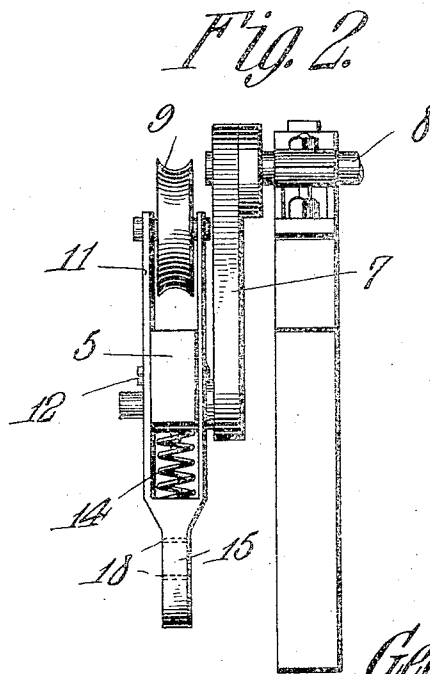
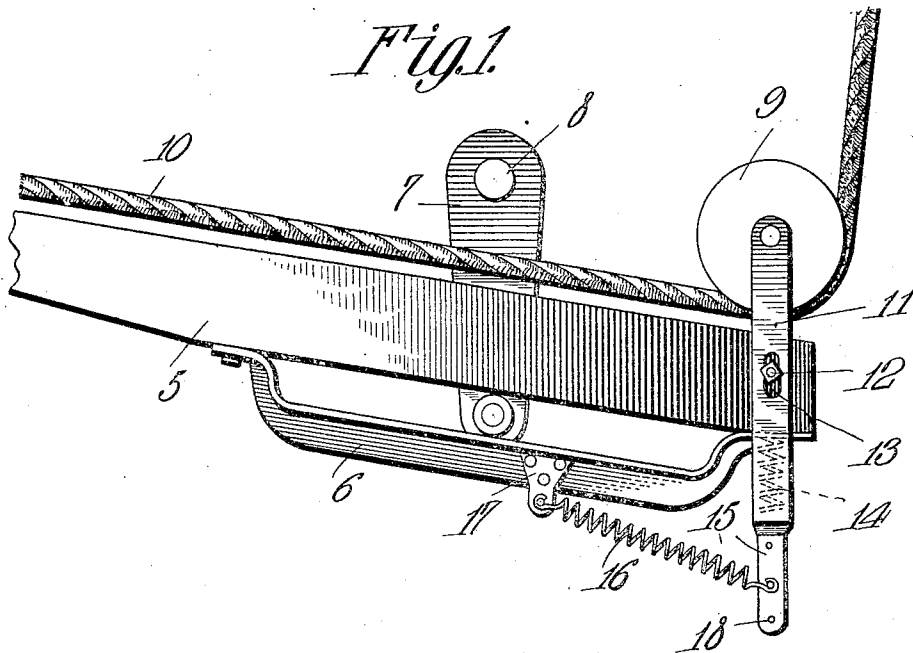


G. D. LOOMIS.
WELL DRILLING MACHINE.
APPLICATION FILED FEB. 24, 1909.

948,425.

Patented Feb. 8, 1910.



George D. Loomis
Inventor

Witnesses

E. J. Stewart
Machine

By C. A. Snow & Co.
Attorneys

UNITED STATES PATENT OFFICE.

GEORGE DUDLEY LOOMIS, OF TIFFIN, OHIO.

WELL-DRILLING MACHINE.

948,425.

Specification of Letters Patent.

Patented Feb. 8, 1910.

Application filed February 24, 1909. Serial No. 479,781.

To all whom it may concern:

Be it known that I, GEORGE D. LOOMIS, a citizen of the United States, residing at Tiffin, in the county of Seneca and State of Ohio, have invented a new and useful Well-Drilling Machine, of which the following is a specification.

This invention relates more particularly to the spudding beam of a well-drilling machine, and has for its object to provide a structure which will permit the use of a wire cable in connection therewith.

In the operation of spudding, when a wire instead of a manila cable is used, the impact of the tool against the bottom of the bore hole reacts on the machine, and the consequent jar and shock is liable to injure the same; and it is to take up this jar and shock that the present invention is designed, the same consisting in a novel connection between the spudding beam and the pulley at the working end of said beam over which the spudding cable passes.

