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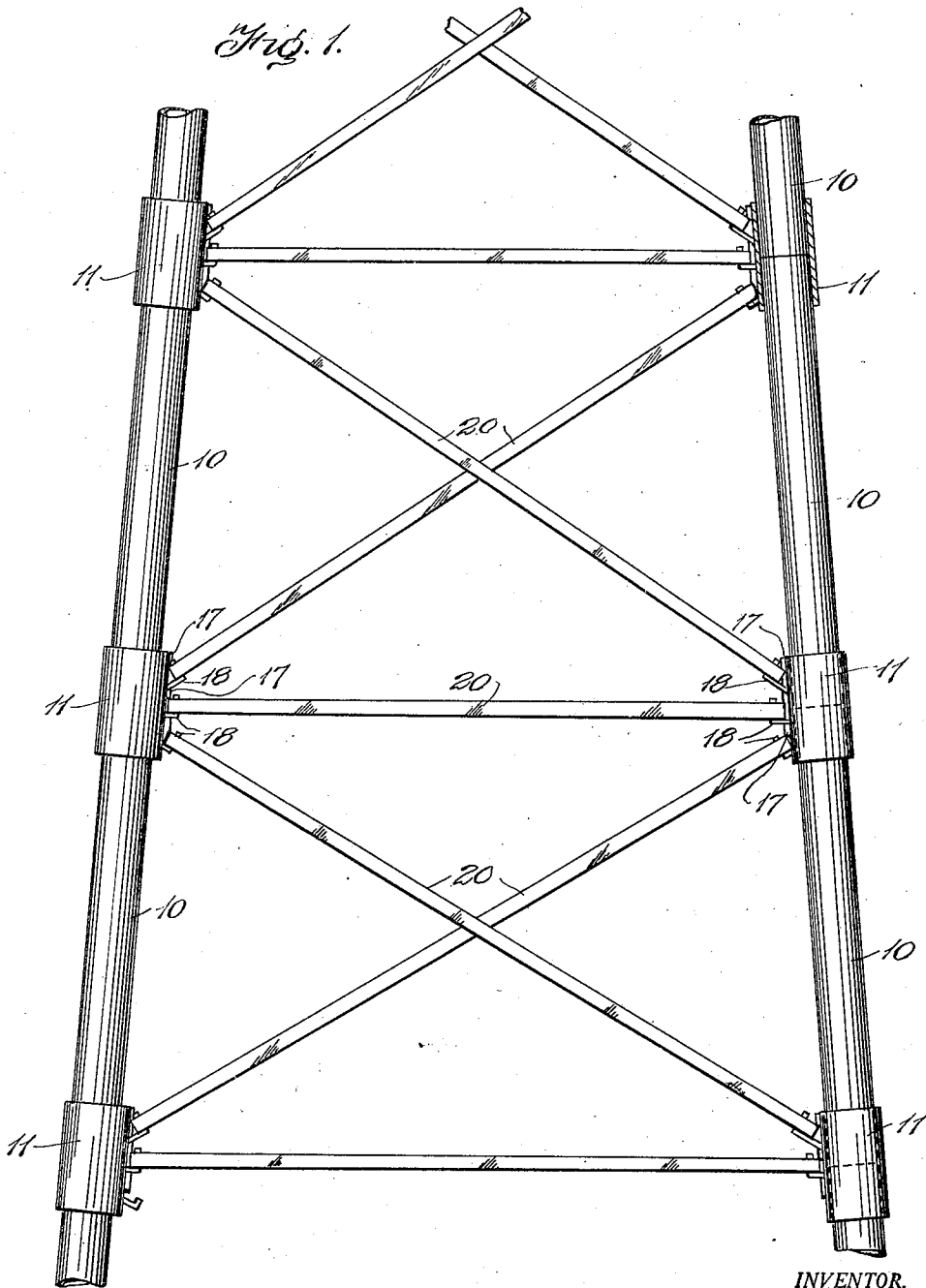
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1,738,667

