

Nov. 27, 1934.

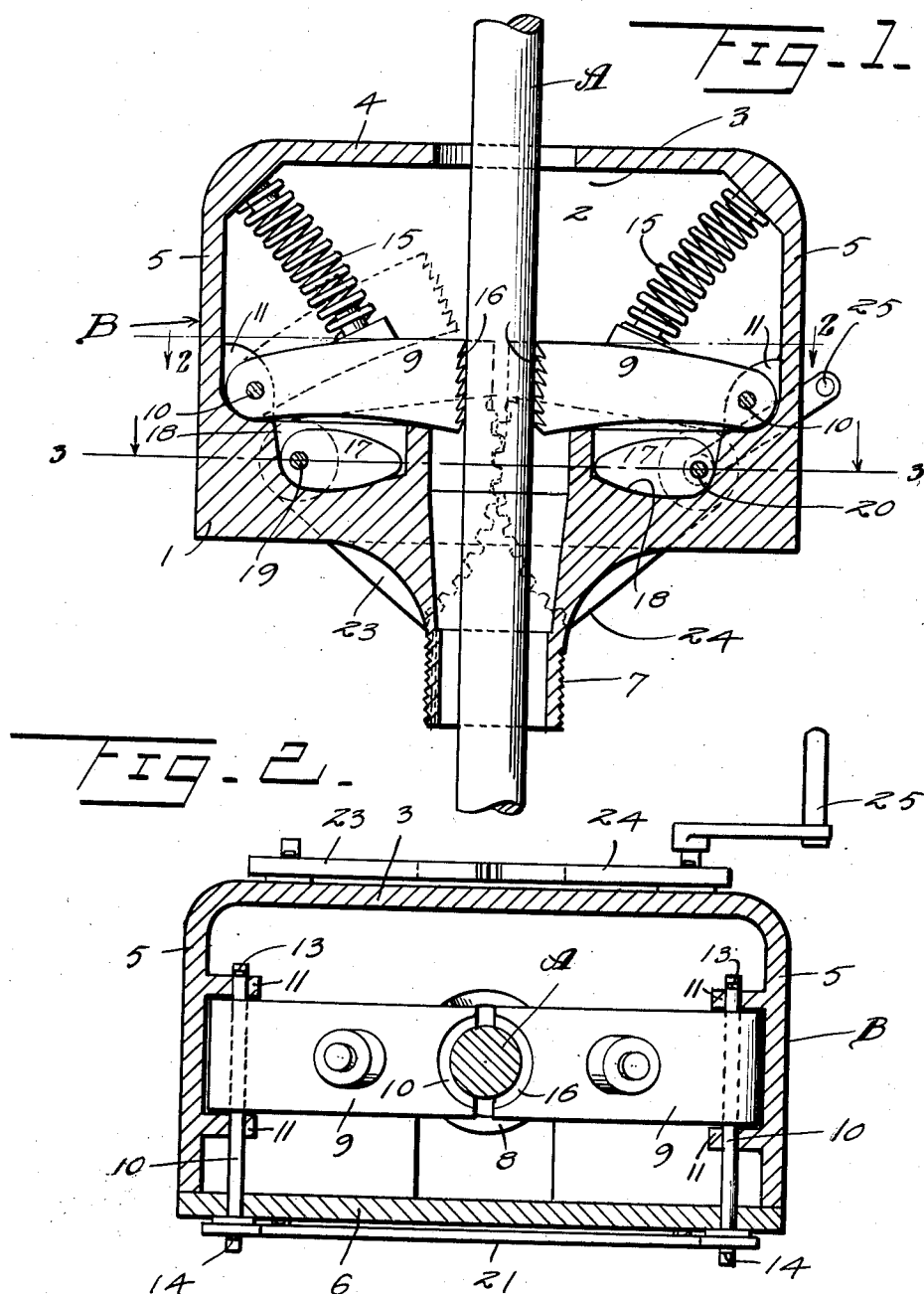
H. L. RHODES

1,982,482

ROD SPIDER

Filed June 27, 1934

2 Sheets-Sheet 1



Inventor

H. L. Rhodes

334

John P. Duff

Attorney

Nov. 27, 1934.

