Dec. 6, 1932. R. E. STICKEL 1,890,135

BEAM HANGER

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Fig. 1.

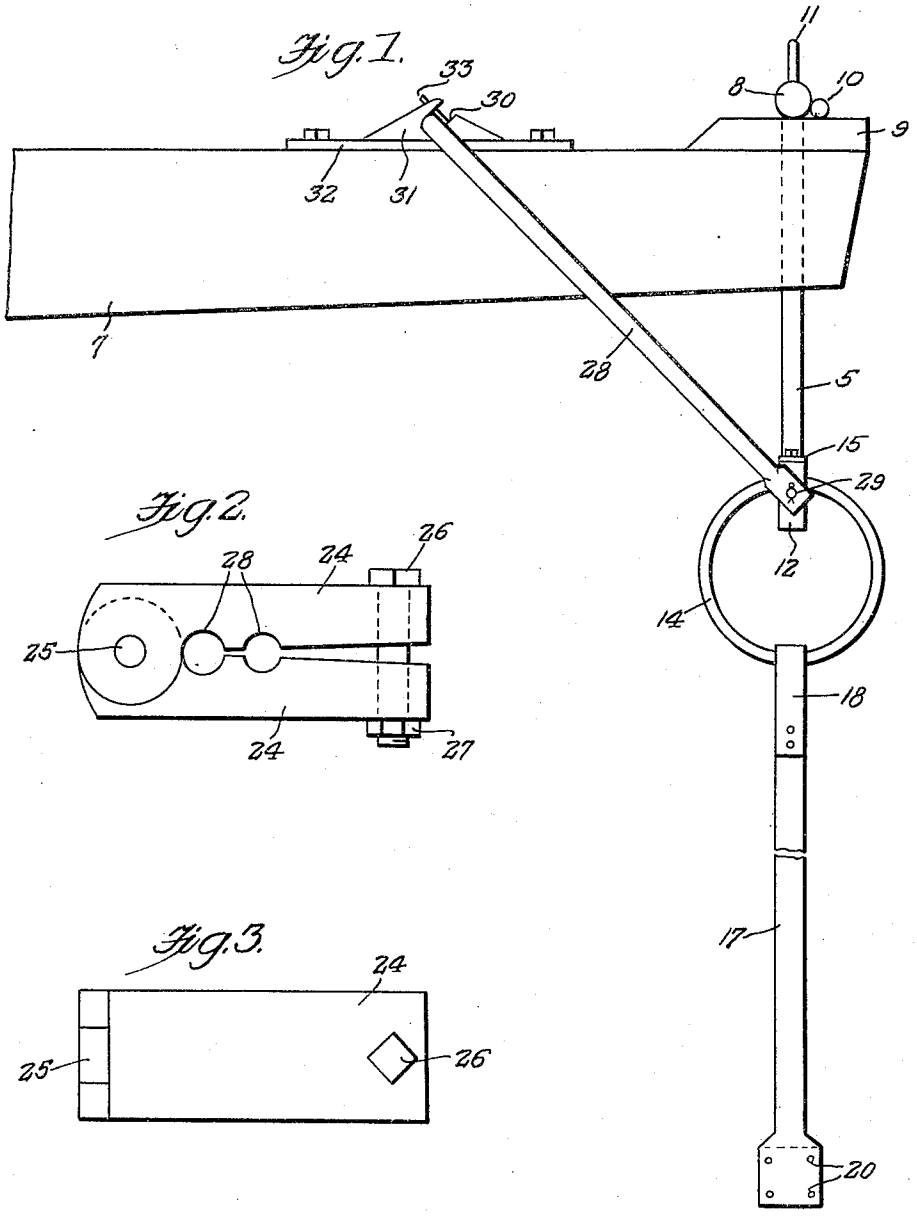
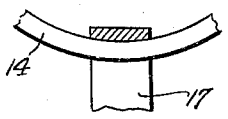


Fig. 2.

Fig. 3.

Fig. 4.



