G. E. FRITTS.

CLAMP.

APPLICATION FILED JULY 3, 1912.

1,086,813. Patented Feb. 10, 1914.

Fig. 1.

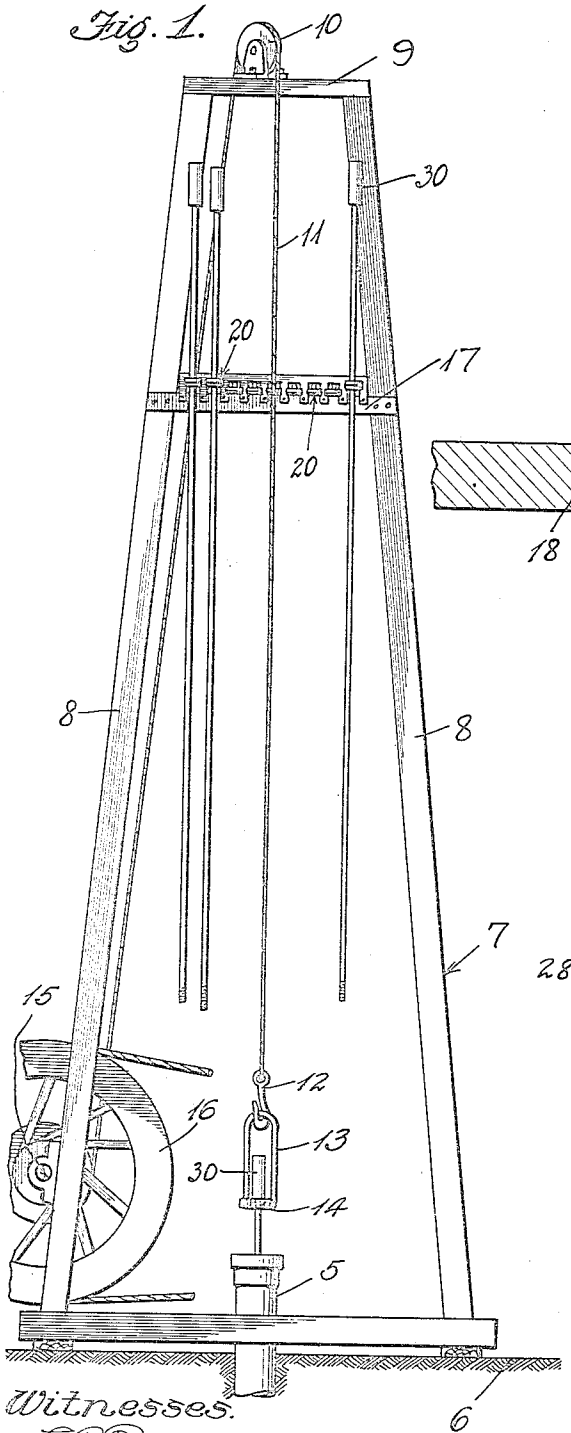


Fig. 2.

