

Dec. 19, 1939.

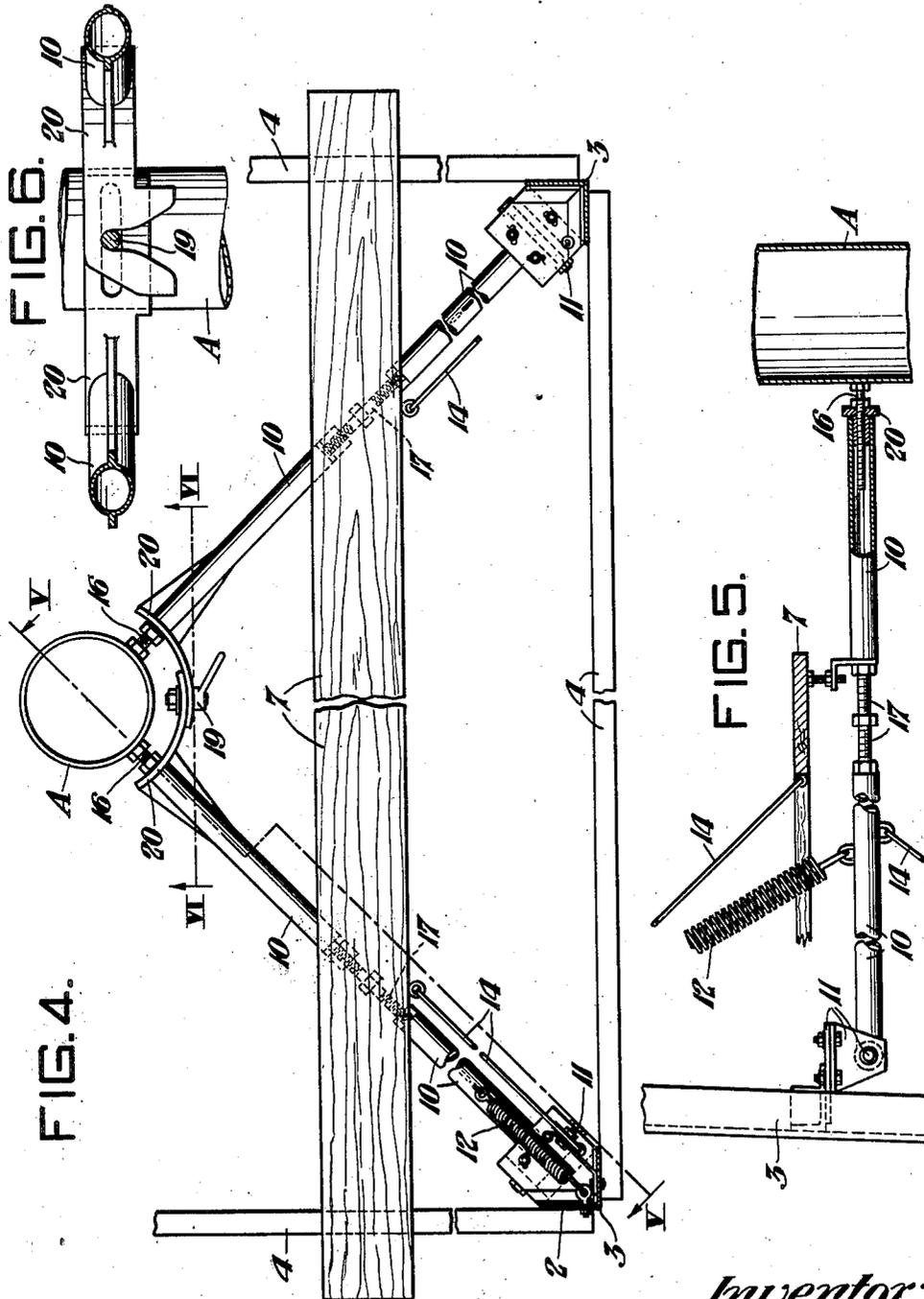
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2,184,051

WELL CASING ALIGNING GUIDE

Filed Dec. 29, 1937

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UNITED STATES PATENT OFFICE

2,184,051

WELL CASING ALIGNING GUIDE

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Application December 29, 1937, Serial No. 182,319

2 Claims. (CL 255—1)

This invention relates to apparatus for setting casing in oil wells and the like and more particularly to a guide for aligning the casing to assist the starting of screw-threaded casing or to insure the casing being properly aligned where the joints are welded.

