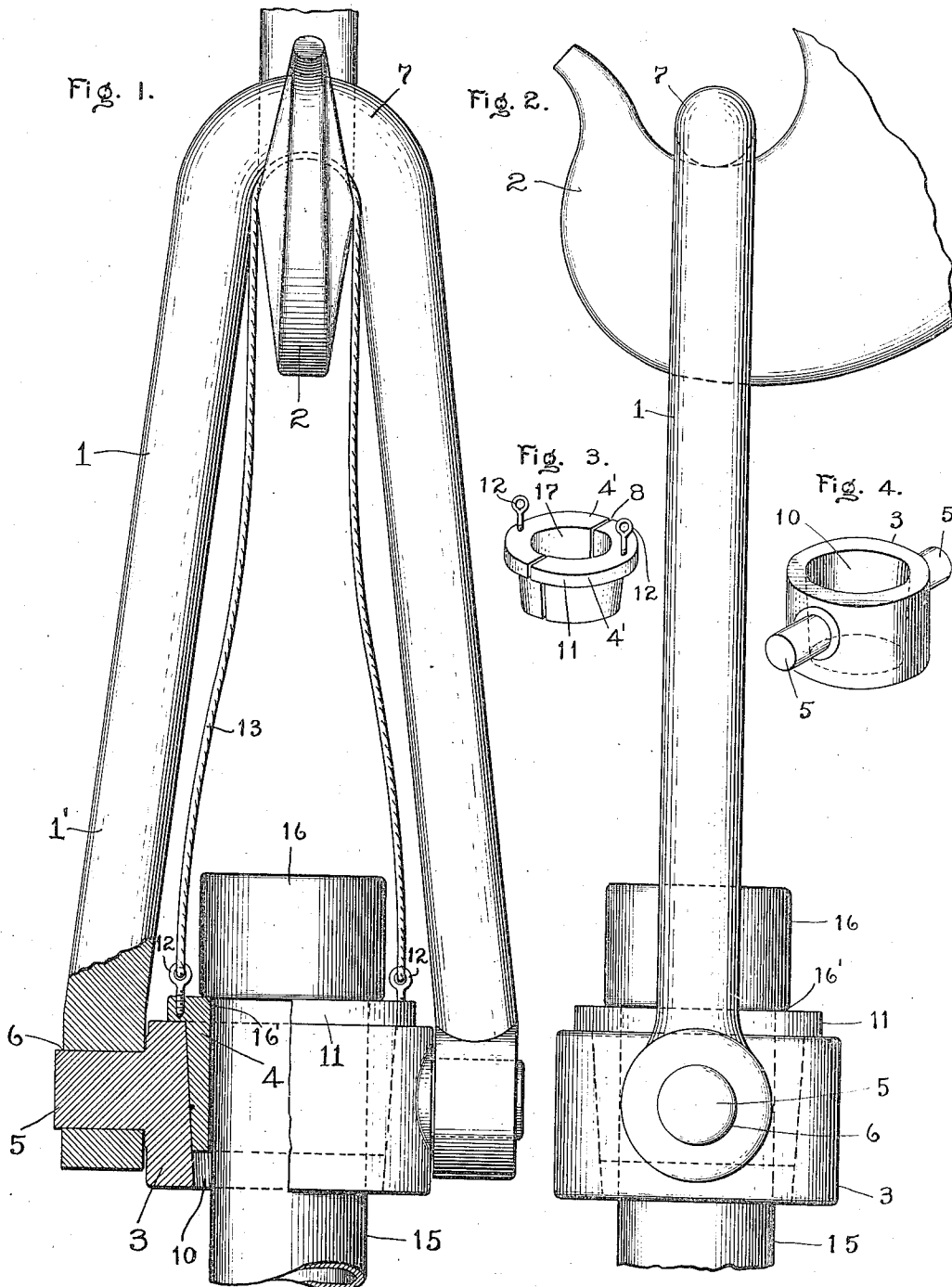


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 APPARATUS FOR ELEVATING CASINGS.
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1,014,955.

Patented Jan. 16, 1912.



Witnesses:-
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UNITED STATES PATENT OFFICE.

EDWARD DOUBLE AND ALLEN CRAIG, OF LOS ANGELES, CALIFORNIA.

APPARATUS FOR ELEVATING CASINGS.

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Specification of Letters Patent.

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To all whom it may concern:

Be it known that we, EDWARD DOUBLE and ALLEN CRAIG, citizens of the United States, residing at Los Angeles, county of Los Angeles, and State of California, have invented a new and useful Apparatus for Elevating Casings, of which the following is a specification.

This invention relates to apparatus for taking hold of well casings to elevate the same, and for handling well casings in the derrick.

The main object of the invention is to provide means for this purpose which do not require the lifting of heavy parts and which can be quickly and easily placed into or out of operating position in engagement with the casing.

Another object of the invention is to provide an apparatus for the above stated purpose, in which the main members of the elevator apparatus, which are necessarily of heavy construction, always remain in suspended position on the elevating means or line, the only parts which are removed being relatively small and light and capable of convenient removal or insertion by hand, the heavier parts being sustained, lifted and moved by mechanical power.

Other objects of the invention will appear hereinafter.

The accompanying drawings illustrate the invention, and referring thereto: Figure 1 is a side elevation of the apparatus partly in section. Fig. 2 is an end elevation thereof. Fig. 3 is a perspective of a split sleeve for insertion into the main ring member of the apparatus. Fig. 4 is a perspective of said main ring member.

