This invention relates to well drilling machines or rigs.

The general purpose of the invention is to provide an improved walking beam drilling device in which the beam is supported in such a manner as to permit its being swung from the well out of the way when various operations, such as inserting or removing the tools from the well, are being performed.

Another purpose of the invention is to provide an improved mounting for walking beams on a transverse supporting shaft so that it may be operated for drilling in a plane non-perpendicular to the shaft.

The foregoing purposes are attained by the walking beam drilling device illustrated in the accompanying drawing and described below. It is to be understood that the invention is not limited to the specific form thereof shown and described.

Of the accompanying drawings,

Figure 1 is a side elevation of a portion of a drilling machine embodying the invention;

Figure 2 is a plan thereof; and

Figure 3 is a detail plan, partly in section, illustrating the mounting for the walking beam.

Referring to the drawings, the numerals 10, 10 designate supporting members, one or more of which may be employed to support a shaft 11 at a suitable elevation to provide a pivot on which a walking beam 12 may be mounted for drilling operations.

The shaft 11 preferably is non-circular, in section, the particular shaft shown being square, and preferably extends transversely of the drilling machine, a journal 13 for the walking beam being mounted thereon so as to support the beam 12 at an angle, as shown in Figure 2, whereby its outer end will be over the well and its inner end in position to be connected by pitman 14 to the walking beam operating crank 15 of the drilling machine.

The journal 13, according to the preferred form of the invention, is laterally rockable on shaft 11 to permit swinging of the walking beam from over the well, for example to the dotted line position as illustrated in Figures 2 and 3. To this end the journal 13 is apertured for mounting it non-rotatably on shaft 11, the side walls or faces of the aperture being beveled or inclined inwardly from each end of the journal toward the center as indicated at 16, 18 and a swivel pin 17 being inserted through the journal and shaft to rockably secure the journal on the shaft.

The walking beam 11 is pivoted on the journal by means of a sleeve bearing member 18 which may be rotatably mounted upon the outer surface of journal 13 which is cylindrical, a key (not shown) being arranged to be extended through the sleeve bearing 18 into a peripheral keyway 19 in journal 13. The walking beam may be secured onto member 13 by U-bolts 20, 20.

In order to retain the walking beam in the operative position for well-drilling, as illustrated in full lines in the drawings, a latch 21 is provided which is formed with a wedge at 21 adapted to enter into an end of the journal aperture with a wedging action against one beveled face 16. Latch 21 may be shiftably mounted on shaft 11 as shown and may be shifted by means of a lever 22.

In use, the parts of the device are normally in the full line positions shown. When it is desired to swing the beam away from its position over the well, the latch 21 is moved to the released position indicated in dotted lines and the pitman is disconnected from the crank and the beam is then swung out of the way.

Modifications of the invention may be resorted to without departing from the spirit thereof or the scope of the appended claims.

What is claimed is:

1. A drilling machine comprising, in combination, a support, a fixed shaft extending transversely of the machine on the support, a journal member swiveled on said shaft so as to be laterally rockable thereon, a bearing rotatably mounted on the journal member, a walking beam secured to said bearing, and means for releasably latching the journal in a position at an angle to said shaft.

2. A drilling machine comprising, in combination, a support, a fixed shaft extending transversely of the machine on the support, a journal member swiveled on said shaft so as to be laterally rockable thereon, a bearing rotatably mounted on the journal member, and a walking beam secured to said bearing.

3. A drilling machine comprising, in com-
bination, a support, a fixed shaft mounted on the support and extending transversely of the machine, a walking beam, and means for pivoting the walking beam on the shaft at an angle thereto, said pivoting means being swiveled onto the shaft for lateral rocking movement.

4. A drilling machine comprising, in combination, a support, a fixed shaft mounted on the support and extending transversely of the machine, a walking beam, and means for pivoting the walking beam on the shaft at an angle thereto.

5. The combination in a well driller of a support, a walking beam, means for pivoting the walking beam on the support, a crank for operating the walking beam on one side of the machine, a pitman for connecting the walking beam to the crank, said pivoting means being laterally rockable on the support, and means for releasably securing the pivoting means in a position such that the pitman may be connected with the crank and the operative end of the beam is positioned over the well.

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