said strap **38** is inserted through the slot **40** provided in said side-plate **37**, until said heads are stopped by the outer face of said side-plate **37**. A packing block, not shown, because similar to the packing block **17**, Fig. 5, is then placed in position. And the strap is then threaded over an end of the post and driven tight upon the taper of same.

To supplement the area at the lower end of the post, when this "double tapered" construction is employed, a toe-plate **41** is employed, attached by the headed toe-plate strap **42**, driven on to the taper of the post, until the lower edge **43** of said toe-plate has sprung into the notch **44** provided in the post, to retain the plate.

The ends **45** of said toe-plate are slanted as shown, to facilitate driving.

Turning to the remaining modifications:—

Fig. 14 shows a cross-section in which the wings **46** and **47** are bent further inward, past the position of parallelism with each other; while Fig. 15 shows a cross-section in which the trough **48** is in the form of a true arc.

Also, in Fig. 15, a wider base of attachment is obtained by causing the legs **49** and **50** of the strap **51** to diverge, the triangular block **52** being widened accordingly.

It is obvious that the poles and posts herein shown may be used for other purposes besides carrying wires, especially when greater strength is required in one direction than in another, as, for instance, for the carrying of sign boards.

I claim:

1. A post having a trough shaped cross section formed by bending a piece of sheet metal to form two sides disposed at an obtuse angle to each other, a thrust plate secured to said post, and extending in a direction substantially at right angles to a plane connecting the edges of the trough, a spacing block engaging a side surface of the post and the rear of the plate and providing a stable and firm bearing for the plate, and means for securing the post, block and plate together.

2. A wire-supporting structure consisting of a plurality of posts, each made of flat sheet metal bent into a trough of obtuse-angled cross section, with a flange at each edge of said trough and each post oriented to be adapted to support wires which extend in a direction at right angles to a line connecting the outer edges of the trough, whereby the resistance of said posts against bending transversely to the direction of the wires is materially greater than if the said wires extended parallel to the said line.

3. A wire-supporting structure as defined in claim 2, wherein the successive posts have the open sides of the troughs facing alternately in opposite directions.

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