My invention relates to improvements in connectors for the spinning line and jerk line used in oil well rigs for screwing up a string of pipe sections for lowering into an oil well.

By way of premise, in screwing pipe sections into a string in an oil well rig, the sections are attached, one at a time, at the upper end of the string by a spinning line wound around the same and a cathead of the draw works, with the spinning line manually wrapped around the section and cathead and drawn taut around the same by an operator, and the sections are screwed tight in place by a tong operated by a jerk line connected to the spinning line and which is tightened up by the cathead with the spinning line released from the section being tightened.

The conventional means for connecting such lines is usually a swivel, or similar device which quickly wears out and is difficult to attach.

The primary object of my invention is to provide a strong, durable connector for easily and quickly connecting the jerk line to a spinning line and disconnecting the same therefrom, and which eliminates swivels that quickly wear out, and is very simply constructed and consequently inexpensive to manufacture.

Other and subordinate objects, within the purview of my invention, together with the precise nature of my improvements will be readily understood when the succeeding description and claims are read with reference to the drawing accompanying and forming part of this specification.

In said drawing:

Figure 1 is a fragmentary view in plan, partly in section, illustrating my improved connector connecting the jerk line to the spinning line with the spinning line in use;

Figure 2 is a similar view with the jerk line in use and the spinning line released from the upper pipe section;

Figure 3 is an enlarged view in longitudinal section taken on the line 3—3 of Figure 2, and

Figure 4 is an enlarged exploded view in perspective of the parts of the connector.

Referring by numerals to the drawing, in the embodiment of the invention illustrated therein, the numeral 1 designates the spinning line adapted to be extended between the upper pipe section 3 and the cathead 5 of the draw works 7, and comprising sections 9, 10, preferably of cable for friction gripping, adapted to be manually wound around said section 3 and cathead 5 for straight line pull by the cathead 5 to spin or turn the section 3 into the string, not shown, supported in the well, not shown, by the rotary table 11 on the deck 13. The numeral 15 designates the tongs used for tightening the upper section 3, and which during the spinning operation is usually disposed on the deck 13, within easy reach, while connected to a jerk line presently described.

The connector of my invention comprises a generally triangular, three point coupler 19 for three lengths of link chain 21, 23, 25, the chains 21, 23 being interposed in the spinning line 1 and the chain 25 forming the jerk line connected to the tongs 15. The coupler 19 comprises a body plate 21 having triangularly arranged, flattened, lateral studs 29, 31, 32 on one side thereof over which end links 35, 37, 39 of the chains 21, 23, 25 are fitted against turning on said studs. A chain retaining plate 41 is opposed to the body plate 21 with elongated triangularly arranged slots 43, 45, 47 therein fitting over the studs 29, 31, 33 to retain the links 35, 37, 39 on the studs 29, 31, 33, and which is spaced from said plate 27 and slightly from the links 35, 37, 39 by a central, flat top boss 49 on the body plate 27 on the same side as said studs which are grouped around said boss and spaced equidistantly therefrom. The body and retaining plates 21, 41 are detachably secured together with the retaining plate 41 clamped against the boss 49 by an “Allen” head bolt 51 inserted through a transverse bore 53 in the body plate 21 and boss 43, said bolt being threaded into a central bore 55 in the retaining plate 41 with the bolt head 57 countersunk in a socket 59 in the body plate 27. It will be noted, that the retaining plate 41 and body plate 27 retain the end links 35, 37, 39 between said plates, which is to say, in the coupler 19 flatwise between said plates so that end links cannot twist relative to the coupler.

As will be manifest, the links of chain 21, 23 are interposed in the spinning line 1 to form part thereof and because of their link construction and the end links thereof being retained between the plates 27, 41 flatwise relative thereto, and also because the coupler forms a rigid connection between said end links, there is less tendency for the spinning line to twist under straight line pull by the cathead 5 during the spinning operation. The chains 21, 23 may be as long as may be found feasible. The chains 21, 25 reduce the tendency of the spinning line 1 and jerk line 25 to twist for the same reason set forth relative to the chain, or links of chains 21, 23. As will also be seen, the chains 21, 23, 25 and the coupler 19 provide a very simple means for easily and quickly connecting a spinning line and jerk line
together, and for disconnecting the same if required.

The foregoing will, it is believed, suffice to impart a clear understanding of my invention, without further explanation.

Manifestly, the invention, as described, is susceptible of modification without departing from the inventive concept, and right is herein reserved to such modifications as fall within the scope of the appended claim.

What is claimed as new is as follows:

A spinning and jerk line connector comprising link chains interposed in the spinning line; and a link chain interposed in the jerk line; said chains having end links, and a chain coupler.

comprising a pair of opposed substantially triangular plates, one having triangularly arranged lateral flattened studs thereon over which said end links are fitted against turning thereon, the other plate having triangularly arranged slots fitting over said studs and retaining said end links flatwise relative to both plates, and means associated with said plates detachably securing the same together in spaced relation.

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