June 18, 1940. C. M. ANDERSON 2,204,877

ADJUSTABLE ENGINE SKID

Filed May 29, 1939

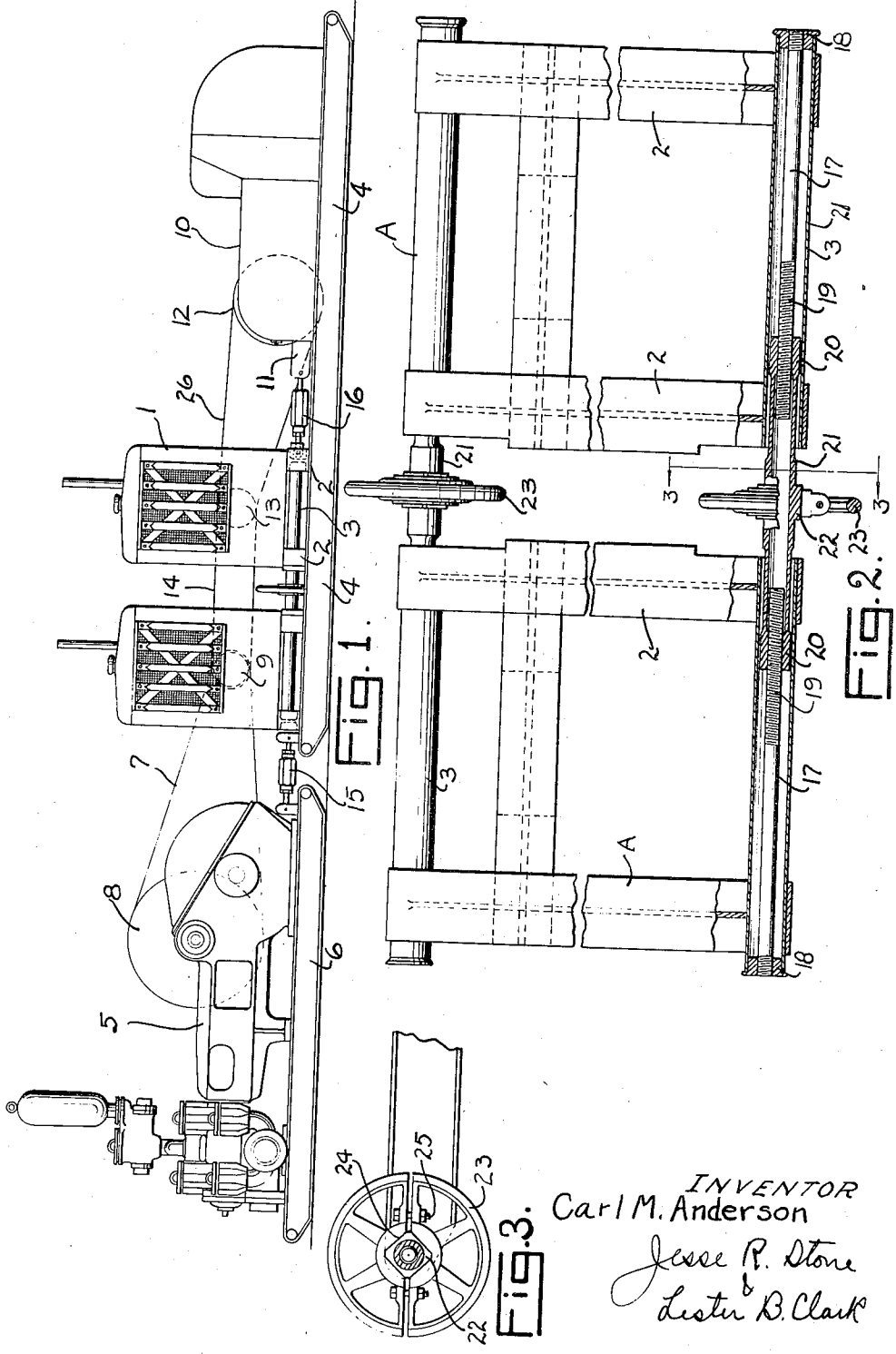


Fig. 1.