WELL DERRICK CONSTRUCTION

Filed Feb. 7, 1928

3 Sheets-Sheet 1



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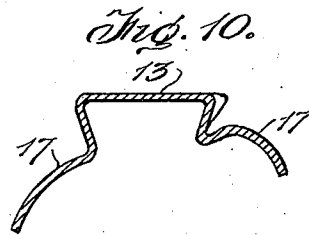
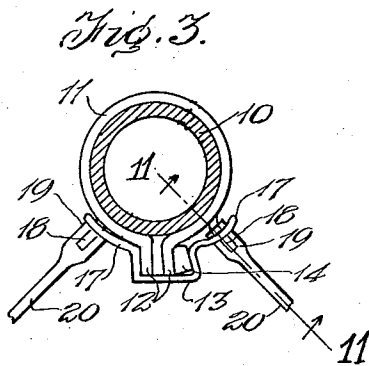
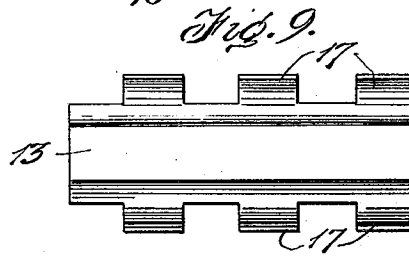
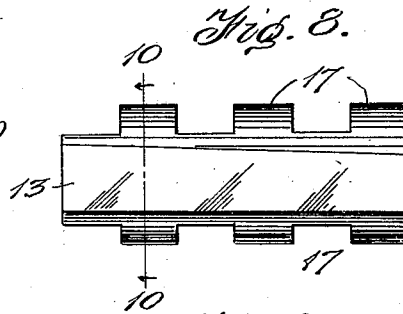
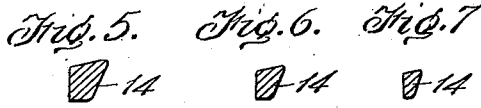
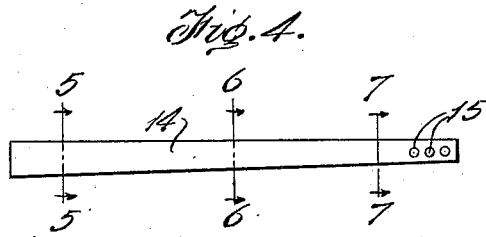
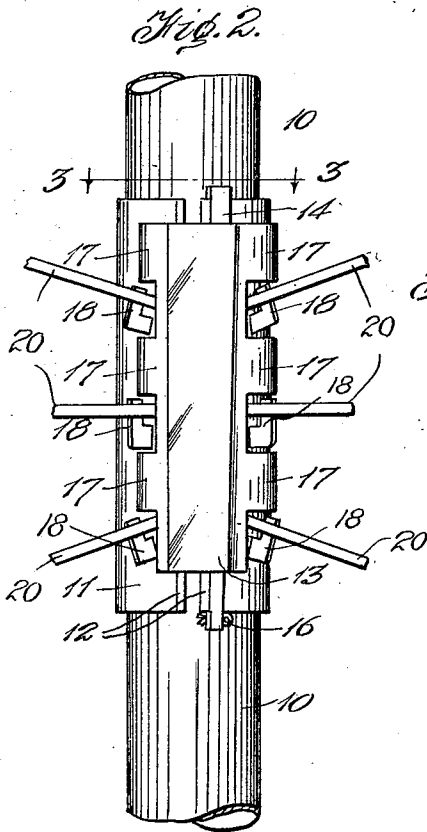
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WELL DERRICK CONSTRUCTION

