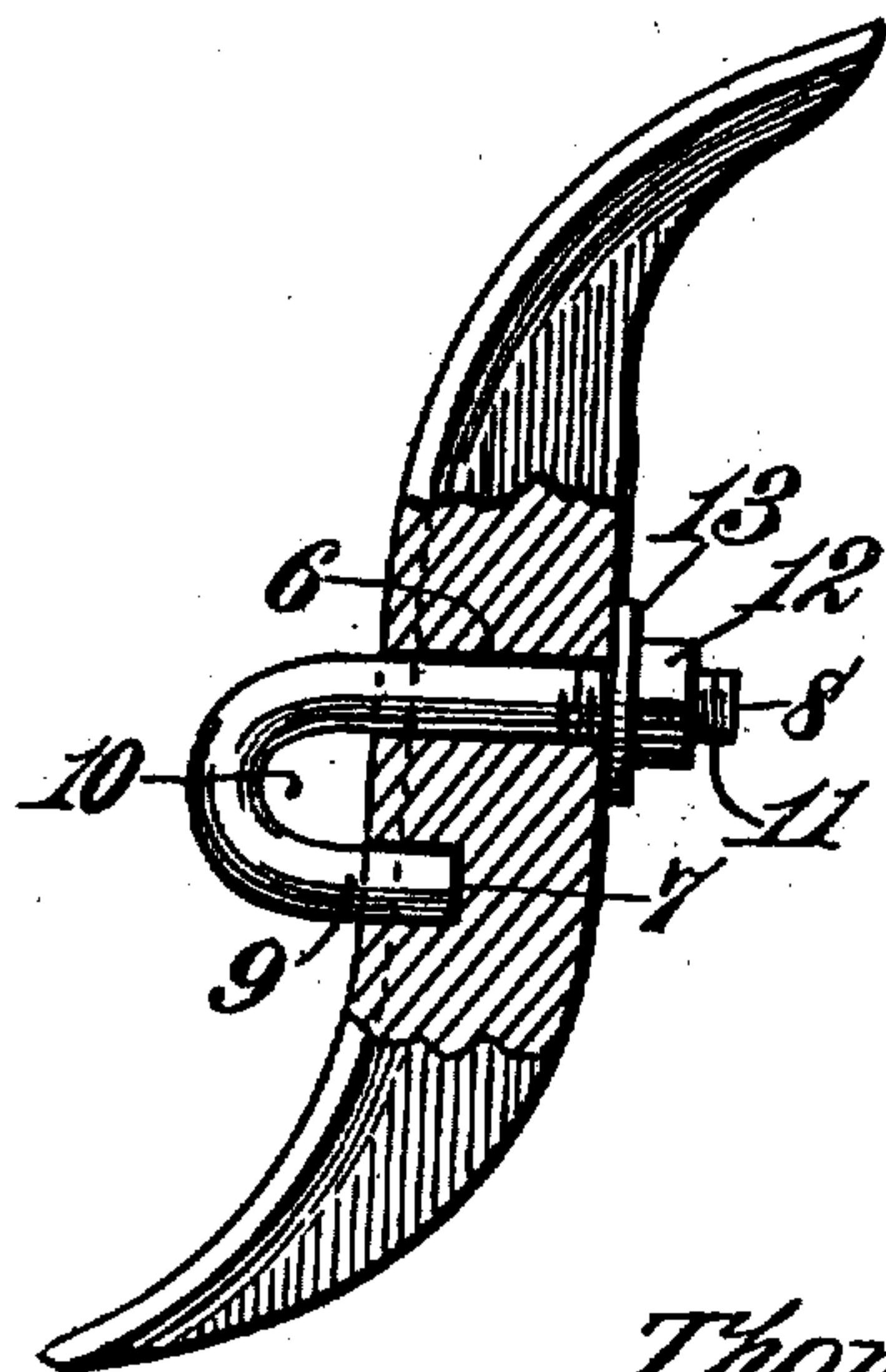
