June 2, 1970 R. N. PRERADOVICH 3,514,911

LINE POLE ROCK ANCHOR BRACKETS

Filed April 2, 1969 3 Sheets-Sheet 1

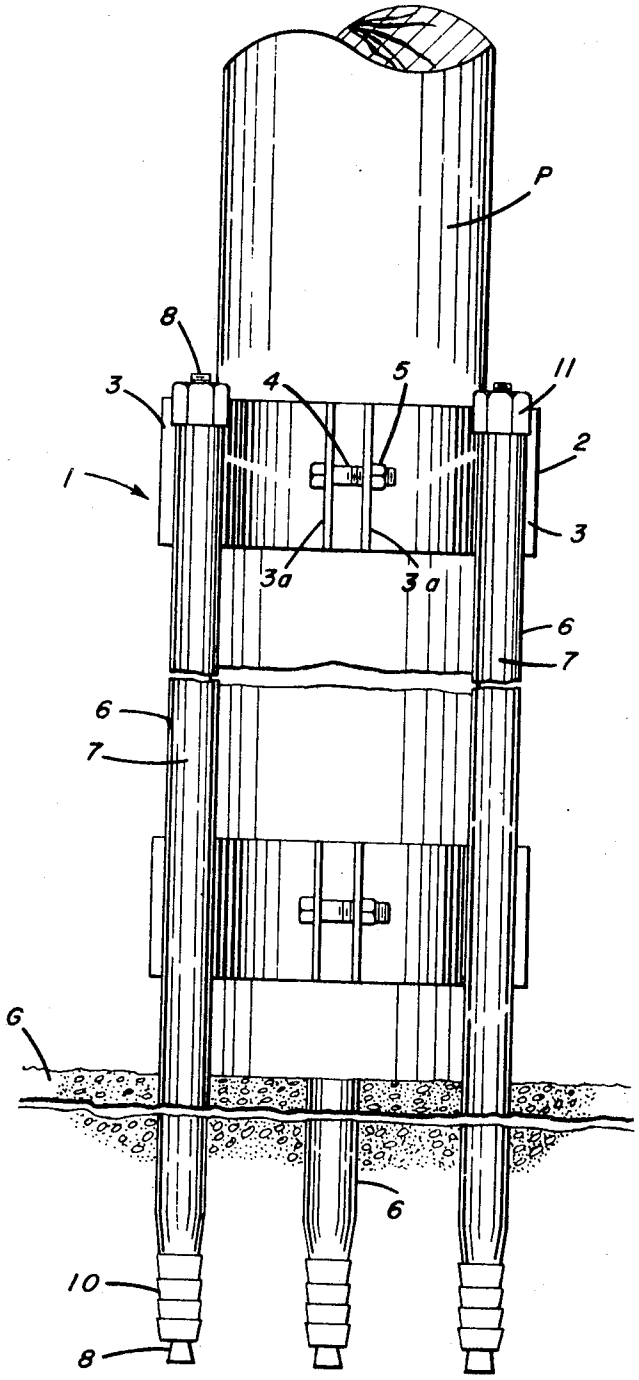



FIG. 1

INVENTOR
Radovan N. Preradovich

By Stevens, Davis, Miller & Mosher

ATTORNEYS

June 2, 1970 R. N. PRERADOVICH 3,514,911

LINE POLE ROCK ANCHOR BRACKETS

Filed April 2, 1969 3 Sheets-Sheet 2

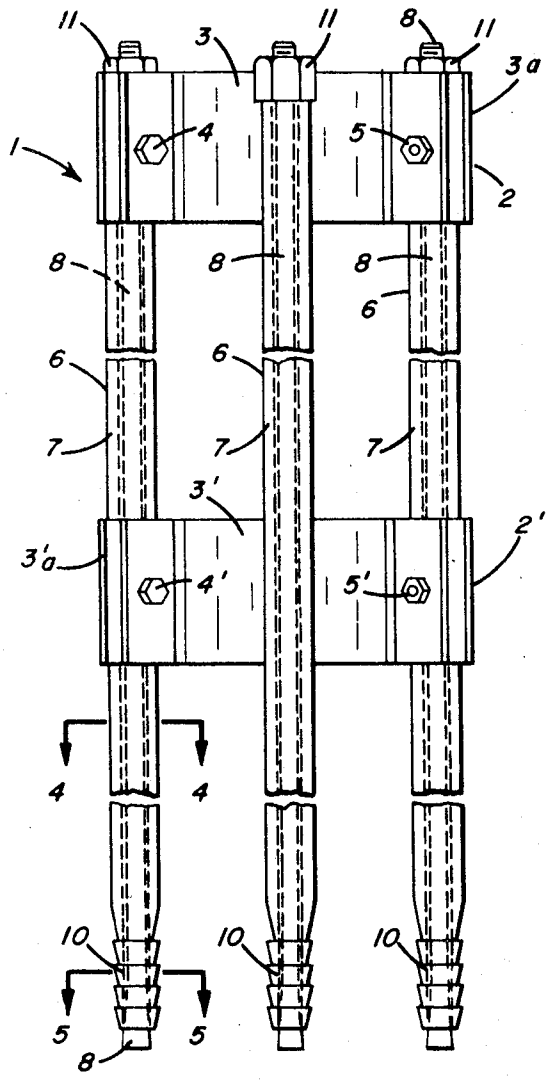



FIG. 2

INVENTOR
Radovan N. Preradovich
By Stevens, Davis, Miller & Mosher
ATTORNEYS

June 2, 1970 R. N. PRERADOVICH 3,514,911

LINE POLE ROCK ANCHOR BRACKETS

Filed April 2, 1969 3 Sheets-Sheet 3

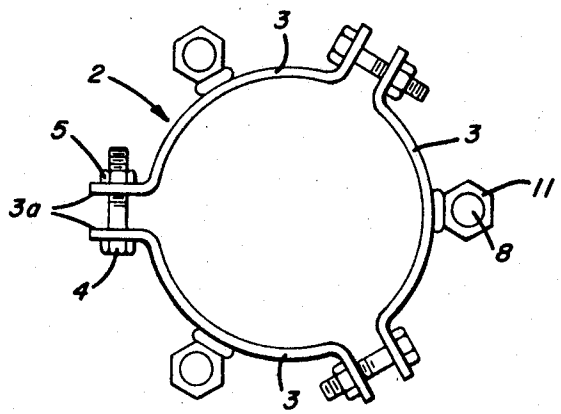



FIG. 3

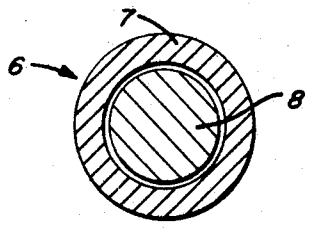



FIG. 4

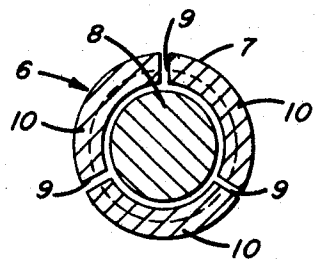



FIG. 5

INVENTOR

Radovan N Preradovich

By Stevens, Davis, Miller & Mosher

ATTORNEYS

United States Patent Office

3,514,911

Patented June 2, 1970



3,514,911

# LINE POLE ROCK ANCHOR BRACKETS

Radovan N. Preradovich, Lac Lemoyne, Quebec, Canada, assignor to Gerole International Inc., Val d'Or, Quebec, Canada

Filed Apr. 2, 1969, Ser. No. 812,598
Claims priority, application Canada, May 6, 1968, 19,245
Int. Cl. E02d 5/74; E04c 3/30
U.S. Cl. 52—165 10 Claims

## ABSTRACT OF THE DISCLOSURE

An anchor bracket suitable for installing a pole on rocky ground includes a clamp-like body for receiving and gripping the pole, and at least three parallel legs extending from the body, each leg including a hollow outer casing, an inner member relatively movable within the casing, and actuating means adjacent the body for causing relative movement between the casing and the inner member, the free end portion of each leg remote from the body being laterally expandible by said relative movement such that the legs can be anchored in respective holes in the ground.

