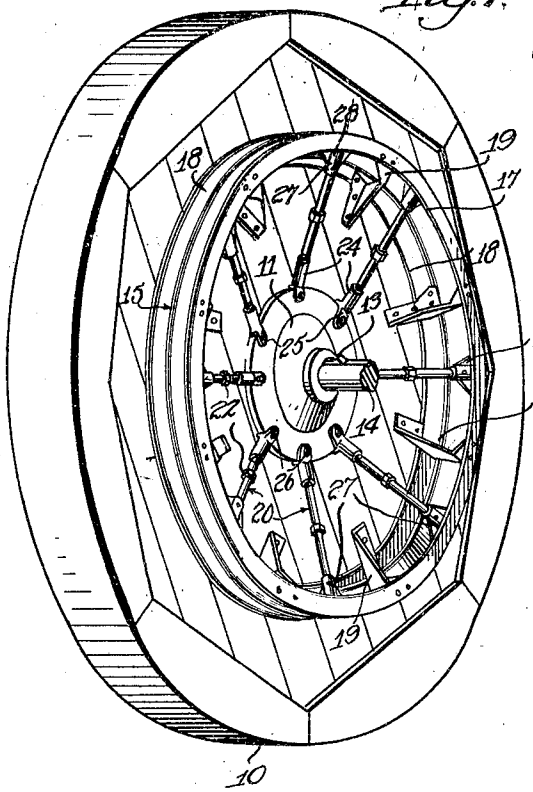
Sept. 8, 1931. W. SCHWEMLEIN 1,822,826

BRACE MEANS FOR TUG RIMS AND BAND WHEELS

Filed April 25, 1928

Fig. 1.



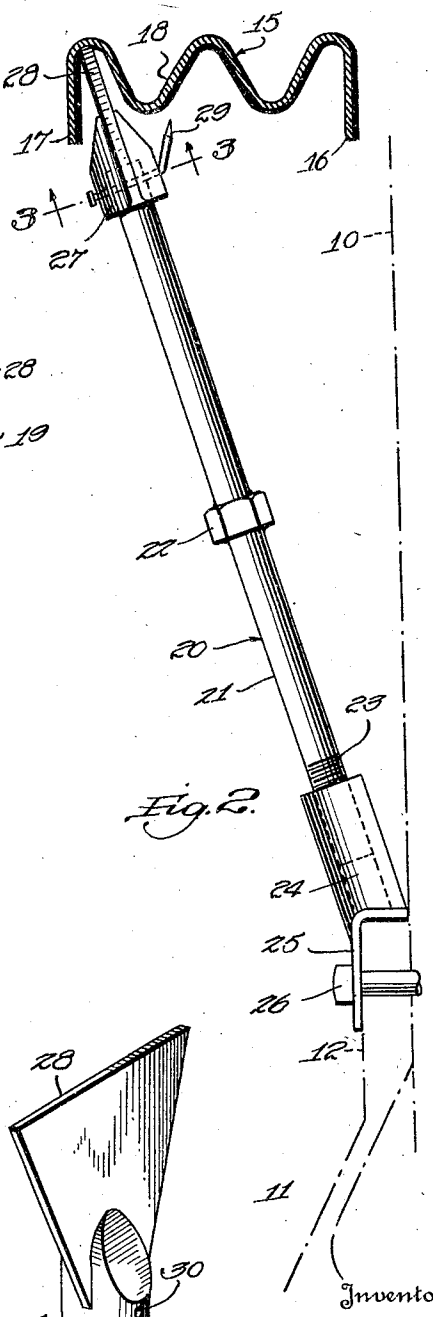


Fig. 2.

Fig. 3.

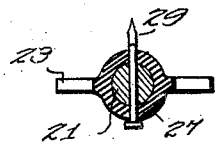


Fig. 4.

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UNITED STATES PATENT OFFICE

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BRACE MEANS FOR TUG RIMS AND BAND WHEELS

Application filed April 25, 1928. Serial No. 272,846.

This invention relates to brace means for tug rims and band wheels used in connection with oil well drilling apparatus.

