

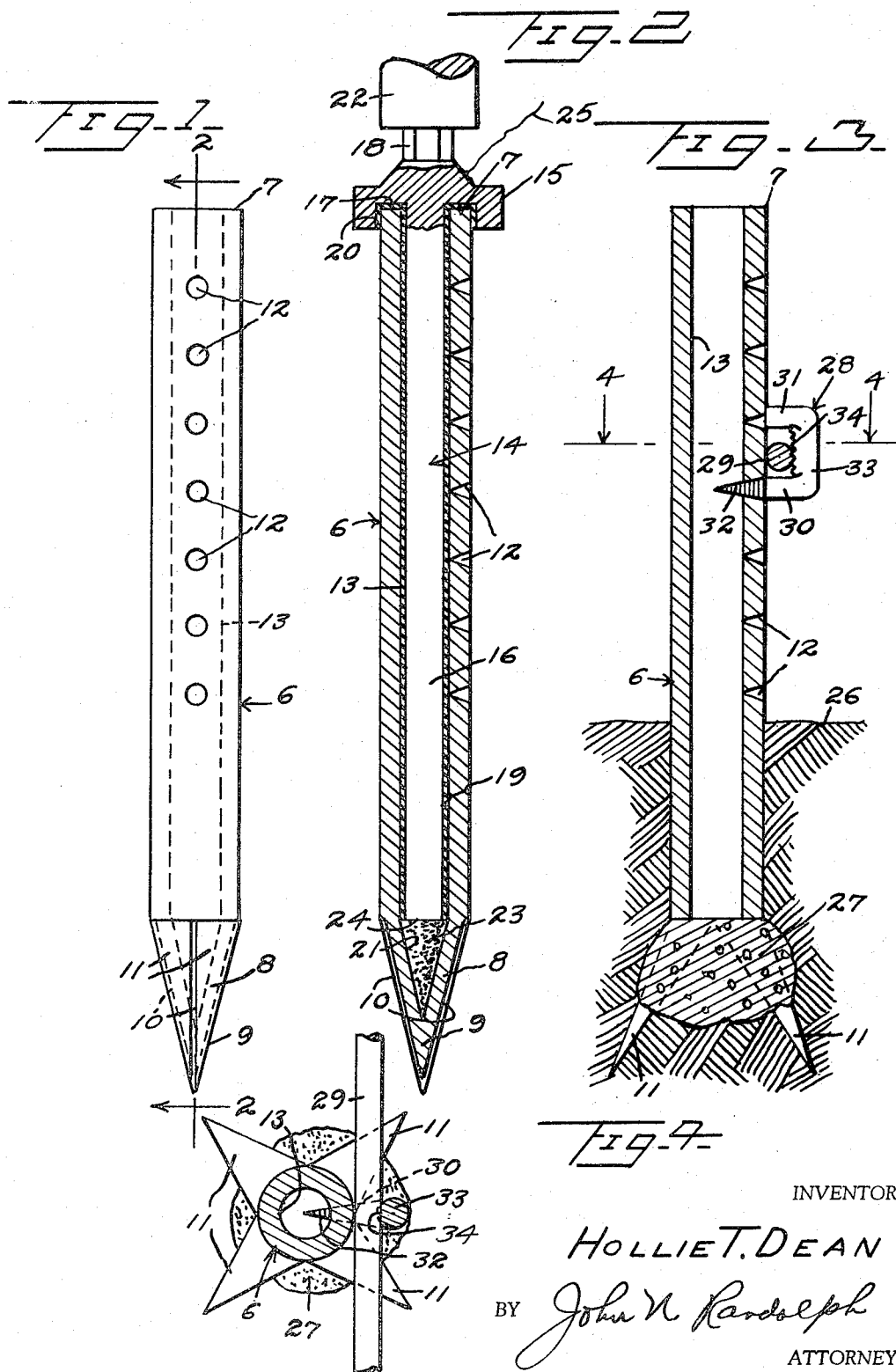
Feb. 28, 1967

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3,305,985

FENCE POST WITH DRIVING AND ANCHORING MEANS

Filed July 20, 1965



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3,305,985
**FENCE POST WITH DRIVING AND
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Filed July 20, 1965, Ser. No. 473,388
3 Claims. (Cl. 52—155)

This invention relates to a novel fence post and novel means for driving the fence post into the earth, for anchoring the fence post therein, and for anchoring a fence wire or wires thereto.