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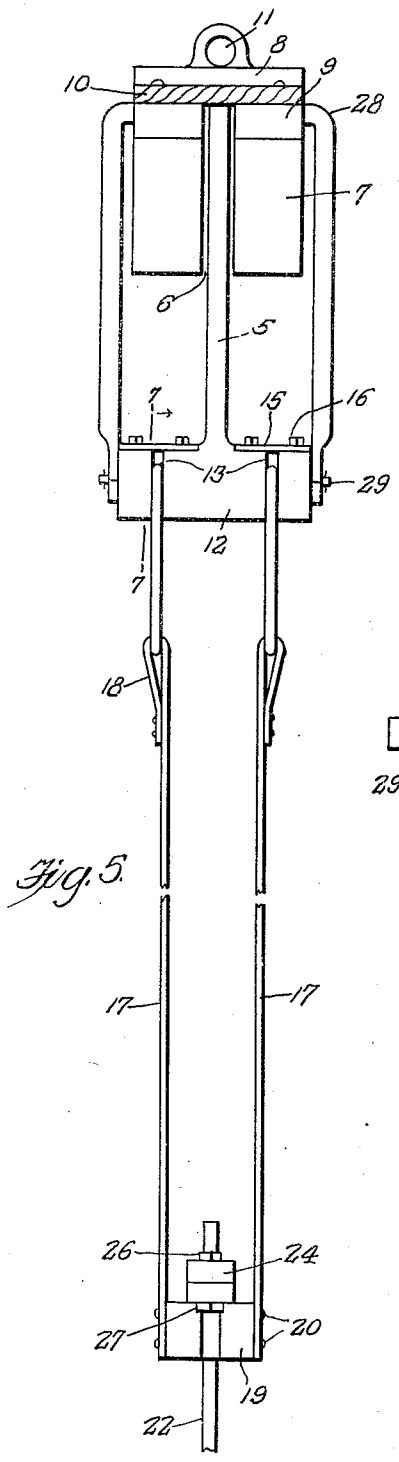
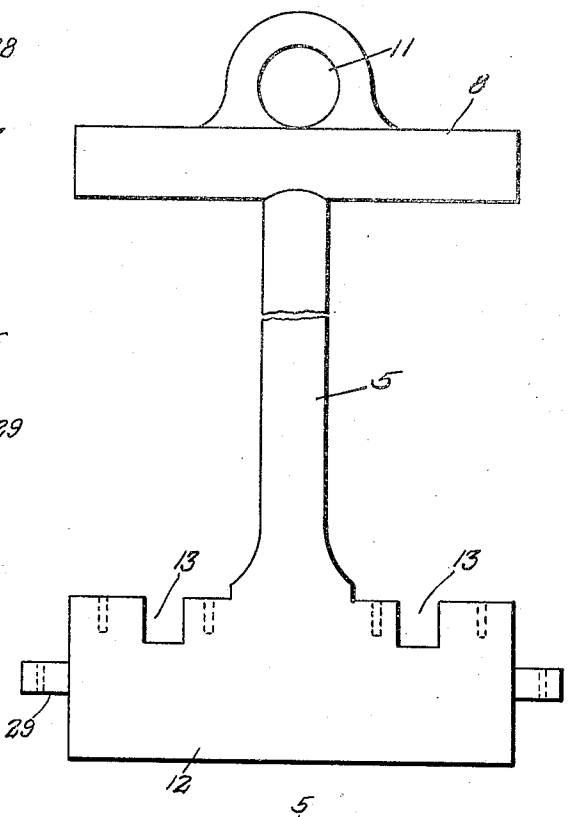


Fig. 5.

Fig. 6.



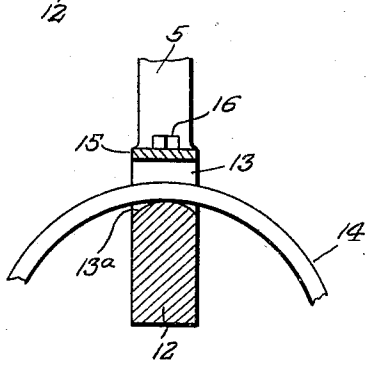


Fig. 7.

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BEAM HANGER

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Fig. 8.

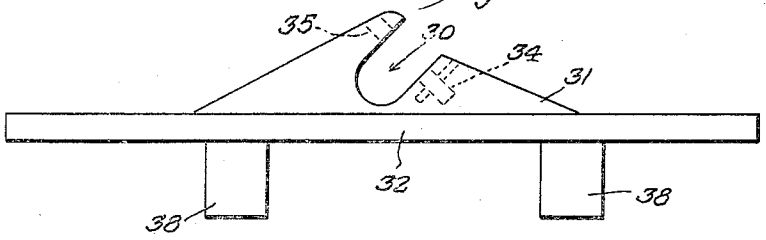


Fig. 9.

