W. B. WIGLE.

RESILIENT CONNECTOR WEIGHT.

APPLICATION FILED MAR. 15, 1916.

1,208,430. Patented Dec. 12, 1916.

Fig. 1.

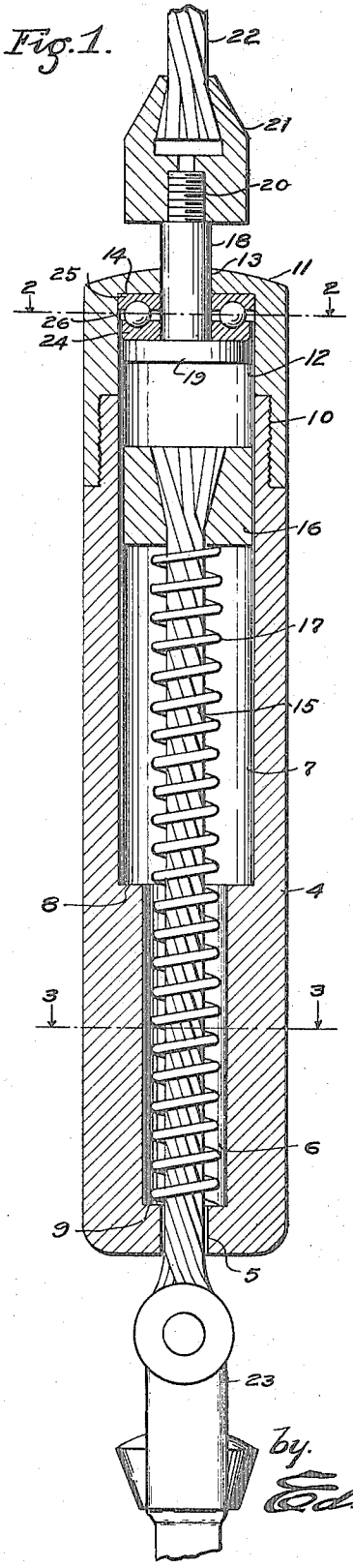


Fig. 2.

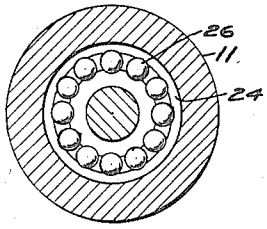
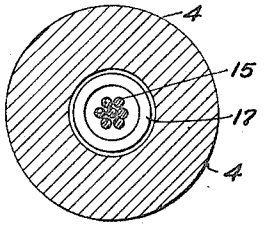


Fig. 3.



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UNITED STATES PATENT OFFICE.

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RESILIENT CONNECTOR-WEIGHT.

1,208,430. Specification of Letters Patent. Patented Dec. 12, 1916.

Application filed March 15, 1916. Serial No. 84,322.

To all whom it may concern:

Be it known that I, WILSON B. WIGLE, a citizen of the Dominion of Canada, residing at Fullerton, in the county of Orange and State of California, have invented new and useful Improvements in Resilient Connector-Weights, of which the following is a specification.

This invention relates to resilient connector weights, and pertains especially to a resilient connector adapted to be attached to a cable on a well rig and to an elevator hook, and which also serves as a weight for the cable.

In coupling or uncoupling sucker rod joints difficulty is experienced because of the joints getting out of alinement causing the threads to jam and to become mutilated. Further, difficulty is experienced by reason of the weight of the upper joints coming on the lower at the threaded connection making it difficult to couple or uncouple the joints and tending to bur the threads.

An object of my invention is to provide a resilient connector which will lift the weight of the upper joint and keep it in alinement while being coupled or uncoupled.

In using a cable rove over a sheave at the top of a well rig for elevating sucker rods it is a common practice to attach a weight to the free end of the cable, when it is detached from the sucker rod, thereby keeping the weight of the cable from pulling it over the sheave.

Another object of my invention is to provide a connector which will serve as a weight to obviate the above recited objections.

I accomplish these objects by means of an embodiment of my invention illustrated in the accompanying drawing, in which:

Figure 1 is a vertical section through my improved resilient connector weight. Fig. 2 is a section as seen on the line 2—2 of Fig. 1. Fig. 3 is a section as seen on the line 3—3 of Fig. 1.