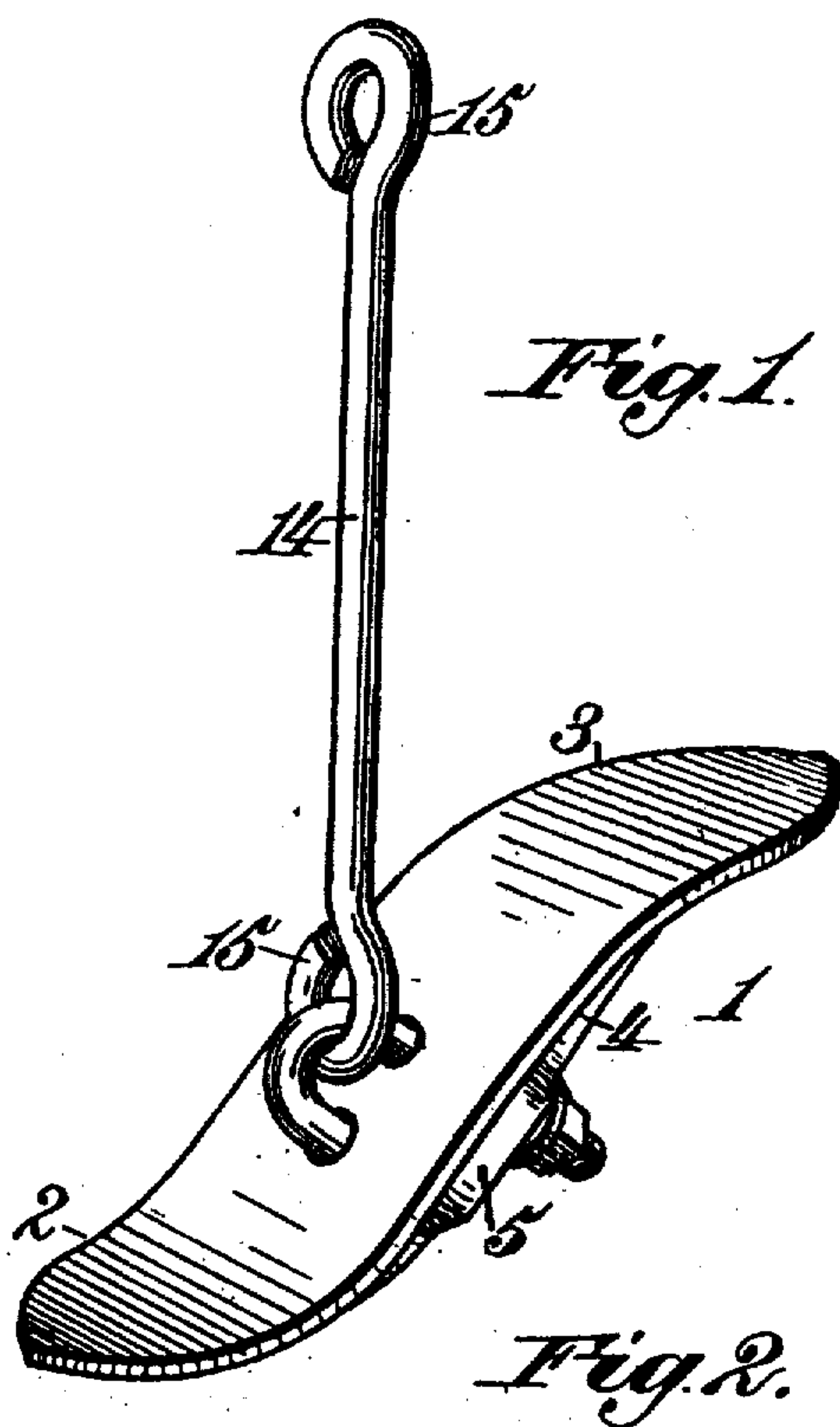


