Sept. 2, 1930. J. W. BROWN 1,774,869

RATCHET BAR ACTUATING MECHANISM

Filed March 1, 1928 2 Sheets-Sheet 1

FIG. 1.

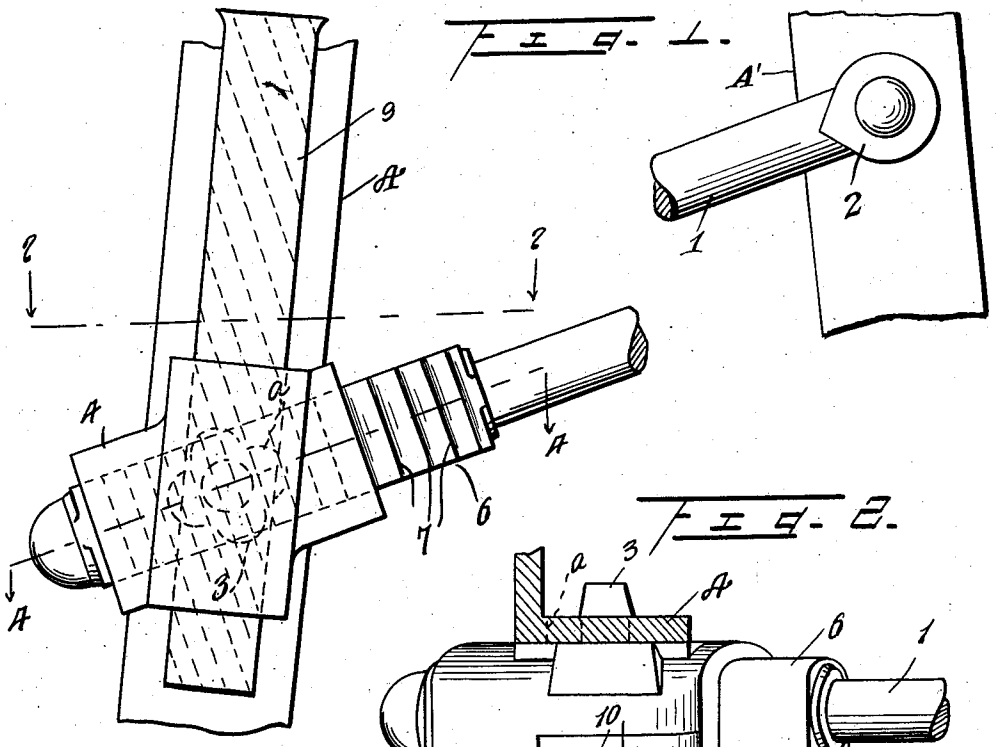
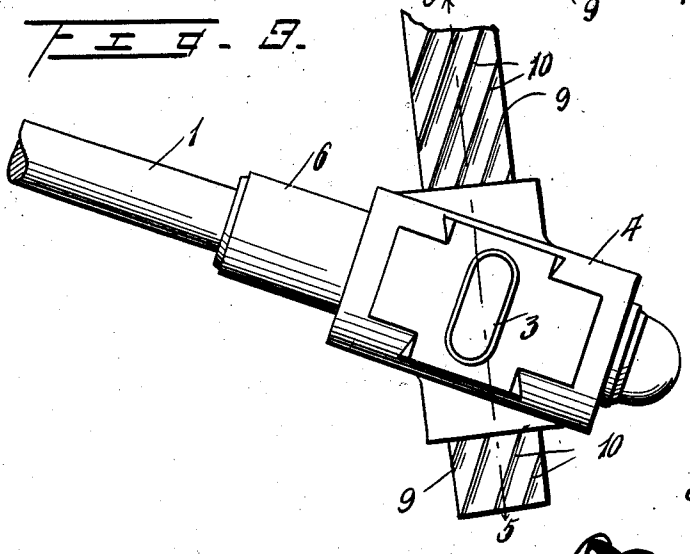


FIG. 2.

FIG. 3.



Inventor
J. W. Brown.

By

Attorney

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Filed March 1, 1928 2 Sheets-Sheet 2

FIG. 4.