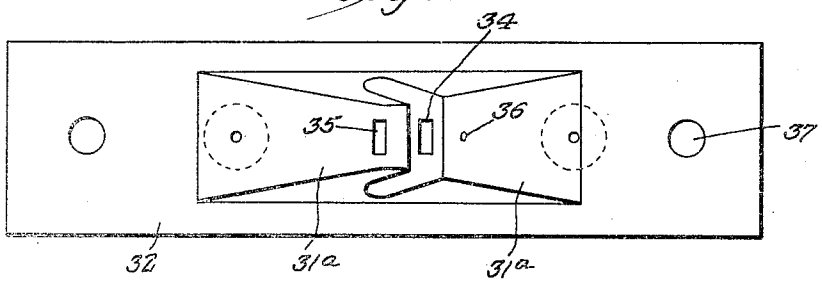


Fig. 10.

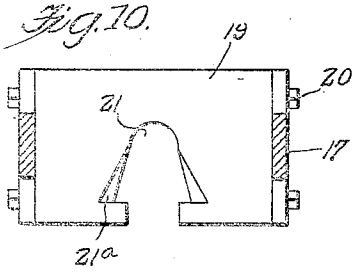
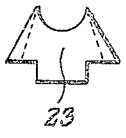


Fig. 12.



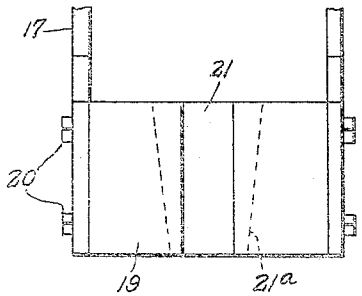


Fig. 11.

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UNITED STATES PATENT OFFICE

RALPH E. STICKEL, OF SEMINOLE, OKLAHOMA

BEAM HANGER

Application filed May 13, 1932. Serial No. 611,227.

This invention relates to what is known as a beam hanger that is a portion of the means employed for connecting walking beams or other fulcrumed operating members to the polish rods of deep well pumps, and in accordance with the present invention a hanger of the type mentioned is provided that will be found durable, the parts being so arranged that wear on the parts will be reduced to a minimum; and further the hanger of the present invention will not require it being taken off the beam during the pulling operation of the polish rod or well tubing.

The invention together with its numerous objects and advantages will be best understood from a study of the following description, taken in connection with the accompanying drawings wherein:

Figure 1 is a side elevational view of a beam hanger constructed in accordance with the present invention.

Figure 2 is a plan view of a polish rod clamp.

Figure 3 is a side elevational view thereof.

Figure 4 is a fragmentary sectional elevational view illustrating the manner of connecting a strap with a suspension ring.

Figure 5 is an elevational view at right angles to Figure 1.

Figure 6 is a front elevational view of a suspension stem.

Figure 7 is a fragmentary detail sectional elevational view taken substantially on the line 7—7 of Figure 5.

Figure 8 is a side elevational view of a keeper plate.

Figure 9 is a top plan view of the keeper plate.

Figure 10 is a horizontal sectional elevational view looking down on a block forming part of the invention.

Figure 11 is a front elevational view of the structure shown in Figure 10, and

Figure 12 is a top plan view of a keeper wedge.

In the drawings, 5 designates a suspension stem which, as shown in Figures 1 and 5 extends through the usual slot 6 provided in the walking beam 7, and at its upper end the stem is provided with a lateral head 8 engaging wear blocks 9 provided on the top side of the beam 7, and a short piece of rope, or other suitable device 10 is employed for retaining the head 8 in engagement with the wear blocks 9 to permit limited swinging movement of the stem 5. Preferably the head 8 is provided with an eye 11 with which hoisting tackle may be connected when it is desired to assemble the beam hanger on the walking beam or removed therefrom.

The stem 5 at its lower or bottom end is provided with a block-like formation 12 provided on its top side and adjacent relatively opposite ends with notches 13 having convexed bottoms 13a. Rings 14 are engaged with the notches 13 and retaining plates 15 are provided for the notches and are secured in operative position relative to the notches on the top side of the block 12 by bolts or other suitable fastening elements 16.

Metallic straps 17 have their upper ends passed through the rings 14 and then bolted to provide loops 18 whereby said straps are loosely suspended from the rings 14.