This invention relates to anchor brackets for anchoring an article to a support, and is especially useful for installing poles on rocky ground.

Previously, when installing poles on rocky ground, it has been necessary to drill a hole with a diameter at least that of the pole to be installed. As poles frequently have a diameter of the order of one foot, to drill a hole of such a diameter in rocky ground is clearly not easy.

According to this invention, an anchor bracket includes a clamp-like body for receiving and gripping an article, and at least three parallel legs extending from the body, each leg including a hollow outer casing, an inner member relatively movable within the casing, and actuating means adjacent the body for causing relative movement between the casing and the inner member, the free end portion of each leg remote from the body being laterally expandible by said relative movement such that the legs can be anchored in respective holes in a support.

Thus, to install a pole on rocky ground, it is only necessary to drill some relatively small diameter holes at predetermined positions in the ground to receive the legs of the anchor. The legs are inserted into the holes, and the actuating means are operated to cause lateral expansion of the free end portions of the legs into tight engagement with the sides of the holes so as to firmly anchor the bracket in position. The lower end portion of the pole is then assembled with the clamp-like body, which receives and grips the pole.

The body may include two or more peripherally-spaced body portions secured together by adjustable securing means to form a hollow body, said securing means being adjustable to cause adjustment of the lateral dimensions of the body to grip an inserted article. Each body portion may have an outwardly extending flange at each end, with each securing means extending through apertures in adjacent flanges of adjacent body portions. Each securing means may be formed by a nut and bolt.

The casing of each leg may be rigidly secured to the body. The laterally-expandible free end portion of each leg may be formed by the free end portion of each casing remote from the body, said free end portion of each casing being longitudinally split to provide two or more split portions which are forced laterally outwardly by said relative movement between the casing and the inner member. Each inner member may have an enlarged free end portion which causes lateral outward movement of said split portions when said actuating means is operated. The end of the inner member adjacent the body may be screw-threaded and carry a nut to form said actuating means.



The bracket may include a second clamp-like body spaced from the first body, and located between the first body and the free ends of the legs, the legs being secured to the second body. This provides increased strength.

One embodiment of the present invention will now be described, by way of example, with reference to the accompanying drawings, of which:

FIG. 1 is a side view of a pole installed on rocky ground by means of an anchor bracket,

FIG. 2 is a side view of the anchor bracket,

FIG. 3 is a plan view of the anchor bracket,

FIG. 4 is a sectional view taken along the line 4—4 of FIG. 2, and

FIG. 5 is a sectional view taken along the line 5—5 of FIG. 2.

Referring to the drawings, a metal anchor bracket **1** is provided for installing a pole P on rocky ground G. The anchor bracket **1** includes a clamp-like hollow body **2** formed by three arcuate circumferentially-spaced body portions **3** secured together by bolts **4** and nuts **5**. Each body portion **3** has an outwardly extending flange **3***a* at each end, and each bolt **4** passes through apertures in the adjacent flanges **3***a* of two adjacent body portions **3**.

The body **2** has three legs **6** extending therefrom and spaced equally around its circumference. Each leg **6** includes a hollow outer casing **7** and an inner rod **8** which is freely slidable in the casing **7**. The casing **7** of each leg **6** is welded to the outer surface of a corresponding body portion **3**. The free end portion of each outer casing **7** remote from the body **2** is tapered and split by three longitudinally-extending slits **9** into three circumferentially spaced portions **10**, each split portion **10** being notched on its outer surface. Each rod **8** projects from the free end of its outer casing **7**, and the projecting portion increases in diameter towards its free end to a diameter greater than the internal diameter of the casing **6**. The end of each rod **8** adjacent the body **2** projects from its casing **6**, and this projecting end portion is screw-threaded and carries a nut **11**.