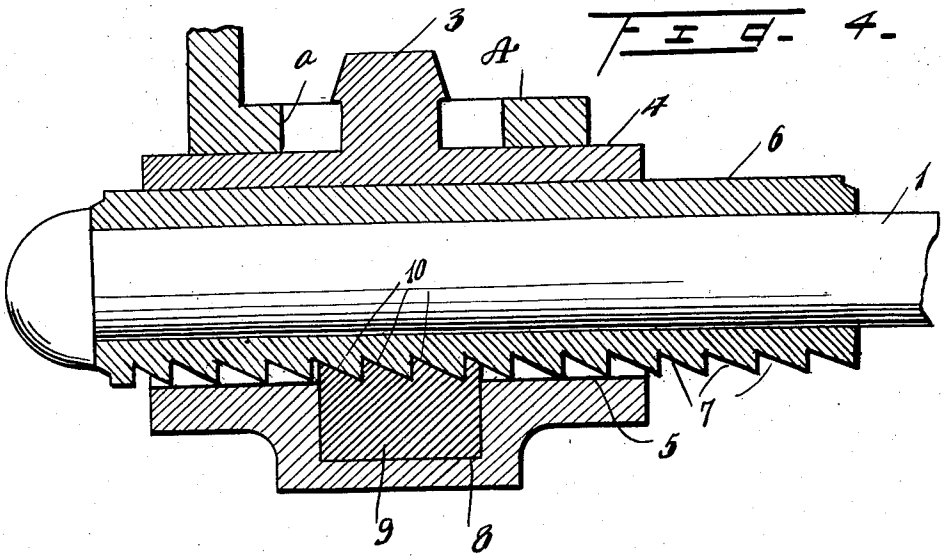


FIG. 5.

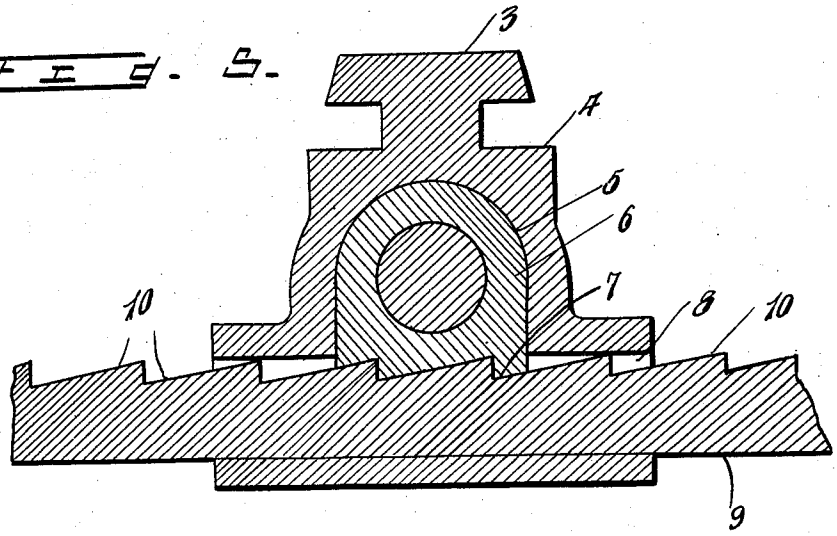
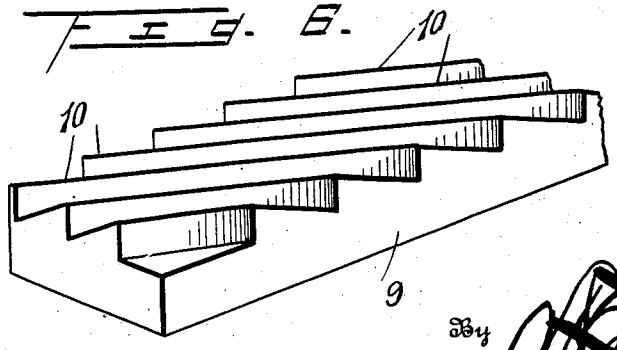


FIG. 6.



Inventor
J. W. Brown.

By W. Randolph & Co
Attorney

Patented Sept. 2, 1930 1,774,869

UNITED STATES PATENT OFFICE

JAMES W. BROWN, OF TULSA, OKLAHOMA, ASSIGNOR TO THE PONCA PATENT DEVELOPMENT COMPANY

RATCHET-BAR-ACTUATING MECHANISM

Application filed March 1, 1928. Serial No. 258,273.

The invention relates to improved means for actuating a ratchet bar and has particular reference to means for tightening brace rods on oil derricks and other structures to the exclusion of turn buckles, racks and pinions, and similar means.