More particularly, it is an object of the present invention to provide a hollow metal fence post the lower part of which is adapted to be expanded by an explosive charge detonated therein for anchoring said lower end of the post in the earth.

Another object of the invention is to provide a hollow metal post having a removable part which initially functions as an impact receiving member for receiving the impact force of a driving tool, such as a power hammer, to effect driving of the post into the ground without damage to the post, and which impact receiving member thereafter functions to convey an electric current to an explosive charge contained in the lower end of the post and for confining the detonated charge in said lower post end to cause said lower post end to be expanded and anchored in the earth by the detonation of the charge.

A further object of the invention is to provide a fence post having novel means for anchoring fence wires thereto.

Various other objects and advantages of the invention will hereinafter become more fully apparent from the following description of the drawing illustrating a presently preferred embodiment thereof, and wherein:

FIGURE 1 is an elevational view of the fence post;

FIGURE 2 is a vertical sectional view thereof taken substantially along a plane as indicated by the line 2—2 of FIGURE 1, and showing the impact receiving member and the explosive charge contained within the post;

FIGURE 3 is a vertical sectional view taken substantially along the same plane as FIGURE 2, but showing the post after it has been driven and anchored in the earth and with the fence wire anchored thereto, and

FIGURE 4 is a horizontal sectional view, taken substantially along a plane as indicated by the line 4—4 of FIGURE 3.

Referring more specifically to the drawing, a metal fence post designated generally 6 is shown in FIGURE 1. The post 6 is preferably formed of galvanized steel of circular cross section having an open upper end 7 and a lower end 8 which is tapered and terminates in a solid point 9. The tapered lower end 8 is preferably hardened by heat treatment and is weakened by the grooves or score lines 10 which extend the length of the tapered portion 8 and which converge with one another at the tip of the point 9. The tapered portion 8 is shown provided with four such grooves or score lines 10 dividing said portion 8 into four corresponding tines or fingers 11, which taper toward the tip of the point 9. The post 6, above its tapered lower end 8, is provided with a row of aligned longitudinally spaced indentations 12 which extend from the outer surface thereof substantially to the bore 13 of the post, and each of which is tapered toward said bore 13, as clearly illustrated in FIGURES 2 and 3.

An impact receiving, post driving member, designated generally 14, is shown in FIGURE 2 and includes a head 15 forming an enlargement of the upper end of a stem 16 and which has an annular downwardly opening groove 17 which surrounds the upper end of the stem

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16. The head 15 has an upwardly extending impact receiving or anvil portion 18 which is disposed in alignment with the stem 16. The stem 16 is covered with a sleeve or casing 19 of electrical insulating material which extends from end-to-end thereof and which has an upper outwardly and downwardly turned-back end 20 which lines the groove 17. The stem 16 with the insulating sleeve 19 applied thereto is of cross sectional size and shape to fit snugly in the bore 13 and the stem is of a length to extend from the upper post end 7 to a downwardly tapered chamber 21 which is formed in the tapered post end 8.

With the driving member 14 thus applied to the post 6 and with the post disposed in an upright position, as seen in FIGURE 2, the anvil portion 18 receives the impact strokes of the head of a power driving tool, such as a fluid pressure operated hammer, for driving the post 6 into the ground. A part of said head 22 is shown in FIGURE 2. The impact receiving member 14 by receiving the force of the hammer head 22 prevents damage to the upper end of the fence post 6 and prevents the fence post from being collapsed or distorted while it is being driven into the earth.

