

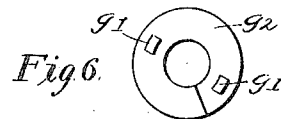
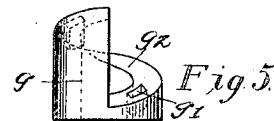
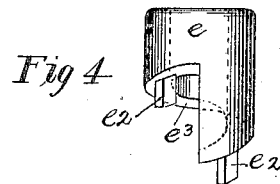
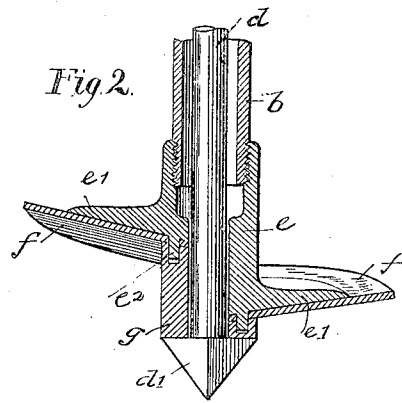
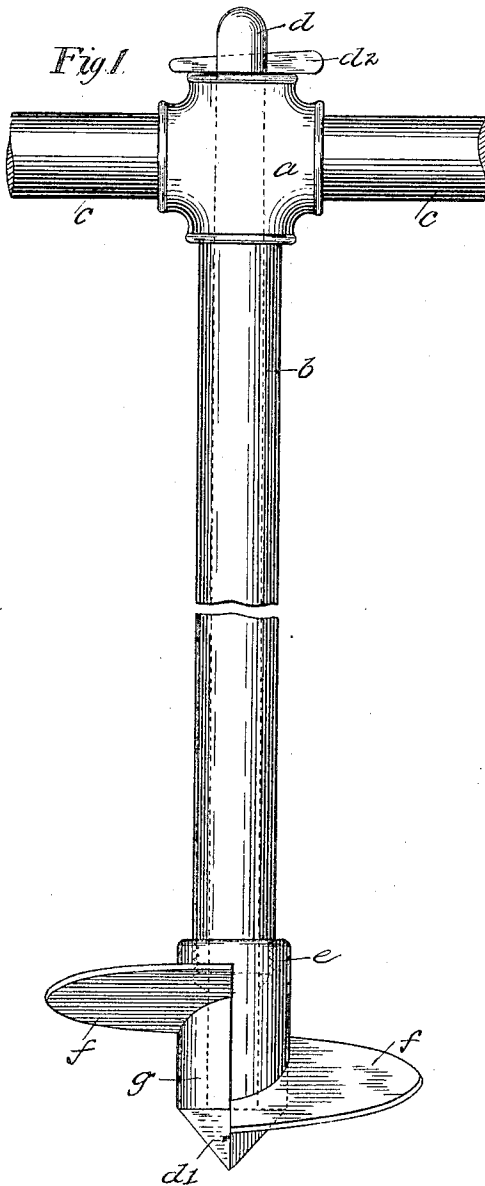
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G. D. TOY, JR., R. H. TOY & H. T. TOY.

LAND ANCHOR.

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Witnesses:

C. F. Bassett

M. A. Milrod

Inventors
George D. Toy Jr.
Robert A. Toy,
Hugh T. Toy.
By Frederick Benjamin,
Atty.

UNITED STATES PATENT OFFICE.

GEORGE D. TOY, JR., ROBERT H. TOY, AND HUGH T. TOY, OF SIDNEY,
OHIO.

LAND-ANCHOR.

No. 818,061.

Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, GEORGE D. TOY, JR., ROBERT H. TOY, and HUGH T. TOY, citizens of the United States, residing at Sidney, in the county of Shelby and State of Ohio, have invented certain new and useful Improvements in Land-Anchors, of which the following is a specification.

Our invention relates to improvements in devices for securing the ends of guy-ropes or cables in the land and for analogous uses, such as are commonly known as "land-anchors."

The especial objects of our improvements are to produce a device which can be cheaply manufactured, which will be strong, easily anchored or driven in the ground, and which will have a maximum efficiency for the purpose for which it is intended.

In the accompanying drawings we have shown and will hereinafter describe in detail a preferred form of our invention.

In said drawings, Figure 1 shows in elevation our improved land-anchor in its complete form. Fig. 2 is a vertical section taken through the lower end of the anchor and showing a slightly-modified form of socket. Fig. 3 is a plan view of the socket which forms a feature of our invention. Fig. 4 is an elevation of the socket. Fig. 5 is an elevation of a collar which coöperates with the socket, and Fig. 6 is a plan view of the collar.