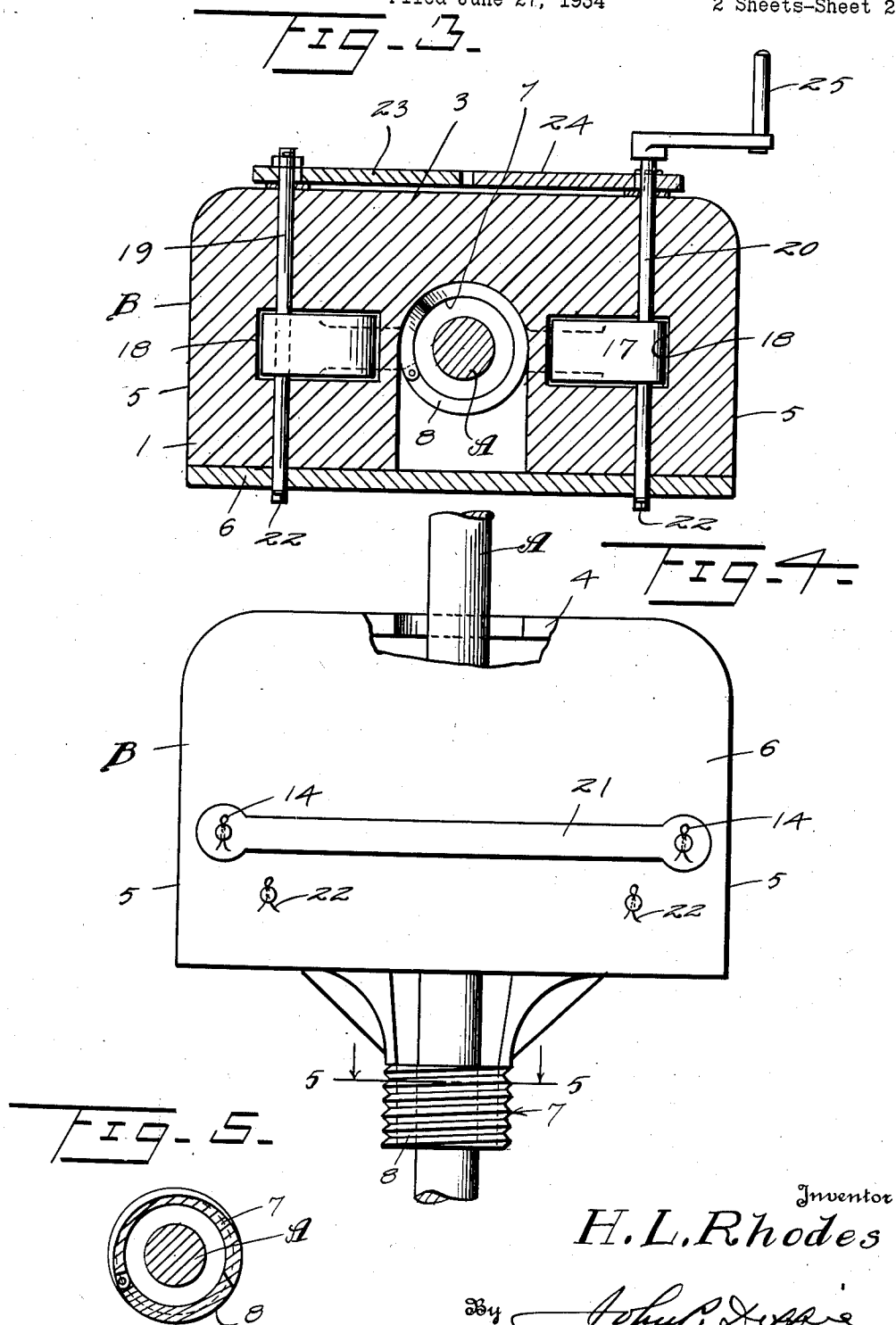
H. L. RHODES

1,982,482

ROD SPIDER

Filed June 27, 1934

2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE

1,982,482

ROD SPIDER

Harry L. Rhodes, Okmulgee, Okla.

Application June 27, 1934, Serial No. 732,726

2 Claims. (Cl. 24—248)

This invention relates to new and useful improvements in rod spiders and is used in connection with the raising and lowering of pumping rods in oil wells.

