July 22, 1924. 1,502,156

L. M. PEARCE ET AL

BACKUP POST

Filed Oct. 30, 1922 2 Sheets-Sheet 1

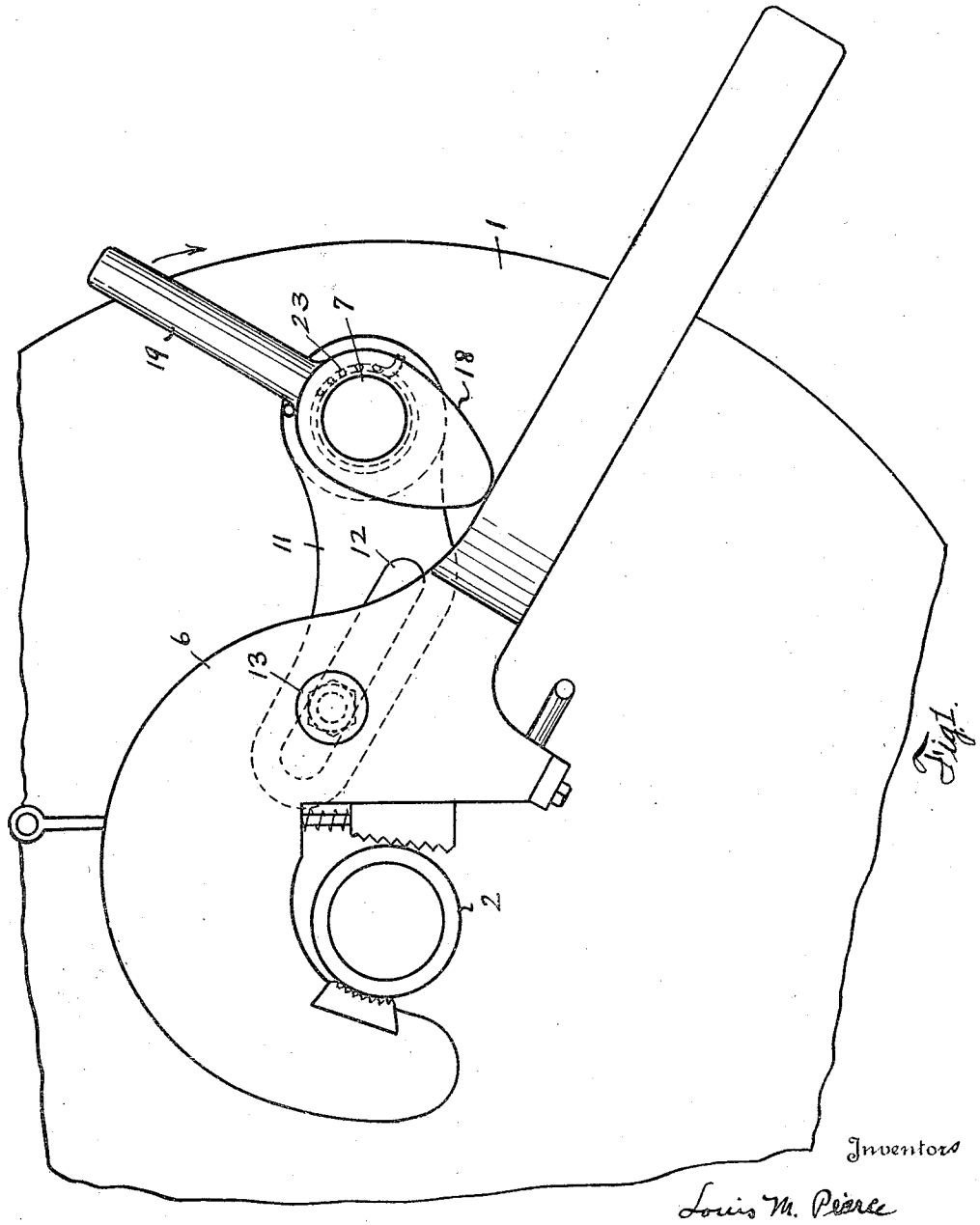


Fig. 1.