For stability, a second body **2'** is located approximately halfway between the first body **2** and the free ends of the legs **6**. The second body **2'** is constructed in a similar manner to the first body **2** with three body portions **3'** secured together by bolts **4'** and nuts **5'** passing through apertures in outwardly-extending flanges **3***a'*. The outer casing **7** of each leg **6** is welded to the outer surface of the corresponding body portions **3'**.

To install a pole on rocky ground, three holes are drilled in the ground at predetermined positions to receive the legs **6**. The diameter of each hole should be just slightly greater than the outer diameter of the outer casing **7** of the legs **6**. Before drilling, the positions of the holes can be determined by fitting the body portions **2**, **2'** over the end of the pole P, adjusting the bolts **4**, **4'** and nuts **5**, **5'** until the bodies **2**, **2'** just grip the pole P, then removing the bracket from the pole, placing the bracket upright on the ground, and marking the positions of the legs **6**.

Having drilled the holes, the legs **6** are inserted therein. The holes should be of such a depth that the second body **2'** descends to a position just above the ground G. The nuts **11** are then turned to cause upward movement of the rods **8** in their respective casings **7**. As the enlarged lower end portion of each rod **8** rises, it engages the split end portions **10** of the casing **7** and forces them laterally outwardly into tight engagement with the side of the hole,

thus anchoring the leg **6** in the hole. The post is then lowered into the bodies **2, 2'** until the lower end of the pole rests on the ground. The bolts **4, 4'** and nuts **5, 5'** are then tightened to cause the body portions **3, 3'** to move laterally inwardly and tightly grip pole P.

Although this invention has been described with particular reference to the installation of poles on rocky ground, it will be apparent that the anchor bracket according to this invention has many other uses as a bracket for securing an article to a support.

I claim:

**1.** An anchor bracket for securing an article to a support, the bracket including a clamp-like body for receiving and gripping an article, and at least three parallel legs extending from the body, each leg including a hollow outer casing, an inner member relatively movable within the casing, and actuating means adjacent the body for causing relative movement between the casing and the inner member, the free end portion of each leg remote from the body having means laterally expandible by said relative movement such that the legs can be anchored in respective holes in a support.

**2.** An anchor bracket according to claim **1** including a second clamp-like body spaced from the first-mentioned body, and located between the first body and the free ends of the legs, the legs being secured to the second body.

**3.** An anchor bracket according to claim **1** wherein the body includes two or more peripherally-spaced body portions secured together by adjustable securing means to form a hollow body, said securing means being adjustable to cause adjustment of the lateral dimensions of the body to grip an inserted article.

**4.** An anchor bracket according to claim **3** wherein each body portion has an outwardly extending flange at each end, and each securing means extends through apertures in adjacent flanges of adjacent body portions.



**5.** An anchor bracket according to claim **4** wherein each securing means is formed by a nut and bolt.

**6.** An anchor bracket according to claim **1** wherein the casing of each leg is rigidly secured to the body.

**7.** An anchor bracket according to claim **6** wherein the laterally-expandible means at the free end portion of each leg is formed by the free end portion of each casing remote from the body, said free end portion of each casing being longitudinally split to provide two or more split portions which are forced laterally outwardly by said relative movement between the casing and the inner member.

**8.** An anchor bracket according to claim **7** wherein the split portions are notched on their outer surfaces.

**9.** An anchor bracket according to claim **7** wherein each inner member has an enlarged free end portion which causes laterally outward movement of said split portions when said actuating means is operating.

**10.** An anchor bracket according to claim **7** wherein the end portion of the inner member adjacent the body is screw-threaded and carries a nut to form said actuating means.


**References Cited**

UNITED STATES PATENTS

| | | | |
|---|---|---|---|
| 1,544,007 | 6/1925 | Hughes | 52—298 |
| 1,568,777 | 1/1926 | Smith | 52—298 |

FOREIGN PATENTS

| | | |
|---|---|---|
| 49,125 | 6/1911 | Austria. |



FRANK L. ABBOTT, Primary Examiner

J. L. RIDGILL, JR., Assistant Examiner

U.S. Cl. X.R.

52—298, 704, 726