Filed Feb. 7, 1928

3 Sheets-Sheet 2



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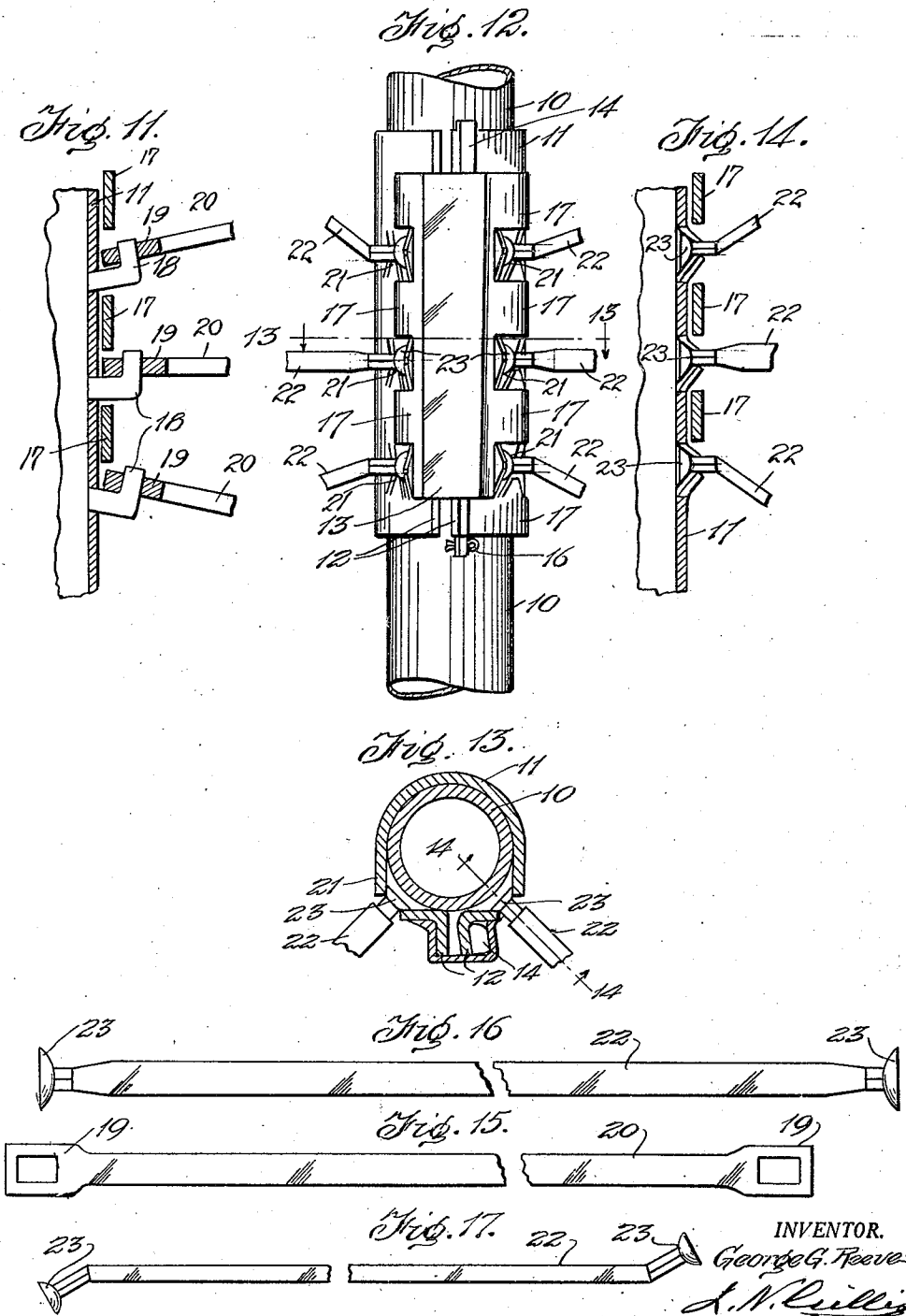
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WELL DERRICK CONSTRUCTION

Filed Feb. 7, 1928

3 Sheets-Sheet 3



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# UNITED STATES PATENT OFFICE

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## WELL-DERRICK CONSTRUCTION

Application filed February 7, 1928. Serial No. 252,484.

