

Nov. 11, 1924.

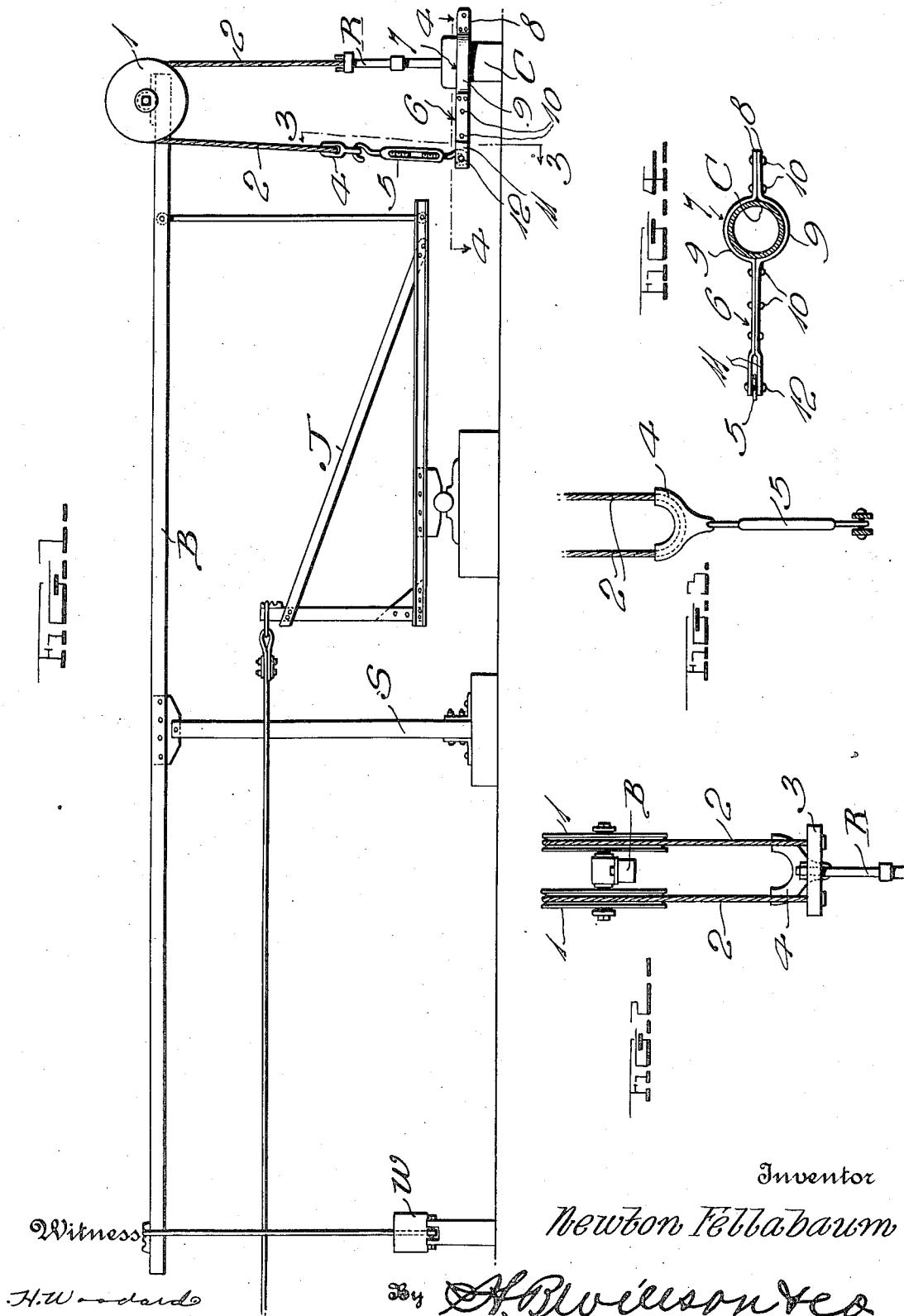
N. FELLABAUM

1,515,099

PUMP OPERATING MEANS

Filed Jan. 24, 1924

2 Sheets-Sheet 1



Witness

H. W. Woodard

By

A. B. Wilson & Co.

Inventor

Newton Fellabaum

Attorneys

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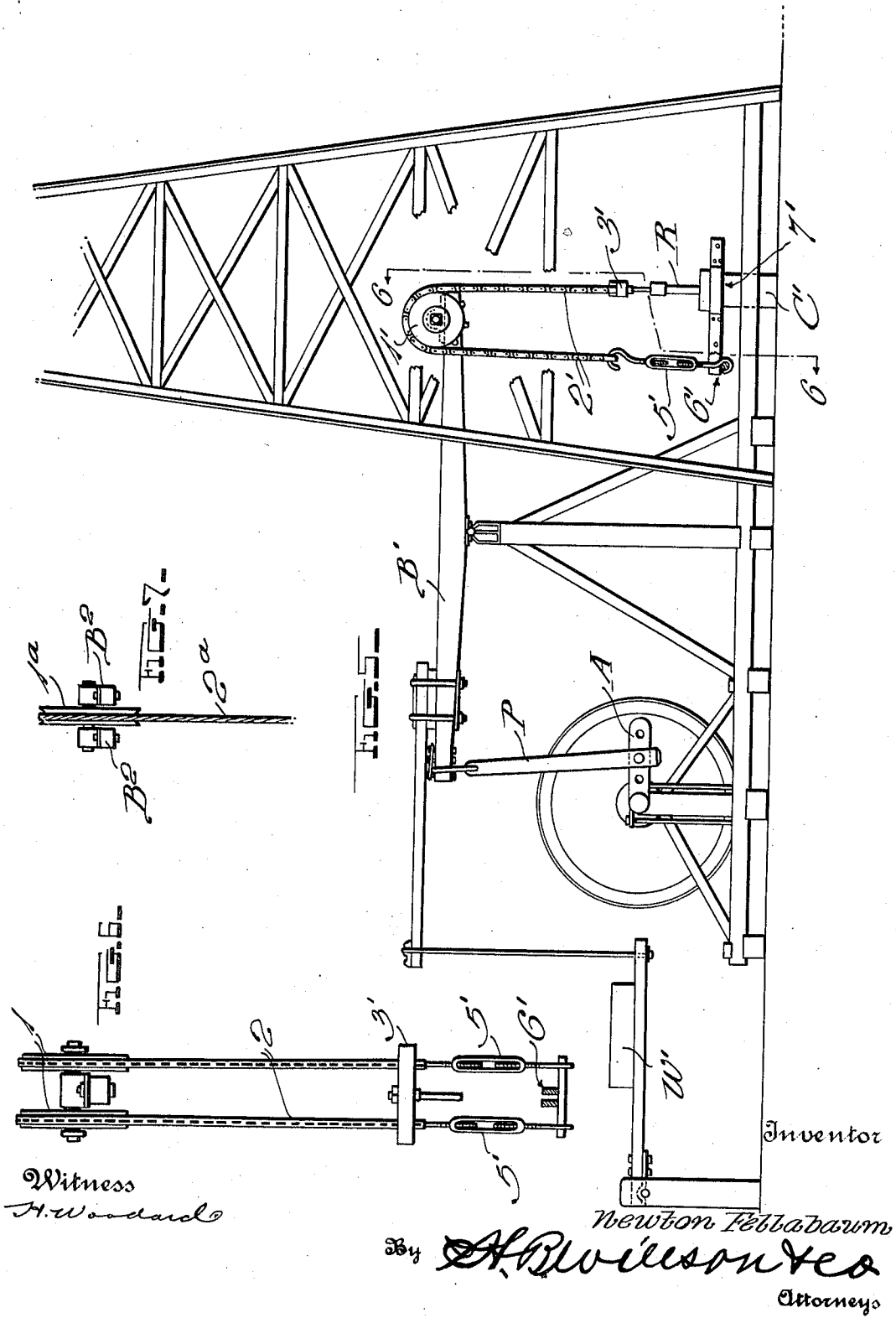
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2 Sheets-Sheet 2



UNITED STATES PATENT OFFICE.

NEWTON FELLABAUM, OF SPERRY, OKLAHOMA.

PUMP-OPERATING MEANS.

Application filed January 24, 1924. Serial No. 688,326.

To all whom it may concern:

Be it known that I, NEWTON FELLABAUM, a citizen of the United States, residing at Sperry, in the county of Tulsa and State of Oklahoma, have invented certain new and useful Improvements in Pump-Operating Means; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

My invention relates to operating mechanisms for producing vertical stroking of the pump rods of numerous forms of well pumps, one object being to provide a novel association of parts which will produce an unusually long stroke of the pump rod, without requiring excessive movement of the walking beam or other vertically movable operating member which commonly has direct connection with the pump rod.

Another object of the invention is to provide an arrangement of parts which may be easily installed in connection with the well known pumping rigs now commonly used, novel provision being made for anchoring a portion of the device directly to the upper end of the well casing.

With the foregoing in view, the invention resides in the novel subject matter hereinafter described and claimed, the description being supplemented by the accompanying drawings.

Figure 1 is a side elevation showing the application of my invention in connection with one form of pump operating rig.

Figure 2 is an end elevation.