The apparatus comprises a suspending loop or bail 1 adapted to be engaged and supported on the usual hook 2 attached to the line not shown, a main ring member 3 supported on said loop 1, and an insertion member 4 adapted to be inserted within said ring member 3, as hereinafter set forth. The ring member 3 is formed of sufficiently strong and heavy construction to take the strain incurred in elevating the casing, and is provided at diametrically opposite portions with pins or stud shafts 5 extending through eyes 6 in the lower ends of the loop member 1. Said loop member 1 is also necessarily of strong and heavy construction, and is formed preferably in inverted V-shape with its side members 1' converging

upwardly and united by a band 7 at the upper end fitting over the suspension hook 2. The ring member 3 and the pins 5 thereon are preferably of integral or unitary construction and the suspension loop 1 is engaged over said pins by bending it into position with the eyes 6 thereon engaging said pins, so that when once formed in this manner the parts remain in connected relation, there being no possibility of dislodgment by working loose of parts. In this connection it will be noted that the strain of suspension on the member 1 exerted through the downwardly divergent arms 1' tends to hold said arms against the ring member, preventing dislodgment.

The insertion member 4 consists of a split sleeve formed in two portions 4' separated as shown at 8, the outer face of this sleeve forming an inverted frusto conical or downwardly tapering surface, and the interior space or bore 10 of the ring 3 being similarly shaped so as to fit the outside of said sleeve. Said sleeve has a flange 11 at the top on both portions thereof adapted to rest on top of the ring 3. Each of the portions 4' of the sleeve 4 is preferably provided with means, such as an eye 12, to receive a suspension means such as a line 13, facilitating removal and transportation of said sleeve portions, said line being of sufficient length to hook over the suspension hook 2 when the apparatus is in operation.

The interior space or bore 10 of the sleeve 3 is of sufficient diameter to pass freely over the largest portion of the casing 15 which is to be elevated, such largest portion being in general the coupling sleeves 16 at the ends of the sections or the head at the top of the string of sections. The bore 17 of the split sleeve 4, however, is of such diameter that said sleeve, when in position on the ring 3, will fit closely around the casing 15 and will engage underneath the shoulder 16' formed by the sleeve head or collar 16 at the upper end of the casing.

The apparatus is used as follows: The main elevator member 3, with its suspension means 1, is brought into position over the casing, the split sleeve 4 having been removed, and is then lowered over the casing so as to surround the casing somewhat below the enlargement or collar 16 thereon. This operation being performed by the suspension means 2 and its operating line without requiring manual operation of any heavy

parts, these heavy parts 1 and 3 being lifted, moved and lowered by mechanical power. The split sleeve 4 is then slipped into position, the two portions 4' thereof being placed
 5 at either side of the casing 15 so as to embrace the same and extend under the enlargement 16, it being understood that the main member 3 has previously been lowered sufficiently to enable these parts to be slipped
 10 into such position. On then lifting the members 1 and 2 by the mechanical operating means, the split ring 4 is caused to engage under the enlargement or collar 16, the apparatus thus engaging effectively with
 15 the casing for elevating same. To remove the apparatus from the casing, it is only necessary to lower the member 3 by its suspension means, the taper of the engaging portions of the members 3 and 4 then enabling their separation and the quick and convenient dislodgment of the sleeve 4 from the main ring 3. The sleeve members 4' are preferably left suspended by the rope or chain 13 to the hook 2, thus retaining the
 25 whole apparatus in position for ready connection with another section of casing without the necessity of removing any portion of the elevating means from the elevator line.
 30 The function of the sleeve or insertion member 4 is to serve as an insertible block between the ring or elevator member 3 and the enlargement or collar on the casing to transmit the strain by means which are detachable from said elevator member and casing,
 35 and this function could obviously be effected by any means insertible between said elevator member and casing and engaging both of same so as to transmit the vertical
 40 strain, as stated.

What we claim is:

1. An apparatus for elevating well casings, comprising a solid ring adapted to pass freely over the casing and an enlargement
 45 thereon, and freely removable and insertible split ring members adapted to be slipped into the solid ring and fit between the solid ring and the casing and to engage under the enlargement on the casing, each of said

insertible members having a flange extending over the top of the solid ring between the enlargement on the casing and the top of the solid ring.

2. An apparatus for elevating well casings, comprising a solid main ring member
 55 of sufficient internal diameter to pass freely over the casing and over an enlargement at the top of the casing, means for suspending said main ring member and a split ring removably seated within said main ring member and of internal diameter sufficiently small to engage under such enlargement at the top of the casing, said split ring and adapted to fit the casing fitting within said main ring and the engaging portions of said rings
 60 being downwardly tapering, and said split ring having lateral flanges at its upper end engaging over the top of the main ring.

3. An apparatus for elevating well casings, comprising a solid main ring member
 70 of sufficient internal diameter to pass freely over the casing and over an enlargement at the top of the casing, means for suspending said main ring member and a split ring removably seated within said main ring member and of internal diameter sufficiently small to engage under such enlargement at the top of the casing, and a flexible connector connected to each portion of the said split ring for suspending the split ring.
 80

4. An apparatus for elevating well casings comprising a solid ring adapted to pass freely over the casing and collar thereon, and means removably supported on and engaging with the top of the solid ring and
 85 constructed to engage under the enlargement on the casing to support the same, said supporting means being provided with extensions adapted to be slipped between the solid ring and the casing.
 90

In testimony whereof, we have hereunto set our hands at Los Angeles, California this 26th day of May 1910.

EDWARD DOUBLE.
 ALLEN CRAIG.

In presence of—

FREDERICK G. LYON,
 FRANK L. A. GRAHAM.