This invention relates to oil and other like wells and has special reference to the construction of oil well derricks and couplings therefor.

One important object is to improve the general construction of oil well derricks using tubular main members, the improved construction being so arranged that the corner members or struts, the girt members and the diagonal braces may be readily and expeditiously assembled without the use of bolts and nuts so that such a derrick can be erected with a minimum expenditure of time and labor.

A second important object of the invention is to provide a novel form of coupling for connecting the sections of the corner members or struts in abutting relation, the coupling requiring no bolts or nuts for making the connection.

A third important object of the invention is to provide a novel coupling for this purpose combined with improved girt and brace rods, the coupling and rods being so arranged that they may be connected without the use of bolts and nuts.

With the above and other objects in view as will be hereinafter apparent, the invention consists in general of certain novel details of construction and combinations of parts hereinafter fully described, illustrated in the accompanying drawings and specifically claimed.

In the accompanying drawings like characters of reference indicate like parts in the several views, and:

Figure 1 is a side elevation of a portion of a well derrick as constructed in accordance with this invention.

Figure 2 is an elevation of one form of coupling used herewith, the view being taken from within the derrick and looking from the center towards one of the corner posts.

Figure 3 is a section on the line 3—3 of Figure 2.

Figure 4 is a side view of a certain wedge or key used with the coupling.

Figure 5 is a section on the line 5—5 of Figure 4.

Figure 6 is a section on the line 6—6 of Figure 4.

Figure 7 is a section on the line 7—7 of Figure 4.

Figure 8 is a face view showing the inside of a channel member used herewith.

Figure 9 is a view of the part shown in Figure 8 but from the opposite side.

Figure 10 is an enlarged section on the line 10—10 of Figure 8.

Figure 11 is a detail section on the line 11—11 of Figure 3 showing only a portion of the coupling sleeve and its hooks.

Figure 12 is a view similar to Figure 2 but showing a modified form of coupling.

Figure 13 is a section on the line 13—13 of Figure 12.

Figure 14 is a section on the line 14—14 of Figure 13 showing only a portion of the coupling sleeve and its sockets.

Figure 15 is a detail view showing one of the rods used with the first form of coupling.

Figure 16 is a detail view showing the girt rod used with the second form of coupling.

Figure 17 is a detail view showing a brace rod as used with the second form of coupling.

The derrick here illustrated is shown as having its corner posts or struts made from a series of sections 10 of piping. However, the construction of such posts may be of any desired cross section, either tubular or solid and I accordingly am not limited in the use of the invention to a derrick built with metal posts of tubular form and circular in cross section, but I may use either metal or wood and may vary the cross sectional form, the couplings being shaped in cross section to suit.

Each post is built up of a number of such sections arranged in alinement with their ends abutting and at the joint between each adjacent pair of sections I provide one of the novel couplings. Both forms of couplings are alike except for the manner of connecting the girt and brace rods and in each form the coupling includes a main portion or body 11 so shaped in cross section as to nearly envelope the section ends at the joint. The adjacent edges of this body are slightly spaced and are provided with outwardly extending flanges 12

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which lie parallel to the axis of the body. Over these flanges fits a channel shaped clamping member 13, the flanges at the sides of the member converging inwardly as shown in Figure 10 and the flange at one side converging at an angle which gradually increases from bottom to top, the angle with the web of the channel being thus most acute at the lower end. The channel is wider than the distance between the flanges 12 and between one of these flanges and the flange of the channel which varies in angularity there is fitted a wedge 14 the cross section of which at any point is a trapezium so that it conforms to the space between said flange 12 and the tapering flange of the channel clamp. Thus, when the wedge 14 is inserted from the top and driven down the flanges 12 are drawn toward each other and the body 11 is tightly clamped on the adjacent post sections and holds them securely together and in alignment. In order to prevent the wedge 14 from slipping up accidentally, the lower end of the wedge is provided with a series of spaced pin holes 15 for the reception of a cotter pin 16 which, when inserted, engage the lower end of the channel clamp and thus prevents upward movement of the wedge. Each of the flanges of the channel clamp 13 is provided with three spaced wing members 17 for purposes which will be presently explained.

