A. E. OWEN.

PUMP JACK.

APPLICATION FILED JAN. 6, 1917.

1,349,094. Patented Aug. 10, 1920.

Fig. 3.

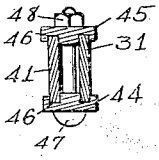


Fig. 5.

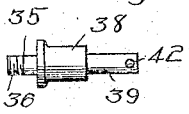


Fig. 4.

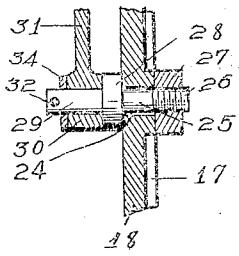
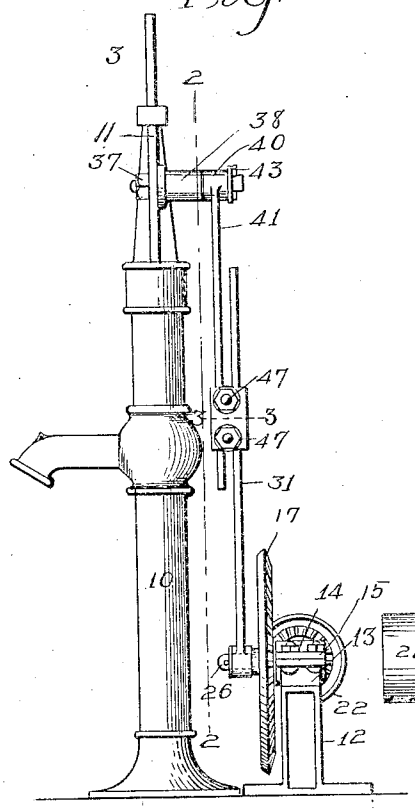


Fig. 1.



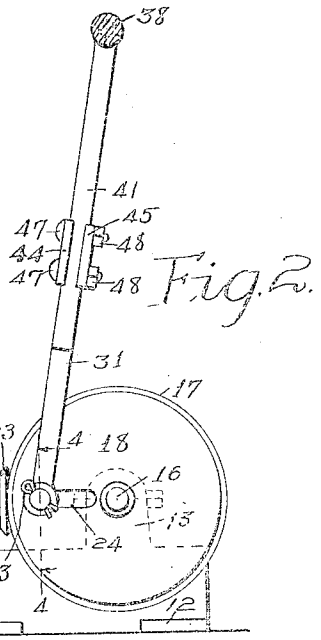


Fig. 2.

Inventor
Archie E. Owen
by Owing & Bair attys

Witness
A. G. Hague.

UNITED STATES PATENT OFFICE.

ARCHIE EUGENE OWEN, OF MALCOM, IOWA.

PUMP-JACK.

1,349,094. Specification of Letters Patent. Patented Aug. 10, 1920.

Application filed January 6, 1917. Serial No. 140,985.

To all whom it may concern:

Be it known that I, ARCHIE EUGENE OWEN, a citizen of the United States, and resident of Malcom, in the county of Poweshiek and State of Iowa, have invented a certain new and useful Pump-Jack, of which the following is a specification.

The object of my invention is to provide a pump jack of simple, durable and inexpensive construction.

Still a further object is to provide such a pump jack having its parts so operatively connected with each other and so arranged as to be readily and easily adjusted for assembling on any ordinary pump rod.

My invention consists in the construction, arrangement and combination of the various parts of the device, whereby the objects contemplated are attained, as hereinafter more fully set forth, pointed out in my claim, and illustrated in the accompanying drawings, in which:

Figure 1 shows a side elevation of a pump jack embodying my invention, installed on a pump.

Fig. 2 shows a vertical, sectional view taken on the line 2—2 of Fig. 1.

Fig. 3 shows a horizontal sectional view taken on the line 3—3 of Fig. 1.

Fig. 4 shows a detail, sectional view taken on the line 4—4 of Fig. 2, and

Fig. 5 shows a detail view of the connection for the pump rod.

In the accompanying drawings I have used the reference numeral 10 to indicate an ordinary pump stock in which is mounted the reciprocating rod 11.

My improved pump jack comprises a base or support 12, having the upwardly extending portion 13 in which is a channel forming a bearing. Mounted on the portion 13 is an upper portion 14, having a channel formed in its lower surface to register with the channel in the portion 13. The portions 13 and 14 are provided with opposite flanges 15 which are bolted together and which receive between them a shaft 16 on which is a beveled gear 17 having a web 18.