No. 795,649.

PATENTED JULY 25, 1905.

T. A. ROBINSON.  
GROUND ANCHOR.  
APPLICATION FILED AUG. 8, 1904.



Witnesses:  
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By James L. Norris.  
Att'y.

# UNITED STATES PATENT OFFICE.

THOMAS A. ROBINSON, OF LIMA, OHIO.

## GROUND-ANCHOR.

No. 795,649.

Specification of Letters Patent.

Patented July 25, 1905.

Application filed August 8, 1904. Serial No. 219,950.

*To all whom it may concern:*

Be it known that I, THOMAS A. ROBINSON, a citizen of the United States, residing at Lima, in the county of Allen and State of Ohio, have invented new and useful Improvements in Ground-Anchors, of which the following is a specification.

This invention relates to ground-anchors, and particularly that class of anchors which are buried in the earth and serve as a suitable connection for guy-ropes, stays, braces, and like devices for firmly holding in position telegraph-poles, trolley-poles, fences, flag-staffs, derricks, and similar structures, and has for its object to provide an anchor of the type referred to which may be readily inserted in place in the ground and which will immediately and automatically bury itself the moment that tension or strain is applied to the stays, guys, braces, or the like.

Primarily the invention resides in a new and novel form of rigid connecting means for attaching the rod of the anchor with the body of the anchor, said connecting means being so constructed and arranged that when tension is applied to the anchor it will cause it to turn immediately and automatically in the hole, and consequently overcome the objection of the loose clevis generally employed for connecting the attaching-rod with the body of the anchor, the clevis being open to the objection that it forms a loose, flimsy, and unstable mode of attaching the rod, and it has been found that the body of the anchor will not turn in as satisfactory a manner as when the connecting means is rigid. Furthermore, the employment of a clevis is also open to the objection that it is somewhat expensive, as to hold heavy strains the clevis has to be made out of wrought-iron by hand, and consequently it causes the anchor proper to be rather expensive.

The invention further aims to construct a ground-anchor which shall be simple in its construction, strong, durable, efficient in its use, and comparatively inexpensive to manufacture.

With the foregoing and other objects in view the invention consists of the novel combination and arrangement of parts hereinafter more specifically described, illustrated in the accompanying drawings, and particularly pointed out in the claims hereunto appended.

In describing the invention in detail reference is had to the accompanying drawings, forming a part of this specification, and wherein like reference characters denote correspond-

ing parts throughout the several views, and in which—

Figure 1 is a perspective view of the anchor and its attachments, and Fig. 2 is a longitudinal sectional view of the body of the anchor.

The present invention relates to that form of ground-anchors in which are comprised two flukes which are arranged to be inserted endwise into the hole bored or in any other suitable manner formed in the ground and provided between its ends with means for pivotally attaching to the anchor a cable, guy-rope, brace, stay, or an analogous support, the anchor being so constructed that when tension is placed on the rod, cable, guy-rope, or other support which may be attached to the anchor the flukes will be automatically moved into a position in which they will be disposed at right angles to the rod, cable, guy-rope, or the like and will so embed themselves in the ground as to resist and prevent the withdrawal of the anchor therefrom.

In the class of ground-anchors referred to a serious disadvantage has been experienced owing to the fact that when strain or tension is placed upon the guy-rope, cable, rod, or the like there has been a tendency for the anchor to slip to a greater or less extent in the hole bored for its reception before the anchor will take hold and bury itself in the earth; and the present invention has for its principal object to avoid this result, the arrangement being such that the moment any strain is placed upon the rod connected to the anchor the latter will instantly turn upon its axis as to cause the flukes to bury themselves in the earth.