In the form of the device shown in Figure 2 the body 11 is provided, in spaced relation to each flange, with a vertically spaced trio of L-shaped lugs 18 each of which lies below a respective wing 17 and it will now be seen that the wings lie over these lugs and thus engage over the eyes 19 on the ends of the girt and brace rods 20, which are hooked on these lugs, and prevent them from becoming disengaged.

In the form shown in Figure 12 the lugs 18 are replaced by sockets 21 and the girt and brace rods 22 have button ends 23, the brace rods having these ends angularly disposed. In this form also the wings lock the rod ends in place. In each of these forms the lugs or sockets may be struck out of the metal of the body if sheet metal is used.

In assembling the device the post sections and bodies of the couplings are first fitted together. The girt and brace rods are then applied and the channel clamp applied and the wedge inserted and driven home.

There has thus been provided a simple and efficient device of the kind described and for the purpose specified.

It is obvious that minor changes may be made in the form and construction of the invention without departing from the material spirit thereof. It is not, therefore, desired to confine the invention to the exact form herein shown and described, but it is desired to include all such as properly come within the scope claimed.

Having thus described the invention, what is claimed as new, is:

1. In a well derrick construction, a corner post coupling including a longitudinally split tubular body having its longitudinal edges flanged outwardly, girt and brace rods, inter-fitting lug and socket connections formed on said body and the ends of said rods, a channel clamp engaging said flanges and arranged to engage the connections and prevent disengagement thereof, and a wedge engaging between one of said body flanges and a flange of said clamp.

2. In a well derrick construction, a corner post coupling including a longitudinally split tubular body having its longitudinal edges flanged outwardly, girt and brace rods, inter-fitting lug and socket connections formed on said body and the ends of said rods, a channel clamp engaging said flanges, wings on said channel engaging over said connections to secure them from disconnection, and a wedge engaging between one of said body flanges and a flange of said clamp.

3. In a well derrick construction, a corner post coupling including a longitudinally split tubular body having its longitudinal edges flanged outwardly, girt and brace rods, inter-fitting lug and socket connections formed on said body and the ends of said rods, a channel clamp engaging said flanges and having a web and flanges inclined toward each other to form a dove-tail channel, one of the channel flanges tapering toward the other from end to end, the flanges on the body being similarly inclined away from each other, and a wedge engaging between one of said body flanges and the tapering flange of said clamp.

4. In a well derrick construction, a corner post coupling including a longitudinally split tubular body having its longitudinal edges flanged outwardly, girt and brace rods, inter-fitting lug and socket connections formed on said body and the ends of said rods, a channel clamp engaging said flanges and having a web and flanges inclined toward each other to form a dove-tail channel, one of the channel flanges tapering toward the other from end to end, the flanges on the body being similarly inclined away from each other, wings projecting from the channel flanges and engaging over said connections to secure them from accidental disengagement, and a wedge engaging between one of said body flanges and the tapering flange of said clamp.

5. In a well derrick construction, a corner post coupling body having sets of hooks projecting therefrom at right angles to each other, each of said sets including a central horizontally projecting girt rod hook and upwardly and downwardly inclined upper and lower brace rod hooks, girt and brace rods having eye ends engaging said hooks, said coupling body being split longitudinally between the sets of hooks and having its split

edges flanged outwardly, a channel clamp en-  
gaging the flanged edges, a wedge between  
one of said edges and a flange of the clamp,  
and wings on said clamp engaging over said  
5 eyes to secure the eyes on the hooks.

In testimony whereof I affix my signature.

GEORGE G. REEVES.

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