On one end of the base 12 is an upwardly extending supporting member 19, at the upper end of which is a bearing 20 for a shaft 21. On the outer end of the shaft 21 is a belt pulley 22, and on the inner end of said shaft is the small bevel gear 23 which meshes with the larger bevel gear 17.

Formed in the web 18 of the bevel gear 17 is a radially elongated slot 24, clearly shown in Fig. 2. Extended through the slot 24 is a shaft 25 having a screw-threaded end 26 which receives a nut 27 so arranged as to permit the shaft 25 to slide in the slot 24.

On the shaft 25 in the outer side of the bevel gear 17 is a collar 28, and extending beyond the collar 28 is a shaft portion 29. Rotatably mounted on the shaft portion 29 is a hub 30 of an upwardly extending arm 31.

Extended through the free end of the shaft portion 29 is an opening 32 in which is mounted a cotter pin 33. Between the cotter pin 33 and the hub 30 is a washer 34. The arm 31 preferably comprises a flat bar.

A shaft 35 is mounted in a suitable opening in the pump rod 11 and has a screw-threaded end 36 to receive a nut 37. On the opposite side of the pump rod 11 from the nut 37 there is on the shaft 35 a spacing sleeve 38, and beyond the sleeve 38 is a shaft portion 39.

Rotatably mounted on the shaft portion 39 is the hub 40 of a downwardly extending arm 41, comprising a flat bar which may be similar in form to the arm 31.

In the free end of the shaft portion 39 is an opening 42 to receive a cotter pin 43. The arms 31 and 41 are adjustably connected together by a clamping device comprising a pair of spaced plates 44 and 45 having in their adjacent faces notches 46 to receive the edges of the parallel arms 31 and 41. Extended through the plates 44 and 45 between the arms 31 and 41 is a bolt 47, on one end of which is a nut 48.

In the practical installation and operation of my improved pump jack the base 12 is placed near the pump stock 10 with the shafts, gear wheels and arm 31 installed thereon. The upper arm 41 is then mounted on the pump rod in the manner hereinbefore described, and the clamping members are assembled and adjusted for securing the arms 31 and 41 together.

It will be seen that the length of the connecting rod may be regulated and varied according to the adjustment of the clamping members with relation to the arms 31 and 41.

The slot 24 is long enough so that a short stroke or longer stroke may be secured by adjusting the shaft 25 in the slot 24.

It will be seen that the parts are so con-

nected that they may be readily and easily taken apart and placed in a small space for transportation or storage.

The connections are simple and strong, and the entire device can be made at a comparatively small expense.

It will be noted that the spacing sleeve 38 is of such length that the arms 41 and 31 are spaced properly away from the pump stock.

Some changes may be made in the construction and arrangement of the various parts of my improved device, without departing from the essential features and purposes thereof, and it is my intention to cover by this application any such modified forms of structure or use of mechanical equivalents as may come within the reasonable scope of the claim of the patent to be issued on this application.

I claim as my invention:

In a device of the class described, a base having a pair of bearing members thereon, shafts rotatably mounted in said bearings, said shafts being at right angles to each other, gear wheels fixed to each of the shafts on their adjacent ends and in mesh with each other, whereby rotation of one imparts rotation to the other, a pulley wheel on the free end of one of the shafts, one of said gear wheels being provided with a web having formed therein a radially elongated slot, a shaft extended through said slot having a collar fixed thereon intermediate of its ends, a screw-threaded portion on one end of said last shaft adapted to receive a nut, the parts being so arranged that the collar rests against one side of the web and the nut against the other, whereby the shaft may be locked in said elongated slot against movement therein, an upwardly extending arm having a hub with an opening therein formed at its lower end, said arm being adapted to be pivotally connected with the free end of said last shaft, a pump rod operatively connected with a pump mechanism, a second arm extending downwardly operatively connected with the upper end of the pump rod, the said arms being of sufficient length to overlap each other, means for fastening the upwardly extending arm to the downwardly extending arm, said last means including a pair of opposite spaced plates having recesses formed in their adjacent faces, said recesses being designed to receive the edges of the arms, and means for frictionally gripping said arms between said plates in any of a plurality of positions, whereby rotation of the pulley wheel may impart reciprocating movement to the pump rod.

Des Moines, Iowa, November 17, 1916.

ARCHIE EUGENE OWEN.