Fig. 2.

Fig. 3.

INVENTOR
Carl M. Anderson
Jesse R. Stone
& Lester B. Clark

ATTORNEYS

Patented June 18, 1940 2,204,877

UNITED STATES PATENT OFFICE

2,204,877

ADJUSTABLE ENGINE SKID

Carl M. Anderson, Corsicana, Tex., assignor to American Well & Prospecting Company, Navarro County, Tex., a corporation

Application May 29, 1939, Serial No. 276,489

4 Claims. (Cl. 248—23)

My invention relates to mountings for engines and similar parts making up a drilling rig.

Drilling rigs comprise a number of separate units including the draw works, the rotary, the pumps, and the engine or engines. These parts must be mounted so that they may be transported from one location to another. Sometimes the locations are many miles apart and it is necessary that the rig units be mounted on trucks and moved along the highway. For this reason the parts must be as compact as possible so that when transported along the highway they will not project laterally beyond the normal width while being thus moved.

It is now common to employ internal combustion motors, in operating the rig. Two such motors are usually provided, said motors being arranged on separate bases side by side, and thus adapted to be connected for operation simultaneously or separately as desired. The motor bases are mounted upon a skid frame which may be in turn mounted upon a skid supporting the draw works. For operation the motors are spaced apart but they must be assembled in compact arrangement close together for transportation.

It is an object of this invention to provide a mounting for the motors which will permit of adjusting the motors toward and away from each other so that when in position for transportation they will be close together in most compact form.

It is a further object of the invention to provide a means of adjustment of said motor bases which is easily and conveniently operated and allows the motors to come together in close contact.

I also desire to permit of ready adjustment of the motors for tightening of the belts employed to connect said motors for operation.

It is also an object of the invention to so house the adjusting means that it will not furnish an obstruction in handling the motors.

Referring to the drawing herewith, Fig. 1 is a side elevation illustrating certain parts of a drilling rig assembled for operation.

Fig. 2 is a broken top plan view of the base members upon which the motors are mounted.

Fig. 3 is a broken detail in section on the line 3—3 of Fig. 2.

In Fig. 1 is shown an assembly view indicating the manner in which the different units making up the drilling rig may be assembled for operation. Two motors 1 are mounted in parallel relation upon separate bases A, each made up of two spaced side plates 2 and tubular end connecting members 3.

The base members A are mounted upon skids 4 for operating in the usual manner.

The pump 5 is mounted upon skids 6 and arranged adjacent the motors for operation therefrom through a belt 7 connected with the pulley 8 upon the pumps and a pulley 9 upon the adjacent motor.

On the other side of the motors is shown somewhat diagrammatically a draw works 10 mounted upon the skids 4. The draw works are operated through a sprocket chain or belt 26 connected with the pulley 12 upon the draw works and to the pulley 13 upon the adjacent motor. The motors are connected together through a belt 14.

The pump and its skids 6 are adjustable laterally relative to the skid 4. The draw works 10 is fixed upon skids 4. The bases upon which the motors are mounted are also mounted adjustably upon these skids 4. In this manner the tension upon the belt 7 may be regulated without difficulty. To accomplish this, turn buckles 15 are arranged for connecting to skid members 4 and 6. Said turn buckles are secured to short posts upon each of the two skids and arranged in the usual manner to adjust the relative positions of the two skids within certain limits.

The turn buckle 16 similarly connects the posts 11 upon skid 4 to the base A for the adjacent motor. In this way the tension upon the belt 26 may be adjusted as desired.

The two motors mounted upon their base plates in the manner stated may be carried upon a truck for transportation. They must be spaced apart as indicated in Fig. 1 during operation, but during transportation along the road it is necessary that the motors be moved up so that the base plates therefor must be approximately in contact with each other. To accomplish this the adjusting means shown in Fig. 2 has been devised. The two side plates 2 upon which each motor is supported are connected, as previously noted, by tubular members 3 at each end thereof. These members are cylindrical in shape so that they may serve also as a handle to be engaged by the workmen when the device is to be handled. They are tubular to accommodate therein the adjusting means which serves to space the bases A of the two motors in proper relation.