5 When a well is on the pump, it is necessary to remove and replace the pumping rods frequently. The pumping rods are in sections, varying from sixty to eighty feet in length and three-fourths to seven-eighths of an inch in diameter. In the
10 Seminole area, about 4300 feet of rod on an average is used in each well, the amount used depending on the depth of the well. In removing the pumping rods from the oil well, or lowering the same into the well, it is the common practice
15 to use what is known as an elevator. The elevator clamps on the top of the section and is fastened to a cable which pulls the rod up. At the present time, it is necessary to use two elevators and the position of the latter must be changed
20 each time a section is pulled up or lowered. It frequently happens that when the rods are being pulled up, the section will break below the elevator. In this instance, the elevator is of no use and the rods will fall back into the well, causing serious damage. One object of my invention is to
25 provide a device that will prevent any such occurrence. Further, my rod spider does away with one elevator completely and thereby saves considerable time, as it is no longer necessary to
30 change elevators as each section is raised or lowered. The rod spider is not only a time saving device, but also a safety device in that it greatly reduces the liability of losing a finger or hand in raising or lowering the pumping rods.

35 In the accompanying drawings, which are for illustrative purposes only and are therefore not drawn to scale:

Figure 1 is a vertical transverse section, illustrating the application of my invention.

40 Figure 2 is a horizontal section, taken on line 2—2 of Figure 1, the coil springs omitted.

Figure 3 is a similar view, taken on line 3—3 of Figure 1.

45 Figure 4 is a back view and Figure 5 is a detail horizontal section, taken on line 5—5 of Figure 4.

Referring to the drawings for a more particular description of my invention and in which drawings like parts are designated by like reference characters throughout the several views, A designates the pumping rod and B my improved rod spider, as a whole. Specifically, my device comprises a substantially rectangular oblong casing, consisting of the base 1 and the upper chamber 2, having closed front, top and end walls, 3, 4
55 and 5, respectively, and a removable back wall 6.

The bottom of the base is provided with a central tubular exteriorly threaded depending nipple 7, which is screwed into the top of the oil well casing. The nipple 7 may be provided with a hinged gate 8.

In carrying out my invention, a pair of oppositely disposed longitudinally spaced dogs 9 are pivoted at their outer ends to cross rods 10, extending through ears 11, formed at opposite ends of the casing and through the removable back wall 6 and the straight horizontal connecting bar 21. The cross rods 10 are held in place by the cotter pins 13 and 14, or other equivalent means. The dogs 9 are normally held in operative position, as illustrated in Figure 1 of the drawings, by the diagonally disposed coil springs 15, but are free to swing upwardly into the dotted line position, against the tension of the coil springs, when the pumping rod B is raised. The inner or free ends of the dogs 9 are of arcuate form and provided with teeth or serrations 16, and when said dogs are in horizontal or operative position, almost completely embrace the pumping rod and prevent the same from falling back into the well under any conditions.

Cams 17 are pivotally mounted in corresponding recesses 18 in the upper face and opposite ends of the base 1, directly beneath the dogs 9. Said cams are carried by the horizontal transverse shafts 19 and 20 which extend through the front and back walls of the casing and are equipped at their back ends with the cotter pins 22 or other equivalent means. The shafts 19 and 20 are provided at their front ends, exteriorly of the casing, with the intermeshing segmental cogs or gears 23 and 24 and the shaft 20 is also provided at its corresponding end with a crank handle 25. When it is necessary to lower the pumping rods in the well, the crank shaft 25 is turned in one direction to raise the inner or free ends of the dogs 9 against the tension of the coil springs 15 by means of the cams 17.

From the foregoing description taken in connection with the drawings, it is thought that the construction, operation and advantages of my invention will be readily understood without requiring a more extended explanation.

Having described my invention, what I claim as new and desire to secure by Letters Patent, is:

1. A device of the character specified, comprising a hollow casing, a pair of oppositely disposed dogs pivoted in the casing and provided with teeth at their inner or free ends adapted to engage the pumping rod, coil springs tending to hold the dogs in operative or pump engag-

ing position, cams pivoted in the casing directly beneath the dogs and manually operated means for causing the cams to simultaneously raise the free ends of the dogs against the tension of said coil springs.

2. A device of the character specified, comprising a substantially rectangular oblong casing, consisting of a base and upper chamber, a pair of oppositely disposed dogs, pivoted at their

outer ends in the chamber and provided at their inner or free ends with arcuate teeth adapted to almost completely embrace the pumping rod, coil springs tending to hold the dogs in operative position and manually operated means including a pair of geared cams for simultaneously raising the free ends of the dogs against the tension of said coil springs.

HARRY L. RHODES.

10
15
20
25
30
35
40
45
50
55
60
65
70
75

85
90
95
100
105
110
115
120
125
130
135
140
145
150