The invention is illustrated in the accompanying drawing in which—

Figure 1 is an elevation showing its application. Fig. 2 is an end view.

Referring specifically to the drawings, 5 denotes the spudding beam, of which the working end only is shown, said beam being operated in the ordinary manner, which is immaterial to the present invention. I have shown the beam provided with a tee iron 6 on its under side, and spaced therefrom to form a slot in which works a roller mounted on a crank pin carried by a crank 7 on the bull wheel shaft 8. In the revolution of the crank, the roller travels back and forth in the slot, and swings the spudding beam up and down on its pivot. Any other suitable mechanism may be provided for operating the spudding beam.

At 9 is indicated the pulley around which the spudding cable 10 passes. As already stated, this is a wire cable, and as such a cable jars the machine from the impact of the tool with the bottom of the bore hole, I provide a novel form of support for the pulley, said support being yieldingly mounted on the spudding beam so as to take up all jars and shocks. The aforesaid support for the pulley 9 comprises a yoke 11 which straddles the spudding beam 5 adjacent to the outer end thereof. The connection between the yoke and the beam is made by a bolt 12 passing transversely through the

branches of the yoke and through the beam. In the branches of the yoke are slots 13 through which this bolt passes, which permits longitudinal movement of the yoke to the extent of the length of said slots. The connection herein described is also such a one that the yoke is pivoted to the beam. Between the inner end of the yoke 11, and the under side of the spudding beam 5 is located a coiled spring 14, said spring being secured in any suitable manner to prevent its dropping from the yoke. The purpose of this spring is to yieldingly oppose the hereindescribed longitudinal movement of the yoke in one direction. From the yoke depends a stem 15 to which is connected one end of a spring 16, the other end of said spring fastened to a bracket 17 secured to the tee iron 6. The last mentioned spring opposes the swinging movement of the yoke in one direction, to wit, in a direction away from the cable 10.

In practice, when the jar due to the impact of the tool is transmitted to the pulley 9, the yoke 11 moves longitudinally a short distance against the tension of the spring 14, the jar being thus taken up or relieved thereby. If, from the weight of the tool, the jar is sufficient to swing the yoke on its pivot, the spring 16 takes up the same, and prevents the pulley from swinging back too far on the spudding beam. By adjusting the spring 16 so that it connects with the stem 15 at different points, greater or less tension can be applied as the weight of the tool increases or diminishes. For this purpose the stem is provided with a plurality of openings 18.

The device herein described is very simple in construction, and can be readily applied to any ordinary spudding beam, no specially constructed beam being necessary. The beam may also be operated in the ordinary manner.

What is claimed is:

1. The combination with a spudding beam, of a yoke between the branches of which the beam extends, means for connecting the yoke to the beam, said connection being a loose one to permit longitudinal movement of the yoke, a pulley carried by the yoke, and resilient means opposing the aforesaid movement of the yoke in one direction.

2. The combination with a spudding beam, of a yoke between the branches of which the said beam is received, said yoke being

slotted lengthwise, a connection between the yoke and the beam passing through the slots of the former, a pulley carried by the yoke, and a spring interposed between the inner
5 end of the yoke and the beam.

3. The combination with a spudding beam, of a yoke between the branches of which said beam is received, said yoke being slotted lengthwise, a connection between the yoke
10 and the beam passing through the slots of the former, a pulley carried by the yoke, a spring interposed between the inner end of the yoke and the beam, a stem projecting from the yoke, and a spring connected at its
15 ends to the said stem and to the spudding beam, respectively.

4. The combination with a spudding beam and a pulley, of a support for the pulley pivotally mounted on the beam and movable

lengthwise, resilient means opposing the
20 lengthwise movement of the support in one direction, and resilient means opposing the swing of the support on its pivot in one direction.

5. The combination with a spudding beam, 25 of a yoke pivotally mounted thereon and movable lengthwise, a pulley carried by the yoke, resilient means opposing the lengthwise movement of the yoke in one direction, and resilient means opposing the swing of
30 the yoke on its pivot in one direction.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature in the presence of two witnesses.

GEORGE DUDLEY LOOMIS.

Witnesses:

V. J. JACKMAN,
L. A. SMITH.