Within each of the tubular connecting members 3 is a rod 17, which is connected at one end within a plug 18 fixed within the end of the tubular member. The rod projects axially of the

tubular member and is threaded at 19 on the end adjacent the other motor so as to engage with a nut 20 formed upon a connecting sleeve 21.

It will be noted that each of the base members are practically identical in their construction, each having the adjusting rod 17 therein engaging with the nut 20 upon the sleeve 21. The threads upon the two rods in the adjacent base plates are arranged so that by rotating the sleeve in one direction it will screw up on both the rods 17 and when rotated in the opposite direction it will unscrew from both rods simultaneously.

To accomplish the rotation of the sleeve 21 I form the intermediate portion of the sleeve with a squared hub 22. This hub furnishes a support for a hand wheel 23, said hand wheel being made up of two mating sections, as will be seen from Fig. 3. These sections each have a central hub with a recess 24 therein to engage about the hub 22 and when thus positioned the two halves of the hand wheel are connected together by bolts 25 extending through the spokes of the adjacent parts as will be clearly understood from the drawing.

The adjacent base plates for the two motors have their faces adjacent the hand wheels 23 recessed slightly to accommodate the hand wheels so that when the base members are drawn together through rotation of the sleeve 21 the two plates may be drawn into contact with each other so as to bring the motors as close together and in as compact position as possible. When this is done the base frame shown in Fig. 2 with the motors thereon may be positioned with the base plates 2 extending longitudinally of the truck upon which they are mounted. When they have been drawn together in compact position by the rotation of the handwheels 23 at each side of the frame they will be capable of transportation without exceeding the limit in width which is normally permitted by law.

My adjusting means has the advantage over the ordinary turn buckle in that it is housed within the transverse connecting members 3 and allows the two bases to be drawn into contact with each other without interfering with the operation of the adjusting means. By housing the adjusting mechanism within the tubular members the said mechanism is not only protected against injury or mutilation but serves to some extent in strengthening the assembly in such manner that breakage or injury to the parts will rarely occur. The device is simple and also durable and strong.

It is further to be noted that the belt 14 connecting the two motors for simultaneous operation may be adjusted by the operation of the hand wheel 23. This avoids the necessity for the usual idler pulley ordinarily employed for regulating the tension on this belt. Such an idler is only extra equipment and the friction of the pulley upon the belt causes extra wear. Thus, by eliminating this idler, expense and wear are also eliminated.

What is claimed is:

1. A supporting skid, a pair of motor bases thereon transversely of said skid and spaced apart, each base comprising spaced side plates, tubular members connecting said plates at each end thereof, an axial rod in each tubular member, the adjacent ends of said rods being threaded, a sleeve having a nut at both ends threaded to engage said rods, and by rotation to screw up on both rods to draw said bases together or to space them apart.

2. A supporting member, a pair of motor bases adjustable thereon, each base being normally spaced from the other for operation, said bases each including a pair of side plates, tubular members connecting the adjacent ends of said plates together, a rod supported axially of each tubular member, the ends of said tubular members on adjacent bases being open, a sleeve having a threaded connection with the adjacent ends of the rods on each set of side plates, said sleeve being rotatable in one direction to adjust said bases apart and in the opposite direction to move said bases together, said rods and sleeve then being housed in said tubular members.

3. In a device of the character described, a skid, a pair of bases adjustable on said skid, a tubular transverse connecting member at each end of each of said bases, a rod axially of each of said tubular members, the adjacent ends of the rods in said bases being threaded, a connecting sleeve projecting into the adjacent ends of each tubular member and screwed upon the ends of said rods, and a hand wheel intermediate the ends of said sleeve to rotate the same.

4. Two motor bases mounted for adjustment upon a support, a tubular connecting member at each end of said bases, the adjacent ends of said connecting members on adjacent bases being open, an axial rod secured in the remote ends of said members and projecting to a point short of said open ends, a sleeve between said tubular members projecting into said open ends, and screwed upon both of said rods, and means to rotate said sleeve to adjust said bases toward each other to bring them into contact, said sleeve being then housed in said tubular members.

CARL M. ANDERSON.