Considerable difficulty has been experienced in the past in connection with the combined tug rim and band wheel devices employed in connection with oil well drilling apparatus, the tug rim and band wheel usually being secured together to rotate about a common axis. The band wheels usually are made of wood, and the smaller tug rim is formed of rolled or other sheet metal and is secured against and braced with respect to the band wheel. The tug rim is subjected to considerable strains in operation, and it has been found that the usual securing and bracing means employed does not maintain the rigid connection between the tug rim and band wheel, nor does it maintain a true concentric relationship between the tug rim and its axis of rotation.

An object of the present invention is to provide efficient means for bracing and truing the tug rim with respect to the band wheel.

A further object is to provide novel brace means associated at opposite ends with the band wheel and the outer portion of the tug rim to prevent any sagging of the latter whereby the tug rim will be rigidly maintained in proper position.

A further object is to provide a plurality of bracing devices of the above mentioned character each of which is adjustable independently of the others to permit the tug rim to be maintained in true circular form concentric with its axis of rotation.

A further object is to provide novel means for permitting the adjustment of the bracing devices.

A further object is to provide novel engaging means between the bracing members and the tug rim.

A further object is to provide novel means for maintaining each bracing member in selected adjusted positions.

Other objects and advantages of the invention will become apparent during the course of the following description.

In the drawings I have shown one embodiment of the invention. In this showing,

Figure 1 is a perspective view of a band wheel and tug rim, showing the invention applied,

Figure 2 is an enlarged fragmentary radial sectional view, parts being shown in elevation and parts being omitted,

Figure 3 is a detail section on line 3—3 of Figure 2, and,

Figure 4 is a detail perspective view of one of the tug rim engaging members.

Referring to the drawings, the numeral 10 designates a band wheel of the usual construction provided with central metallic hubs 11 having outer flange portions 12 seated against the faces of the band wheel. The hubs are keyed as at 13 to a shaft 14 to rotate therewith in the usual manner.

A tug rim 15 is arranged against the side of the band wheel and is preferably formed of rolled sheet steel in the usual manner. The tug rim includes inner and outer flanges 16 and 17, and grooves 18 are formed in the tug rim to receive the usual flexible element passing thereabout. The tug rim is secured to the band wheel in the usual manner by braces 19 which, as stated, have been found to be rather inefficient for rigidly supporting the tug rim and maintaining it in true concentric relationship with respect to its axis of rotation.

The present invention contemplates the provision of a plurality of brace members indicated as a whole by the numeral 20. Each of the brace members includes a rigid shank 21 having an enlarged polygonal portion 22 intermediate its ends and adapted to be engaged by a suitable wrench for a purpose to be described. The inner end of each shank is externally threaded as at 23.

The inner end of each shank 21 is threaded in a sleeve 24 preferably formed integral with an angular member 25 which constitutes the means for securing the associated brace member to the band wheel. The outer arm of each angular member fits against the outer periphery of the flange 12 of one of the hubs 11, as shown in Figure 2, while the inner portion of each angular member seats against

the outer face of the flange 12. The flanges of the band wheel hubs are secured to the band wheel by the usual bolts 26, and these bolts pass through the angular members 25, whereby the latter are securely anchored with respect to the band wheel.

The outer end of each shank 21 is slidably mounted in a sleeve 27 preferably formed integral with a tug rim engaging member 28. The latter member is substantially fan shaped and has a relatively long outer edge adapted to engage against the inner face of the tug rim adjacent the flange 17, as clearly shown in Figure 2. A nail or cotter pin 29 passes through openings 30 formed in the sleeve 27 and in the outer end of the shank 21 to prevent rotation between these elements, and to prevent displacement of the shank with respect to the sleeve 27.

The operation of the device is as follows:

The tug rim and band wheel, together with their associated elements are assembled in the usual manner, the angular members 25 obviously being secured in place by means of the bolts 26. The inner end of each shank 21 is threaded in its associated sleeve 24, and obviously, turning movement of the shank is adapted to move it inwardly and outwardly with respect to the axis of the shaft 14. Each sleeve 27 as previously stated, is slidable on the outer end of each associated shank 21, and accordingly the polygonal enlargement 22 is adapted to be engaged by a wrench to turn the shank and secure the proper adjusted length of the bracing member. The relatively long engaging edge of the member 28, in its contact with the tug rim, obviously prevents rotation of the sleeve 27. The outer end of each shank seats against the inner end of the opening formed in the sleeve 27, and thus the engaging member 28 is adapted to be moved outwardly as the shank 21 is unscrewed from the sleeve 24. Each shank 21 may be individually adjusted until the tug rim is properly trued, whereupon the nails or cotter pins 29 may be inserted in their respective openings.