Referring more particularly to the drawing, 4 denotes a cylindrical shell having a bore of several diameters. The portion of small diameter at one end thereof is indicated by 5, a bore of enlarged diameter by 6, and of greater diameter at the upper end thereof at 7. Two shoulders are formed within the bore of the body and are indicated by 8 and 9. The exterior of the body 4 is reduced in diameter at the upper end and threaded as indicated at 10.

A cap 11 is detachably secured to the body 4 and is constructed with a bore 12 of the same diameter as the bore 7 and forming a continuation thereof. The cap is counterbored at the lower end and threaded to engage the threads on the portion 10 of the body 4. A bore of reduced diameter is formed at 13 so that a shoulder 14 is formed which acts as a bearing surface for a stem.

Extending into the bore of the body is a section of cable 15 having at the upper end thereof a head 16 which is disposed within the portion 7 of the bore and when in its lowermost position is adapted to abut the shoulder 8. Surrounding the cable 15 and interposed between the head 16 and the shoulder 9 is a spring 17 forming a resilient supporting member for the cable 15.

At the upper end and within the cap 11 is a stem having a shank 18 which extends through the bore 13 and is provided with a head 19 disposed within the bore 12. The shank 18 is reduced in diameter at its upper end as indicated at 20, threaded, and adapted to receive a cable socket 21 or any other means for coupling a cable 22 to the stem. The socket 21 of the cable 22 does not form any part of my invention but merely shows the usual means for connecting an elevating cable to my connector. The cable 22 in usual practice extends over a sheave at the top of the well rig.

The lower end of the cable 15 is looped and adapted to be connected to the clevis 23 of a hook which is commonly engaged with a sucker rod elevator. The spring 17 is so designed that it will support the weight of a sucker rod joint, and when the connector is attached to the sucker rod as it is unscrewed from a lower joint the upper joint will be gradually lifted taking weight off the threaded connections and keeping the sucker rod joints in alinement.

In order to permit free swiveling and turning of the sucker rod joint I have provided a ball bearing between the head 19 of the stem and the cap 11. This bearing comprises a ball race-way 24 mounted on the head 19 and a race-way 25 disposed against the shoulder 14 with balls 26 interposed between the race-ways.

When the sucker rods are detached from the connector the weight of the connector is sufficient to hold the end of the cable 22 from running over the sheave.

The advantages of my improved con-

nector are obvious from the above description, and it effects a great saving in labor and in damaged parts.

What I claim is:

1. A resilient connector weight for well rigs, comprising the combination of a shell of relatively great weight, a stem secured thereto by a swivel connection for attachment to a cable, a hook securing member slidably secured to said shell, and resilient means interposed between said member and said shell, said shell provided with means to relieve the pressure on said resilient means when compressed a predetermined amount.

2. A resilient connector weight for well rigs, comprising the combination of a shell of relatively great weight having an axially extending bore of enlarged diameter intermediate its ends thereby forming a shoulder at the upper end, a securing member adapted for attachment of a hook extending into said bore, a head on said member, a resilient member mounted between said head and the end of said shell supporting said members, said head arranged to abut said shoulder to relieve the pressure on said resilient member when compressed a predetermined amount, and a stem having a head disposed in said enlarged portion of the bore and below said shoulder forming a swiveled connection between said shell and said stem.

3. A resilient connector weight for well rigs, comprising the combination of a shell of relatively great weight having an axially extending bore of enlarged diameter intermediate its ends thereby forming an upper and lower shoulder, a hook securing member extending into said bore having at its upper end a head disposed in the enlarged portion of said bore, a spring between said head and said lower shoulder, said head arranged to abut said shoulder to relieve the pressure on said spring when compressed a predetermined amount, a stem adapted to be attached to a cable having a head disposed in the enlarged portion of said bore, anti-friction bearing means between said upper shoulder and the head on said stem.

In witness that I claim the foregoing I have hereunto subscribed my name this 23rd day of February, 1916.

WILSON B. WIGLE.