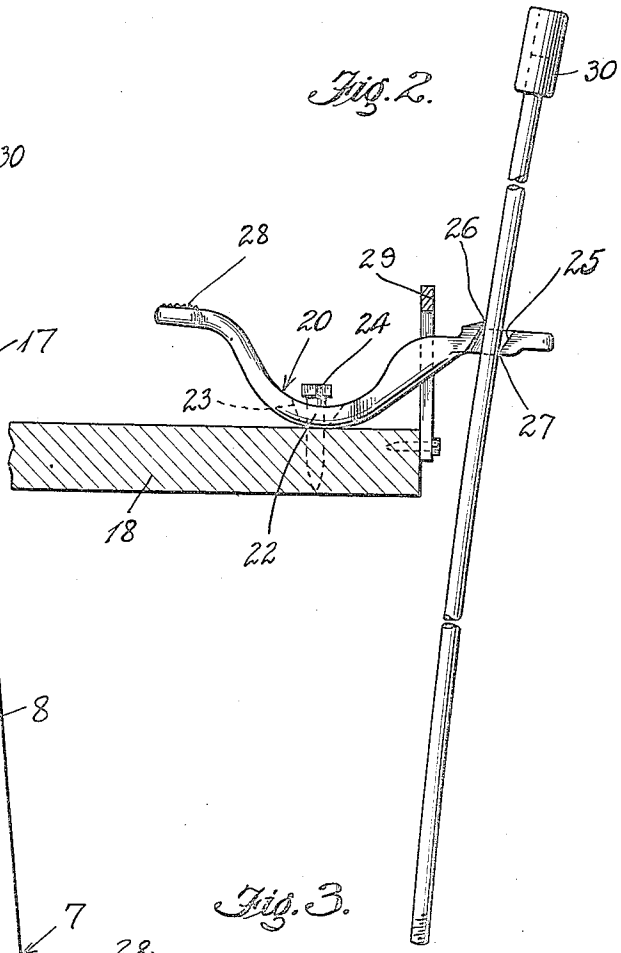
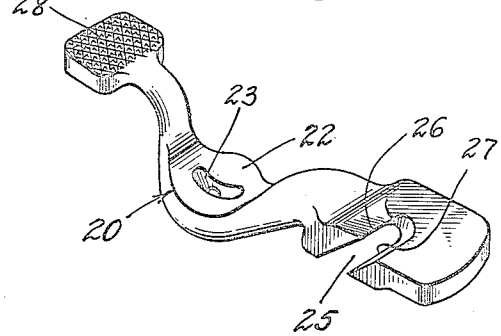


Fig. 3.



Witnesses.

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UNITED STATES PATENT OFFICE.

GEORGE E. FRITTS, OF MARICOPA, CALIFORNIA.

CLAMP.

1,086,813. Specification of Letters Patent. Patented Feb. 10, 1914.

Application filed July 3, 1912. Serial No. 707,625.

To all whom it may concern:

Be it known that I, GEORGE E. FRITTS, a citizen of the United States, residing at Maricopa, in the county of Kern and State of California, have invented a new and useful Clamp, of which the following is a specification.

My invention relates more particularly to an automatically operated gripping clamp designed for maintaining rods and similar articles in a suspended position, and the main object thereof is to provide an automatically operated friction clamp, whereby the sections of sucker rods may be held in a convenient suspended position as the sections are detached from one another when withdrawing sucker rods from a well. I accomplish this object by means of the device described herein and illustrated in the accompanying drawing in which,

Figure 1 is a side elevation of an oil well rig having a plurality of my improved clamps in operative position on the rigging, some of the clamps having rods suspended therein. Fig. 2 is a side elevation of one of my improved clamps showing a section of a sucker rod suspended therein. Fig. 3 is a perspective view of the clamp.

In oil well constructions the sucker rod of the oil well pump which is sometimes very long, depending entirely upon the depth of the well, is formed in sections, said sections being secured together by means of couplings. When for any reason the sucker rod is withdrawn from the well so as to repad the valves or other pumping mechanism, it has been the custom to elevate the rod and mechanism attached thereto upwardly out of the well, the elevator being attached below the coupling of the uppermost section. Secured to the oil well rig is a board, occupying approximately the same position as occupied by my improved clamps in the drawing, having a notched edge. Each section is drawn upwardly until the uppermost rod section is in place in one of the notches of the board. The rod is held by physical means in this position until the elevator can be removed, the rod sliding downwardly in the notch until the coupling on the upper end of the rod contacts with the support in which the notches are formed. This method has been found to be an extremely cumbersome proceeding, necessitating a great deal of labor, besides consuming an unnecessarily large amount of time.

By means of my improved clamp, as the sections of the sucker rod are withdrawn they may be passed into the recess formed in the clamp and the elevator released therefrom th clamps holding them securely in a suspended position while the elevator is removed and replaced on the adjacent lower section.