A block 19 formed desirably of steel and of oblong configuration has anchored to the ends thereof as at 20 the lower ends of the straps 17. The block 19 is provided on one side face with a vertically disposed recess 21 for accommodating the polish rod 22. A vertically disposed dovetailed slot 21a forms a continuation of the recess 21 and a rod retaining wedge 22 is adapted to engage the slot 21a and to embrace the rod 22 to prevent lateral displacement of the polish rod.

In Figures 2 and 3 I have shown a polish rod clamp that will be found especially desirable for use with the hanger constituting this invention, and as shown in said figure, the hanger comprises a pair of complemental sections or jaws 24, 24 hingedly connected together at one end as at 25; and the jaws 24, 24 are secured in clamped engagement about the polish rod through the medium of a bolt 26 extending through the free end of the jaws and equipped with a nut 27. The confronting faces of the jaws 24, 24, are provided with various sized recesses 28 to accommodate polish rods of different diameters.

From the description of the invention thus far, it will be apparent that as the walking beam 7 swings up and down the suspension ring by reason of the convex bottoms 13ª of notches 13 will tend to rock back and forth without undue swinging, thus reducing wear on the ring; and further that upon such movement of the beam 7 the stem 5 will have a tendency to remain in axial alinement with the polish rod 22 so that the latter will move vertically up and down with little or no lateral sway or swinging movement.

The hanger also includes strengthening and steadying means, and in the present instance such means consists of a substantially U-shaped bar 28 that has the side portions thereof at the open end of the U pivoted as at 29 to the ends of the block 12. The bar or U-shaped member 28 straddles the beam 7 and is engaged with a slot 30 provided in a formation 31 formed on the top of a keeper plate 32. The formation 31 has oppositely inclined faces 31ª and as shown in Figures 8 and 9 the slot 30 opens outwardly at one inclined face adjacent the apex of the formation 31. The formation 31 on opposite sides of slot 30 is provided for accommodating a retaining pin 33 provided for retaining the intermediate portion of the U-shaped member 28 in the slot 30. In this connection it will be noted that on one side of the slot 30, formation 31 is provided with a socket 34, and on a relatively opposite side of said slot, and alined with the socket 34 said formation 31 is provided with an aperture 35. The formation 31 is also provided with an inclined socket 36 disposed at an angle to the perpendicular and intersecting the socket 34; the socket 36 being provided for accommodating a locking pin adapted to suitably engage with the retaining pin 33 in a manner apparent.

The plate 32 is adapted to rest flatly on the top side of the beam 7 and is provided with openings 37 for accommodating screws or other fastening elements whereby to secure the plate on the beam. The plate inwardly from the openings 37 is also provided with depending lugs 38 adapted to engage in suitable openings provided therefor in the beam 7 whereby to take the strain off the aforementioned securing bolts or screws engaged with the apertures 37, such strain being obviously occasioned by the push and pull exerted on the member 28 through the stem 5 during raising and lowering movement of the beam 7.

The use of the parts 32 and 28 is optional, and such parts may be employed only when, because of the work, the beam hanger will be subjected to extraordinarily rough usage.

Even though I have herein shown and described the preferred embodiment of the invention, it is to be understood that the same is susceptible of further changes, modifications and improvements coming within the scope of the appended claims.

Having thus described my invention, what I claim as new is:

1. A beam hanger comprising a stem provided with means to suspend it from a walking beam, rings loosely engaged with said stem, straps loosely engaged at one end with said rings, and means connecting said straps with a polish rod, said last named means comprising a block connecting said straps and provided with a vertical recess for accommodating the polish rod, and a retaining wedge closing the open side of said recess.

2. A beam hanger comprising a stem provided with means to suspend it from a walking beam, and being also provided with a block like portion having notches in its top side, each of the notches having a convex bottom, rings engaged in said notches, straps having looped ends engaging said rings, and means carried by said straps to connect them with a polish rod.

3. A beam hanger comprising a stem provided at one end with means to suspend it from a walking beam, a block on the stem at the free end of the latter, said block on relatively opposite sides of the stem being provided with notches having convex bottom wall portions, rings engaging said notches, plates secured to said block and closing the top sides of said notches, straps having looped ends engaging said rings, a block connecting said straps remote from said looped ends, means for securing a polish rod engaged with said block, a steadying and strengthening member pivoted at one end to said block, and means on the beam and engageable with said strengthening and steadying member.

In testimony whereof I affix my signature.

RALPH E. STICKEL.