In setting well casing it has heretofore been the common practice to align the casing manually. That is, a platform was placed on the derrick at about the upper end of the casing section being joined to the upper end of the preceding section which had been previously lowered in the well, and an operator stood on this platform or "stabbing-board" and held the casing in what appeared to him to be in vertical alignment with the section below. In the case of threaded joints, misalignment causes difficulty in starting the threads together, and in welded joints puts a heavy strain on the joint as it is lowered into the bore hole, frequently causing failure of the joint.

It is accordingly an object of the present invention to provide an efficient apparatus for accurately aligning casing.

Another object of the present invention is the provision of a device of the class described which is inexpensive to make and use.

The foregoing and other objects will be apparent after referring to the drawings, in which: Figure 1 is a plan of the device of the invention.

Figure 2 is a side elevation.

Figure 3 is a view similar to Figure 2 taken at right angles with respect thereto.

Figure 4 is an enlarged plan illustrating certain details.

Figures 5 and 6 are sectional views on the lines V—V and VI—VI, respectively, of Figure 4.

Referring more particularly to the drawings, the numeral 2 designates a derrick of conventional type composed of corner uprights 3 and cross-bracing members 4. A casing section A, which is to be joined to the section B and lowered into the well, is raised into upright position by a cable 5 operating over a pulley 6. A platform or "stabbing-board" 7 is placed across the derrick 2 and supported on the cross-bracing members 4 at a position adjacent the upper end of the casing section A.

The guide of my invention is composed of at least two extensible arms 10 which are pivotally connected as at 11 to the corner uprights 3. The arms 10 are normally held in a substantially horizontal position against the under side of the "stabbing-board" 7 by means of springs 12, but may be lowered therefrom by a pulley and cable

arrangement 14. In order to adjust the guide arms 10 for different size casings, adjustable contact points 16 are provided. In addition, screw-threaded adjusting members 17 may also be provided in the guide arms 10. The guide arms 10 are connected adjacent their inner extremities by a clamp 19 on a connecting bracket member 20.

In operation: a section of casing A is raised into a vertical position by the cable 5. The operator on the "stabbing-board" (by merely guiding the casing section A into position against the contacts 16, which have been previously adjusted to the correct position for the size of casing being set) can perfectly align the casing section A with respect to the lower casing section B. The casing section A is then held against the contacts 16 by reason of the pulley 6 being slightly offset with respect to the center of the derrick and therefore slightly closer to the side on which the guide arms 10 are mounted than to the other sides of the derrick. After the two sections A and B have been joined together, they are lowered into the well so that the section A assumes the position previously occupied by the section B. Due to the fact that the guide arms 10 are pivotally mounted and spring biased into position they will be deflected downwardly when the casing sections are lowered and hence will not catch on the belled end or coupling as the casing is lowered.

While I have shown and described a specific embodiment of my invention, it will be understood that I do not wish to be strictly limited thereto as various modifications can be made within the scope of the appended claims.

I claim:

1. In combination with a well derrick, a well casing aligning device comprising at least two outwardly divergent radial guide arms extending substantially perpendicular to the axis of the hole of the well, each of said radial guide arms being rigid against longitudinal compression stresses, the outer ends of said radial guide arms being mounted for vertical pivotal movement, the inner ends of said radial guide arms terminating adjacent the axis of the hole of the well and adapted for simultaneous contact with a single well casing to thereby align the same, means connecting the inner ends of said radial guide arms, a platform disposed over said radial guide arms and substantially perpendicular to the axis of the hole of the well, means adapted to yieldably maintain said radial guide arms in substantial parallelism with said platform to thus hold them substantially perpendicular to the axis of the hole of the well, and means operable from said platform

to move said radial guide arms away from said platform and against the action of said last-named means.

- 5 2. In combination with a well derrick, a well casing aligning device comprising at least two outwardly divergent radial guide arms extending substantially perpendicular to the axis of the hole of the well, each of said radial guide arms being rigid against longitudinal compression stresses, 10 the outer ends of said radial guide arms being mounted for vertical pivotal movement, the inner ends of said radial guide arms terminating adjacent the axis of the hole of the well, a well casing contact on the inner end of each of said radial 15 guide arms, said contacts being adjustable axially

of said radial guide arms and adapted for simultaneous contact with a single well casing to thereby align the same, means connecting the inner ends of said radial guide arms, a platform disposed over said radial guide arms and substantially perpendicular to the axis of the hole of the well, means adapted to yieldably maintain said radial guide arms in substantial parallelism with said platform to thus hold them substantially perpendicular to the axis of the hole of the well, and means operable from said platform to move said radial guide arms away from said platform and against the action of said last-named means.

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