As stated, rotation of the sleeve 27 is prevented by the engagement between the member 28 and the tug rim, and thus it will be apparent that when the nail 29 is inserted, the shank 21 will be prevented from rotating and thus will be held in selected adjusted positions. The bracing members are angularly arranged, as will be apparent, and contact at their inner ends with the solid flange 12 of one of the metal band wheel hubs, and thus the outer portions of the tug rim will be rigidly supported to preserve the true circular shape of the tug rim and its concentric relationship with respect to its axis of rotation.

It is to be understood that the form of the invention herewith shown and described is to be taken as a preferred example of the same and that various changes in the shape, size and arrangement of parts may be resorted to without departing from the spirit of the invention or the scope of the subjoined claims.

I claim:

1. The combination with a band wheel and a concentric tug rim secured at one side thereto, of a plurality of brace members each including a shank, engaging members arranged on opposite ends of said shank and adapted to engage the band wheel and tug rim respectively, one end of said shank being threaded in the associated engaging member, and releasable means for preventing rotation of said shank with respect to the other engaging member.

2. The combination with a band wheel and a circumferentially grooved concentric tug rim secured at one side thereto, of a plurality of brace members each including a shank, and engaging members arranged on the opposite ends of said shank and adapted to engage the band wheel and one of the grooves of the tug rim respectively, one end of said shank being longitudinally adjustable with respect to its associated engaging member, the opposite end of said shank being releasably secured to its associated engaging member.

3. The combination with a band wheel and a concentric tug rim secured at one side thereto, of a plurality of brace members each including a shank, engaging members arranged on the opposite end of said shank and adapted to engage the band wheel and tug rim respectively, one end of said shank being threaded in the associated engaging member, and a releasable element adapted to be associated with said shank and the other engaging element to prevent relative rotation therebetween.

4. The combination with a band wheel and a concentric tug rim secured at one side thereto, of a plurality of brace members each including a shank, an engaging member arranged on each end of said shank, one of said members being secured to the band wheel, the other of said members engaging the inner face of the tug rim adjacent the outer side thereof, one end of said shank being longitudinally adjustable with respect to one of said engaging members, and releasable means for preventing rotation of said shank, said means comprising a removable pin adapted to engage said shank and the other of said engaging members.

5. The combination with a band wheel and a concentric tug rim secured at one side thereto, of a plurality of brace members each including a shank, an engaging member arranged on each end of said shank, one of said members being secured to the band wheel, the other of said members engaging the inner face of the tug rim adjacent the outer side thereof, one end of said shank being longitudinally adjustable with respect to the associated engaging member, and releasable means for preventing rotation of said shank,

said second named engaging member being provided with a substantially fan-shaped extremity having a substantially circumferentially extending edge adapted to engage against the inner face of the tug rim.

6. The combination with a band wheel having a hub including a flange arranged against one side thereof, and a concentric tug rim secured at one side to said band wheel, of a plurality of brace members each including a shank, a sleeve threaded on the inner end of said shank, an angle piece carried by said sleeve, said angle piece fitting against and secured to said flange, an engaging member having a sleeve portion slidably receiving the outer end of said shank and having a portion engaging against the inner face of the tug rim adjacent the outer side thereof, and means for preventing rotation of said shank.

7. A device of the character described comprising a shank, a member threaded on one end of said shank and adapted to be secured against one side of a band wheel, an engaging member arranged on the opposite end of said shank and adapted to engage against the inner face of a tug rim secured to said band wheel, said engaging member being provided with an opening slidably receiving the adjacent end of said shank, and releasable means for preventing rotation of said shank, said means comprising a removable pin extending through said engaging member and said shank.

In testimony whereof I affix my signature.

WILLIAM SCHWEMLEIN.