The invention has for its principal object the provision of an improved means for actuating a ratchet bar employing another bar arranged at an oblique angle to the ratchet bar and having ratchet teeth thereon arranged to engage the ratchet teeth of the ratchet bar, so that by driving the bar in one direction, the ratchet bar will be actuated in the direction of the ratchet teeth.

A further object of the invention is the provision of a casing adapted to be secured to the structure to be braced and forming a guide for a ratchet member engageable on a brace rod, the teeth on said ratchet member being arranged transversely thereof and providing also another guide in the casing to receive an actuating device comprising a straight bar arranged to be moved at an oblique angle to the ratchet member and having ratchet teeth on said bar arranged at an angle thereto, to engage the ratchet teeth on the ratchet member to move the ratchet member relatively to the casing when the bar is actuated.

The invention will be described in detail hereinafter and will be found illustrated in the accompanying drawings in which

Figure 1 is a segmental view showing two legs of an oil derrick or other structure for bracing, with the brace rod shown in position thereon, and improved means for actuating the ratchet member on the brace rod applied thereto,

Figure 2 is a sectional view of the ratchet member and the actuating means on a plane indicated by the line 2—2 of Figure 1,

Figure 3 is a view of the device taken from the attachable side of the guide casing,

Figure 4 is a longitudinal sectional view on a plane indicated by the line 4—4 of Figure 1,

Figure 5 is a sectional detail taken substantially on a plane indicated by the line 5—5 of Figure 3, and

Figure 6 is a view in perspective of a fragment of the ratchet member actuating bar.

In the drawings similar reference characters are used to designate corresponding parts in all of the views.

The ratchet bar actuating mechanism is shown in the drawings as applied to a brace rod for oil derricks, for the purpose of illustration, but it will be apparent that the structure may be utilized for other purposes than that shown and the invention is therefore not limited to the specific application of the invention except where specifically set forth in the subjoined claims.

The legs of an oil derrick are designated A and A′ in Figure 1, and the leg A′ has a brace rod 1 engaged therewith in any suitable manner, such for instance as by means of a bolt or rivet 2. The leg A is provided with a transverse slot *a* to receive an elongated flanged button 3 on a casing 4. The casing 4 is provided with an elongated guide opening 5 to receive a ratchet member 6 that is mounted on or formed as a part of the brace rod 1, and is provided with ratchet teeth 7.

Casing 4 is also provided with a guide opening 8 that extends at an obtuse angle to the guide openings 5 and slidably mounted in said guide opening 8 with a bar 9 having ratchet teeth 10 thereon arranged at an angle to the bar so as to engage the ratchet teeth 7 on the ratchet member 6 when the bar is driven in a direction to engage the shoulders of said ratchet teeth against one another or downwardly as shown in Figure 1 of the drawings, and by such movement of the bar 9 it will be apparent that the ratchet member 6 will be driven in a direction to tighten the brace rod 1, and will hold the brace rod 1 in tightened position.

What is claimed is:—

1. In a brace rod tightening device, a tightening member having an opening therethrough adapted to receive and mount a brace rod, a casing slidably mounting said member, and means slidably mounted in said casing and engaging said member to adjust it and to tighten the brace rod.

2. In a brace rod tightening device, a tight-

ening member adapted to be mounted on a brace rod, a casing slidably mounting said member, and means slidable in said casing at an oblique angle to and engaging the member to move the member in the direction to tighten the rod.

3. In a brace rod tightening device, a tightening member adapted to be mounted on a brace rod, a casing slidably mounting said member and adapted to be secured to a structure to be braced, ratchet teeth on said member and arranged transversely thereof, a bar slidably mounted on said casing and arranged to move at an oblique angle to the member, and ratchet teeth on said bar arranged to engage the ratchet teeth on the member.

4. In a brace rod tightening device, a brace rod, a ratchet member on said rod, means slidably mounting said ratchet member, a bar movably mounted at an oblique angle to said ratchet member, and ratchet teeth on said bar arranged at an angle thereto and engaging said ratchet member.

5. In a brace rod tightening device, a brace rod, a ratchet member on said rod, a casing slidably mounting said ratchet member and adapted to be secured to a structure to be braced, a bar movably mounted at an oblique angle to said ratchet member, and ratchet teeth on said bar arranged at an oblique angle thereto and engaging the teeth of said ratchet member to move said ratchet member relatively to the casing.

In testimony whereof I affix my signature.

JAMES W. BROWN.