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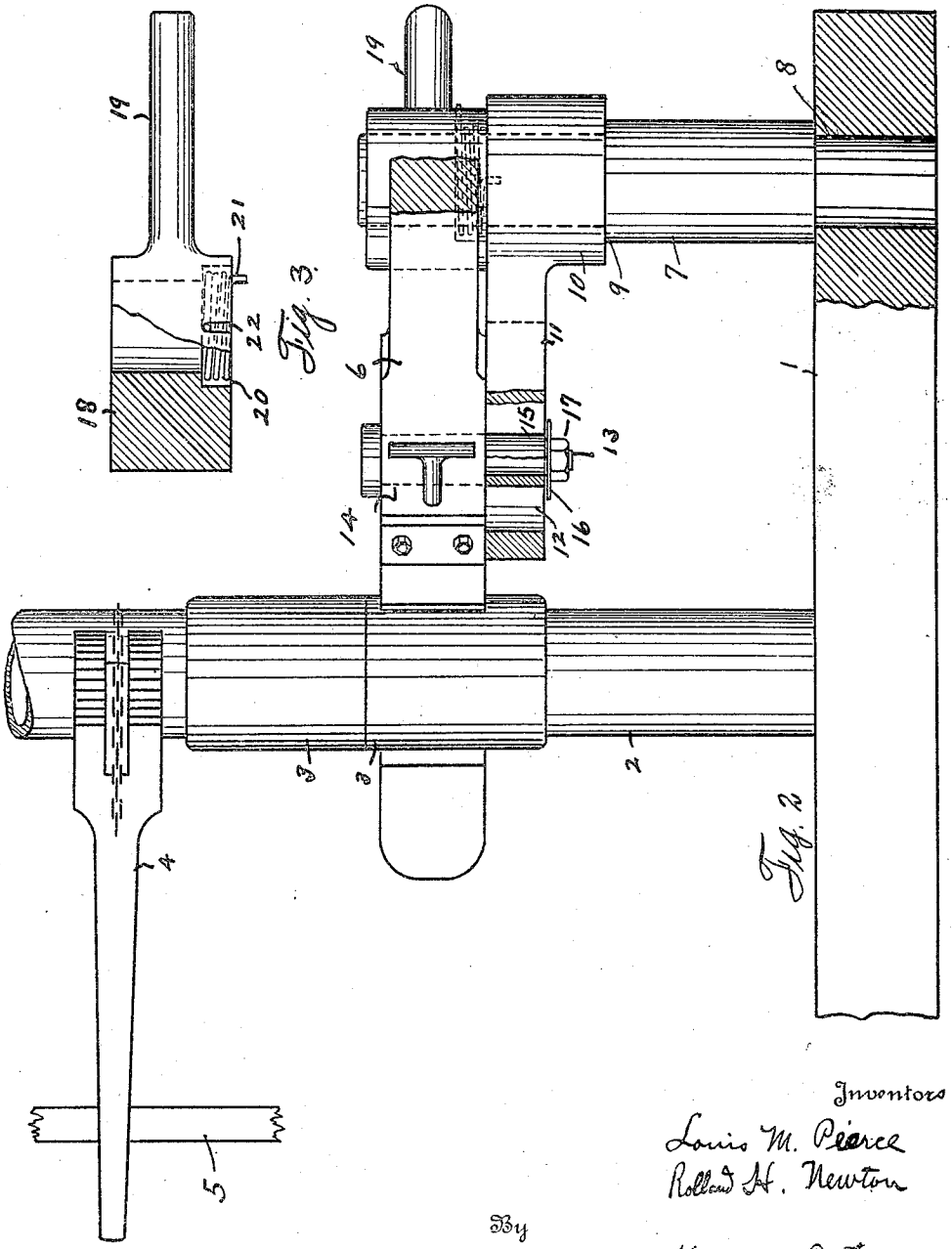
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Patented July 22, 1924. 1,502,156

UNITED STATES PATENT OFFICE.

LOUIS M. PEARCE AND ROLLAND H. NEWTON, OF HOUSTON, TEXAS.

BACK-UP POST.

Application filed October 30, 1922. Serial No. 597,779.

To all whom it may concern:

Be it known that we, LOUIS M. PEARCE and ROLLAND H. NEWTON, citizens of the United States, residing at Houston, in the county of Harris and State of Texas, have invented certain new and useful Improvement in Backup Posts, of which the following is a specification.

This invention relates to new and useful improvements in a back up post.

One object of the invention is to provide a back up post designed to be used in connection with well drilling apparatus to connect the rotary table with a tong which is applied to the pipe and through which said pipe may be turned.

Another object of the invention is to provide a back up post which may be readily released from the tong. In well drilling operations the drill stem or other pipe in the bore is formed of sections which are connected together by means of couplings into which the adjacent ends of the sections are screwed, and these sections must often be unscrewed and screwed together in carrying on the operations. A tong is used for this purpose and a back up post is often connected to the rotary table and operates against said tong so that the rotary table may be utilized in turning the pipe for the purpose of screwing together or unscrewing its joints. When an ordinary back up post, such as is commonly used is employed it is often difficult to release the tong on account of the pressure of the post against it. It is one of the prime objects of this invention to provide a back up post which may be readily released from the tong.