Referring more particularly to the drawings, 5 designates the usual casing of an oil well, which projects above the surface of the ground 6. Erected over the casing is the usual derrick structure 7, which consists of uprights 8 joined together at the top thereof by transverse beams 9. Mounted on this derrick and at the top thereof is a hoisting mechanism which preferably consists of a sheave 10 over which a cable 11 passes, the free end of the cable being provided with a hook 12 adapted to engage the upper end of an elevator 13 of the usual type. This elevator is provided on its lower end with a latch mechanism 14 by means of which it may be removed instantly from or attached to a sucker rod. The opposite end of cable 11 extends downwardly and is attached to the drum or axle 15 of a "bull" wheel 16 of usual type.

Adjacent to the top of the derrick is secured a plurality of transverse beams 17 which support a floor 18, and around the edges thereof are mounted a plurality of my improved friction clamps 20. The clamp 20 preferably consists of a rocker-shaped body, the curved section forming a bearing 22 and adapted to be pivotally secured to the platform floor 18 as clearly shown in Fig. 2 of the drawing. This bearing 22 is provided with an elongated slot 23 through which a pivotal bolt 24 passes into the flooring 18. The outer end of the clamp projects at substantially right angles to the rocker-shaped portion and is provided in one side thereof with a slot 25 whose edges incline inwardly and downwardly toward the center of the clamp as clearly shown in Fig. 2 of the drawing. This slot is for the purpose of suspending a section of the sucker rod therein, the upper and lower edges 26 and 27 of the opposite sides of the recess biting into the rod and holding the same securely in a suspended position. The end of the clamp opposite to the slotted end is bent outwardly at right angles to the body portion as best shown in Fig. 2 of the drawing to form a foot operating pedal 28 by means of which

the rod may be instantly released from the clamp.

Secured to one of the edges of flooring 18 is an upwardly extending slotted member 29 which forms a plurality of bearings for the clamps, best shown in Figs. 1 and 2 of the drawing. The purpose of this bearing is to prevent any lateral movement of the clamps 20 when supporting sections of the sucker rod.

The operation of withdrawing a sectional sucker rod from a well is as follows, when employing my improved holding clamps: The elevator 13 is attached to the rod below the coupling 30, as best shown in Fig. 1 of the drawing, and the sectional sucker rod is then pulled upwardly out of the well until a plurality of sections have been exposed. As soon as the upper or top section of the rod has been inserted in a clamp, another elevator (not shown) is applied to the succeeding section below the coupling and resting on top of the well casing 5 to sustain the weight of the sectional rod while the elevator 13 is being removed from the first section. When the elevator 13 has been removed it is dropped to the platform of the rigging and the hook 12 is applied to the second elevator, the rod being then pulled upwardly out of the well and the next section inserted in the clamp in the manner just described. This operation is continued until all the sections of the rod are suspended in a convenient position in the clamps mounted on the well rigging.

It will be noted that by means of my improved clamps that it will be comparatively easy to withdraw and disconnect the various sections of a sectional sucker rod without much labor, and that when the rod is put together again the assembling operation will be equally as easy.

What I claim is:

1. A clamp, comprising an elongated bowed body, said body having an elongated slot, a headed pin engaged by said slot, adapting said body to be rockingly secured to a support, one end of said body provided in one side thereof with an inclined slot inclined toward the pivot formed by the pin and transversely disposed, the oppositely disposed walls of said slot being parallel, the edges formed being adapted to grip an object when placed therein, the opposite end of said member being formed into a foot lever for rocking the clamp to release the object gripped in said slot.

2. In a pipe clamp device, in combination with a supporting floor of an elongated curved rocker shaped body adapted to rock on said floor, said curved portion of said body being widened on its floor engaging surfaces and provided with a slot, a pin engaging in said slot and secured to said support, horizontal arms connected to each end of said body, one of said arms being provided with a slot having parallel faces disposed at right angles to the rocking plane of said body and having said parallel faces inclined from the horizontal plane so that oppositely disposed edges formed thereby will grip a pipe or rod inserted therein, the opposite arm acting as an operating lever for said clamp, and a guide plate embracing said body to limit and control the movement thereof.

In witness that I claim the foregoing I have hereunto subscribed my name this 27th day of June, 1912.

G. E. FRITTS.

Witnesses:
M. J. WEBB,
EARLE R. POLLARD.