After the fence post 6 has been driven into the earth to a desired depth, as illustrated in FIGURE 3, the impact receiving member 14 is removed therefrom and a shaped explosive charge 23 is dropped through the bore 13 so as to lodge in and fill chamber 21 which is of the same shape as said explosive charge 23. The impact receiving member 14 is then reapplied to the post 6, as seen in FIGURE 2, with the exposed lower end 24 of stem 16 contacting the explosive charge 23. The member 14, except for electrical insulator 19, 20, is formed of electrical conducting material and is electrically insulated from the post 6 by the insulator 19, 20. An electrical conductor 25 is connected to any part of the head 15; and the hammer head 22 is repositioned in engagement with the anvil portion 18. An electric current from a suitable source, not shown, such as a conventional battery having its negative terminal connected to the earth 26 and to the positive terminal of which the conductor 25 is momentarily connected, is supplied through the conductor 25 to the impact receiving member 14, through which the current is carried to the explosive charge 23 to effect detonation of the charge 23. The member 14, held down by hammer head 22, confines the explosion in the chamber 21 so that the tapered post end 8 is ruptured along the score lines 10 causing the fingers or tines 8 to be separated from one another and to be bent outwardly to approximately the positions thereof as illustrated in FIGURES 3 and 4, to thus anchor the lower part of the post 6 in the earth 26, as seen in FIGURE 3. The hammer head 22 is then raised from engagement with the anvil 18 so that the member 14 can be removed from the post 6. If desired, grout 27 may then be poured through the bore 13 to fill the hole in the earth formed between fingers 8 by detonation of the explosive charge 23.

One or more staples 28 may then be anchored to the part of the post 6 which is disposed above the earth and with each staple anchoring a fence wire 29 to said post. One such staple 28 is shown in FIGURE 3 anchoring a fence wire to the post. The staple 28 has a long leg 30 and a short leg 31. The long leg 30 has a tapered, serrated end 32. The outer side of the intermediate portion 33 is struck with a hammer or other driving tool, not shown, after the staple 28 has been positioned on the post 6 with its tapered end 32 extending into one of the depressions 12. Said tapered end 32 is driven through said depression 12 to enlarge the depression until the short leg 31 abuts the post 6 either above or beneath the long leg 30. The serrations of the tapered end 32

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will anchor said leg portion in the depression 12 into which it is driven for securing the staple to the post. It will be understood that the fence wire 29 is held stretched between the staple legs while the staple is being applied to the post for clamping the fence wire immovably to the post and staple. The inner side of the intermediate portion 33 is preferably provided with teeth or serrations 34 which bite into the fence wire 29 to effectively prevent slippage of the fence wire relative to the post or staple.

Various modifications and changes are contemplated and may be resorted to, without departing from the function or scope of the invention, as hereinafter defined by the appended claims.

I claim as my invention:

1. A fence post with driving and anchoring means comprising a hollow elongated metal fence post member having a tapered lower end terminating in a solid point and a bore extending from said tapered lower end and opening through an upper end of the post; an impact receiving post driving member having a stem fitting detachably in said bore and extending downwardly there-through to said tapered lower end of the post, a head formed on an upper end of the stem and bearing on the upper end of said post, an anvil portion forming an upwardly projecting extension of said head and adapted to receive impact strokes of a driving implement for driving the tapered lower end of the post into the ground, said post driving member being formed of electrical conducting material, means electrically insulating the driving member from the fence post, said tapered lower end of the post having a blind cavity, a shaped explosive charge contained in said cavity and disposed in electri-

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cal contact with said stem and confined in the cavity by the stem, and said driving member forming an electrical conductor for conveying an electrical current from the head thereof through the stem for detonating the explosive charge to rupture and expand said tapered post end for anchoring the post in the earth.

2. A fence post with driving and anchoring means as in claim 1, said tapered post end being longitudinally scored to provide weakened portions adapted to be ruptured by detonation of the explosive charge to form a plurality of tapered fingers which are bent outwardly when said tapered post end is ruptured to provide anchors.

3. A fence post with driving and anchoring means as in claim 2, said bore providing a passage through which grout is adapted to be poured into the hole in the earth formed by the detonation of the explosive charge to assist said fingers in anchoring the post in the earth.

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