Figure 3 is a sectional view on line 3—3 of Fig. 1.

Figure 4 is a horizontal section on line 4—4 of Fig. 1.

Figure 5 is a side elevation showing the application of the invention in connection with a different form of pumping rig.

Figure 6 is a vertical sectional view cut substantially on line 6—6 of Fig. 5.

Figure 7 is an end elevation showing a slightly different form of construction.

In Fig. 1, I have illustrated a walking beam B mounted between its ends upon a standard S and connected with an ordinary pump jack J to be operated thereby. At one end of the walking beam B, the usual weight box W has been shown in end view, while the other end of the beam is disposed

over the polish rod R or other operating rod of a pump, within a well casing C.

Mounted upon the last mentioned end of the beam B, on an axis remotely spaced from the standards I have shown a pair of peripherally grooved guide wheels 1 which are rotatably mounted in any desired manner. Trained over these wheels are two lengths 2 of cable, said lengths being connected at one end to the pump rod R, this connection being preferably established by securing the cable ends to a cross bar 3 which is in turn secured upon the upper end of the rod as shown in Fig. 2. The other end portions of the cable lengths 2, are stationarily anchored. In the preferred form of construction, a spreader 4 is connected with the cable and engaged with the upper end of a turn buckle 5, the lower end of this turn buckle being connected with a lateral arm 6 which extends from a collar 7, clamped around the casing C.

In the preferred form of construction, I form the collar 7 and its arm 6 out of two metal bars 8 which are outwardly bowed adjacent one end as indicated at 9 to form the collar 7, bolts or the like 10 being provided to secure the bars together at opposite sides of said bowed portions. The opposite ends of the bars 8, that is the ends remote from the portions 9, are by preference spaced laterally from each other as indicated at 11 and are connected by a transverse rivet or the like 12 with which the lower end of the turn buckle 5 is engaged.

By providing the construction described, it will be seen that the improved parts may be readily connected with the ordinary walking beam, pump rod and well casing, and when so connected, or when installed in some other adequate manner, comparatively small vertical movement of the wheels 1 will produce an exceptionally long stroke of the pump rod. Thus, greater output can be obtained from the well, as will be readily understood. During operation, the wheels roll along the cables.

In Figs. 5 and 6, I have illustrated a somewhat different construction, in which a walking beam B' is connected at one end with a weight box W' and is operated by a pitman P from a crank arm or eccentric A. Upon the end of the walking beam B' remote from the weight box W' I have

shown two sprocket wheels 1' over which sprocket chains 2' are trained to take the place of the cables 2, said chains being connected by a cross bar or the like 3' with the pump rod R' and being also connected by turn buckles 5' with a lateral arm 6' on a collar 7' which surrounds the well casing C'. The operation of this form of construction is the same as that above described, and it will be obvious that if desired, the cables 2 and associated parts could be used with the beam B' and that the chains 2' could be employed in connection with the beam B.

Instead of using two chains or cables as above described, only one may be used in some instances if desired as indicated at 2^a in Fig. 7, said chain or cable being trained over a suitable wheel 1^a carried by the walking beam or the like B².

By employing any of the forms of construction disclosed, the length of the pump stroke is greatly increased and hence greater production is obtained, and as excellent results are obtainable from any of the structures shown, they may be followed if desired, but within the scope of the invention as claimed, numerous minor changes may be made.

I claim:

1. The combination with a well casing, a vertically reciprocable pump part extending above the same, and an upwardly and downwardly movable operating lever over said part; of a guide wheel mounted on said operating lever at a point remote from its fulcrum, a flexible element trained over said wheel and having two reaches depend-

ing therefrom, means anchoring one reach of said flexible element to said well casing, and means connecting the other reach of said flexible element to said pump part, the first named reach of the flexible element being remotely spaced from the fulcrum of the lever to cause the guide wheel to roll along said element as the lever operates.

2. The subject matter of claim 1; said anchoring means comprising a collar clamped around the well casing and having a lateral arm to which said flexible element is connected.

3. Pump operating means comprising a wheel adapted to be mounted on an upwardly and downwardly moving operating member, a flexible element adapted to be trained over said wheel, means for connecting one end of said element to a vertically reciprocable pump part, and a collar having a lateral arm to which the other end of said element is secured, said collar being adapted to be secured around a well casing in which said pump part operates.

4. A structure as specified in claim 3; said collar and arm being formed of two metal bars outwardly bowed near one end to surround the casing, and means for securing said bars together at opposite sides of said bowed portions, the other ends of said bars being laterally spaced and connected by a transverse member to which the flexible element is connected.

In testimony whereof I have hereunto affixed my signature.

NEWTON FELLABAUM.