Referring to the drawings by reference characters, the numeral 1 indicates in a general manner the anchor, consisting of two flukes 2 and 3, terminating in one another and which are formed of a single piece of metal. The upper face of the anchor is uninterrupted throughout, and each of said flukes consists of a broad flat blade, the said blades being reversely curved, as shown, the curvature of the two blades having the configuration generally known as a "compound curve." Formed integral with the underneath face of the blades is a web, rib, or flange 4 of compound curvature and which serves to impart strength and rigidity to the anchor. Said web or flange is arranged centrally of the underneath face of the blades and extends in a longitudinal direction with respect to the blades, and said web 4 is enlarged interme-



mediate its ends, or rather has a swell intermediate its ends, as indicated by the reference character 5. The anchor, centrally thereof, is provided with a vertically-extending opening 6, said opening extending through the swell 5 of the web 4, and said fluke 2 at a point removed from said opening 6, but in longitudinal alinement therewith, is provided with a recess 7. The function of the opening 6 and recess 7 will be hereinafter referred to.

The connecting means for the anchor consists of a hooked bolt having its shank 8 extending through the opening 6 and its hooked end 9 extending in the recess 7, thereby forming an eye 10. The shank 8 of the hooked bolt extends below the web 4 and has the projecting end thereof screw-threaded, as at 11, and upon said screw-threaded end is mounted a clamping-nut 12 and washer 13. The function of the nut 12, in connection with the screw-threads of the shank, is to securely clamp the hooked bolt in position, and such position is that the hooked end of the bolt extends into the recess 7. By extending the hooked end of the bolt into the recess 7 the bolt is prevented from turning and also prevents the disconnecting of the attaching-rod, to be hereinafter referred to—that is to say, prevents the attaching-rod from slipping off the hooked end of the bolt. This is evident, as the hooked end of the bolt extends into the recess 7.

The reference character 14 denotes the attaching-rod, which is bent at its opposite ends to form the loops 15, one of which is loosely connected with the hooked end 8 of the bolt hereinbefore referred to, owing to the fact that said end of the bolt is passed through the loop 15 and then extended into the recess 7. The other loop of the attaching-rod is connected in any suitable manner with the structure or other object designed to be held in place.

When the hooked bolt which forms the means for connecting the attaching-rod to the anchor is in position, it is rigidly secured to the anchor and is also prevented from rotating. Consequently when tension is applied to the attaching-rod there is no movement of the connecting means for said rod, and therefore the turning of the anchor to a holdfast position will immediately take place—that is to say, the turning of the anchor to a holdfast position immediately takes place when tension is applied to the attaching-rod. If a bail, clevis, or other loose connection between the attaching-rod and the anchor is employed, said bail, clevis, or other loose connecting means will have movement imparted thereto in advance

of the turning of the anchor, and this has been found objectionable, as it is essential to have the anchor turn to a holdfast position immediately when strain or tension is applied to the attaching-rod.

It is thought the many advantages of a ground-anchor constructed in accordance with the foregoing description, taken in connection with the accompanying drawings, can be thoroughly understood, and it will, furthermore, be evident that changes, variations, and modifications can be resorted to without departing from the spirit of the invention or sacrificing any of its advantages, and I therefore do not wish to restrict myself to the details of construction hereinbefore described, and as shown in the accompanying drawings, but reserve the right to make such changes, variations, and modifications as come properly within the scope of the protection prayed.

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

1. A ground-anchor having a hooked bolt extending therefrom and engaging in one face thereof to form a rigid eye, projecting from the upper side thereof and an attaching-rod having a loop at one end connected to said eye.

2. A ground-anchor having a vertically-extending opening arranged approximately centrally thereof, and a recess in its upper face at a point removed from and in longitudinal alinement with said opening, a bolt extending through said opening and engaging in said recess to form a rigid eye projecting from the upper side thereof, means engaging the lower face of the anchor for clamping the bolt thereto, and an attaching-rod having a loop at one end connected to said eye.

3. A ground-anchor having a vertically-extending opening arranged approximately centrally thereof and a recess in the upper face thereof at a point removed from and in longitudinal alinement with said opening, a bolt extending through the upper end of the opening and engaging in said recess to form a rigid eye and means mounted upon the bolt and engaging the lower face of the anchor for clamping the bolt thereto.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

THOMAS A. ROBINSON.

Witnesses:

W. B. RICHIE,  
W. N. KING.