The tong used for the purpose indicated is usually very heavy and can not be easily handled, and it is another object of the invention to provide a back up post by means of which the tong may be sustained so that it may be the more easily manipulated in applying the same to or disengaging it from the pipe.

With the above and other objects in view the invention has particular relation to certain novel features of construction, operation and arrangement of parts, an example of which is given in this specification, and illustrated in the accompanying drawings, wherein:—

Figure 1 is a plan view of the device.

Figure 2 is a side elevation thereof, partly in section and,

Figure 3 shows a side elevation, partly in section of an eccentric employed.

In the drawings, the numeral 1 designates a rotary table of any conventional construction. This table forms part of the well drilling rotary now in common use and well known to those familiar with the art of well drilling, the numeral 2 designates a drill stem or other pipe which extends down through a central hole in the rotary table and which is formed of sections connected by the coupling members 3, 3. These coupling members constitute the well known tool joint and are screwed together and the adjacent ends of the pipe sections are screwed into them. The numeral 4 designates a chain tong which is applied to the upper section of the drill stem and which is held against turning by means of a stationary post 5 located out beyond the rotary table. A tong 6 is applied to the lower tool joint member 3 and this tong is rotated by the rotary through the back up post 7 which will now be described more in detail: The lower end of this post is reduced and fitted through a bearing 8 in the rotary table 1 and the upper end thereof is also reduced forming an annular shoulder 9, and working loosely on said reduced upper end there is a bearing 10 which is sustained by the shoulder 9 and which has a laterally extending supporting arm 11 upon which the tong 6 rests. This supporting arm has a long slot 12 and a bolt 13 is fitted through a hole 14 of the tong 6, and the lower end of this bolt works through slot 12 and is provided with an anti-friction bearing 15 within said slot and which is retained in place by the washer 16 which in turn is held against detachment by the nut 17 screwed onto the lower end of the bolt. It is apparent that the arm 11 may be swung around on the post 7 so as to carry the tong 6 back out of the way when it is released from the pipe, and to permit said tong to be swung into position to engage the pipe. The bolt 13 will work freely in the slot 12 to permit an easy adjustment of the tong. There is a cam shaped eccentric head 18 fitted onto the reduced upper end of the back up post 7 and resting upon the bearing 10. This head is formed with an extended

handle 19, by means of which it may be handled. The lower side of the head has an enlarged recess 20 to receive a coil spring 21 which surrounds the post. The upper end of this spring is turned outwardly through a slot 22 in the head, and the lower end thereof is downwardly turned into one of the recesses 23 in the upper side of the bearing 10. In Figure 1 a number of these recesses are shown to provide for the adjustment of the tension of said spring. In Figure 1 the back up post is shown in position for operation with the cam of the head 18 in engagement against the tong handle. The tension of the spring should be such as to hold the head in proper position to engage against the handle of the tong. When the rotary table 1 is turned the head 18 will engage against the tong handle and force the tong and the pipe to rotate. When it is desired to release the tong the handle 19 may be pulled around in the direction indicated by the arrow in Figure 1 and this will release the pressure against the tong handle and the tong may then be readily released from the pipe and swung around to any desired position out of the way.

What we claim is:—

1. A device of the character described including the combination with a rotary table of a post mounted thereon, a swinging arm carried by the post, a cam shaped head mounted on said post, formed with an extended handle and a yieldable member connecting said head with said arm, and a pipe engaging tong carried by said arm.

2. A device of the character described including the combination with a rotary table of a post mounted thereon, a swinging arm pivotally mounted on the post, and formed with an oblong slot, a cam shaped head pivotally mounted on said post and sustained by the arm bearing, a manipulating handle carried by said head, a coil spring surrounding the post one end of which is connected to the head and the other end of which is connected to said arm, a pipe engaging tong and means carried by the tong and working through said slot and adjustably securing said tong to said arm.

3. The combination with a rotary table, of a post mounted thereon, a swinging arm mounted on the post, a pipe engaging tong carried by said arm, a cam shaped head pivotally mounted on said post, a manipulating handle carried by said head, a yieldable member connected to the head and normally holding said head in position to engage against the handle of said tong.

In testimony whereof we have signed our names to this specification in the presence of two subscribing witnesses.

LOUIS M. PEARCE.
ROLLAND H. NEWTON.

Witnesses:
W. H. DUNLAY,
E. V. HARDWAY.