Referring to the several parts of our invention by reference characters, *a* represents a two-way cast-iron tubular coupling, in the lower branch of which is fixed the upper end of a pipe *b* and in the horizontal branches of which are secured the handles *c c*. The lower end of the pipe *b* is exteriorly threaded and screwed into a tubular socket *e*, which is threaded to receive said pipe. As shown in Fig. 2, this socket is formed with a spiral flange *e'*, which extends horizontally from the body of the socket; but, as indicated in Figs. 1 and 4, the flange is omitted. From the lower spirally-formed edge *e³* of the socket project downwardly lugs *e²*.

Adapted to be passed freely through the coupling-pipe *a*, the pipe *b*, and the socket *e* is a wrought iron or steel rod *d*, to the lower end of which is suitably secured a point *d'*, which is preferably formed with squared cheeks, as shown. Fitting loosely on the rod *d* and

resting on the shoulder or upper face of the point is a collar *g*, which is formed with a spiral upper edge *g²*, which corresponds in pitch to the edge *e³* of the socket described. Extending downwardly from the spiral edge *g²* recesses *g'* are formed in the collar to receive the lugs *e²* when the parts are assembled in operative positions.

The earth-engaging member of our anchor consists of a metal disk *f*, which is centrally perforated to permit the passage of the rod *d* and is cut on a radial line from the center and is bent to a helical plane, so that it may be opening to the periphery, so that it may be bent to a helical plane, as shown in Figs. 1 and 2, whereby it will conform to the contour of the edges *e³* and *g²* of the socket and collar, respectively, between which it is arranged and held when in operative position. This disk is also provided with suitable holes on opposite sides of its central opening to receive the lugs *e²*, which pass therethrough into the recesses *g'*.

The upper end of the rod *d* extends through the coupling *a* and has formed therethrough an eye to receive a wedge *d²*, which when in place serves to lock the rod to the pipe through the coupling, as will be readily understood.

The flanges *e'* on the socket serve as a backing or stiffening means for the disk, thus permitting the use of relatively light material in the construction of said disk, such as sheet-steel, for instance. It will be apparent that the spiral disk forms a screw which draws the device into the earth as the handles are operated in the usual manner and that when the anchor has been sunk to a sufficient depth by knocking out the key *d²* the coupling, handles, pipe, and socket may be drawn upwardly, leaving the rod *d*, the collar *g*, and the spiral disk embedded in the earth to serve as an anchor for a cable, which may be attached to the eye in the upper end of the rod in any suitable manner, a cable not being shown, as it forms no part of our invention.

One of the advantages resulting especially from the construction shown in Fig. 2 is that spiral disks of relatively great diameters can be applied effectively, as they are given an extensive area of support by the flanged socket.

It will be apparent that instead of making the recesses in the collar and the lugs in the

socket we may reverse such arrangement without altering the interlocking principle indicated.

Having thus illustrated and described the principles of construction and operation embodied in our invention and without intending to have our patent protection limited to the mechanical details set forth, what we claim is—

1. In a device of the character described, a spirally-formed earth-engaging member having a central opening therethrough and holes on each side of said opening, a rod passing through said central opening, and collars surrounding said rod above and below said member respectively, said collars provided with portions adapted to interlock with each other and with the holes in said member.

2. In a device of the character described, a rod adapted to be driven into the ground, a collar on said rod, a socket removably mounted on said rod, an earth-engaging element arranged between said collar and socket, means for interlocking said collar, earth-engaging element and socket, a pipe secured to said socket, and means for interlocking said pipe and rod.

3. In a device of the character described, a rod adapted to be driven into the ground, a collar on said rod having a spiral upper edge, a socket removably mounted on said rod and having a spiral lower edge, an earth-engaging element arranged between said collar and socket, means for interlocking said collar,

earth-engaging means, and socket, and means for turning said socket.

4. In a device of the character described, a rod provided with a point and a bearing, an earth-engaging element arranged on said rod and resting on said bearing, a socket loosely mounted on said rod and having portions interlocking with said earth-engaging element, and its bearing, and means for operating said socket.

5. In a device of the character described, a rod having a point on its lower end and an eye in its upper end, a collar loosely mounted on said rod above its point and having a spiral upper edge, a spiral earth-engaging blade surrounding said rod and resting on said collar, said blade having holes therethrough, a socket loosely mounted on said rod, and having its lower edge conforming to and normally resting upon the upper face of said spiral blade, means for interlocking said socket, blade and collar, a pipe surrounding said rod and secured at its lower end to said socket, handles secured to said pipe, and removable means for locking said pipe against upward movement on said rod.

In testimony whereof we affix our signatures in presence of two witnesses.

GEORGE D. TOY, JR.

ROBERT H. TOY.

HUGH T. TOY.

Witnesses:

D. OLDHAM,

JOHN OLDHAM.